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Original Articles.

PROGRESS IN THE CONTROL OF INFECTIOUS DISEASES.[1]

BY WILLIAM C. DEMING, M.D.,

WESTCHESTER, NEW YORK CITY.

THE purpose of this paper is to show, from available statistics, whether there has been in recent times any notable reduction in the mortality rates of phthisis, diphtheria, scarlet fever, and typhoid fever in this and other countries. From the results of the inquiry we may be able to infer how effective our preventive measures have been against these diseases.

In a lecture on vital statistics, in 1889, Dr. Billings said: "So far as statistics show, it does not appear that there is any difference in the mortality rate of most infectious diseases from what it used to be."[2] And only six years ago a well-known physician of New York told me that he questioned whether typhoid fever and tuberculosis, and, inferentially, the other infectious diseases, were yet diminished as a result of greater knowledge of the conditions that favor their spread and by the operation of sanitary measures.

I remember that I did not feel greatly surprised at this statement at that time, but I believe that any one of us would now affirm a contrary opinion. Our impressions certainly are to the effect that these diseases are perceptibly yielding to the advancement of knowledge and the spread of sanitary science.

The examination of the "mortality rate"—that is, the proportion of deaths from the disease under examination to each ten thousand of the population—has seemed to offer the best opportunity for getting results of value, since exact figures as to the number of cases of a disease are seldom available, and the "death rate"—obtained by comparing the number of deaths from any one disease with the total number of deaths from all causes—is subject to misleading variation.

Chart No. 1.—Mortality Rates for New York City.

The "mortality rate," however, does not show the varying "fatality" or "case fatality"—*i.e.*, the proportion of deaths to the whole number of cases of any one disease; so that it is possible for a disease to be epidemic, in a not very fatal form, without its being evident in the mortality rate. Nor does it differentiate a reduced mortality rate due to improved treatment from that due to diminished prevalence of a disease. It should always be borne in mind, therefore, that these statistics relate only to deaths and not to cases.

The figures given, while not being at all exhaustive, relate to populations large and varied enough to eliminate mere chance results. For the sake of brevity the report is limited to certain of the more complete and important sets of figures, and of these I have made charts, as results are shown so much more

[1] Read before the Hospital Graduates' Club, March 25, 1897.
[2] Quoted in the Report of the New Jersey State Board of Health for 1894.

clearly and quickly in that way. On these charts each small square indicates, from below upward, one death

Chart No. 2.—Mortality Rates for Massachusetts (and for Phthisis in Glasgow).

per ten thousand inhabitants; and from left to right, one year in time.

Diphtheria.—Considering first diphtheria and croup (here treated under the single head "diphtheria" unless otherwise stated), Chart No. 1, for New York City, giving the mortality rate for this disease from 1804 to 1896, is shown. These rates are calculated from the yearly deaths and enumerated or estimated population, as given by Dr. Nagle from the records of the board of health, with the figures since 1894 added by me from the same source. Before 1851, whenever burial took place within the city limits, registration of death was not required, and it cannot be told how near the truth the figures are before that date. From 1851 to 1866, death returns were still far from exact. It was at that time the custom of the city inspector to leave signed blank death certificates at convenient saloons and other places. From 1866, however, when the present New York City board of health was established, the returns have been accurate.

Up to 1857 this record shows only cases called "croup." During that and the following year a few cases of malignant sore throat were recorded, and in 1859 diphtheria was first tabulated. Four years later, in 1863, the diphtheria mortality rate had reached the very high figure of nearly twenty-five per ten thousand. In the period 1867 to 1871 it had fallen lower than it had been for the previous sixteen years (except in 1858), and also, what is more remarkable, much lower than it has ever been since.

Following this comes a series of four rises and four falls, the first rise, in 1875, reaching the record point of nearly thirty deaths per ten thousand population. These epidemic apices occur at intervals of six years, except the last two, which are seven years apart, each successively falling to a lower point. The depressions also show a tendency to decline, the lowest point being reached in 1896—which is, however, not so low as that of the period 1867 to 1871, and but little below that of 1879. It is also to be observed that the fall in 1895 and 1896 comes apparently at a time when it might be expected.

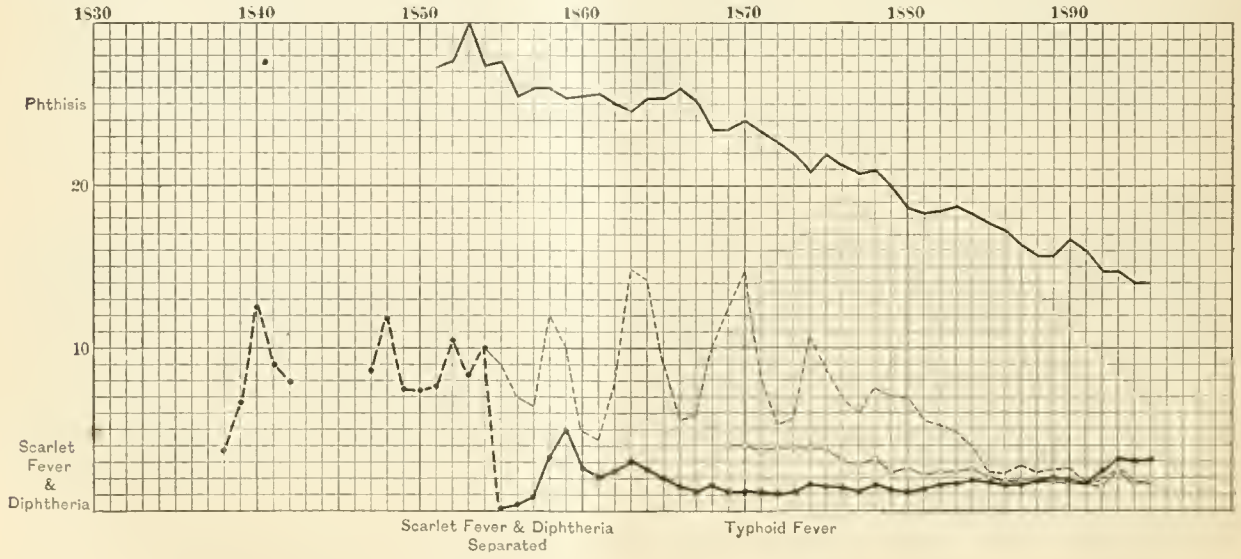

Chart No. 3.—Mortality Rates for England and Wales.

The steady lowering of the epidemic apices gives reason for the belief that sanitary measures have had their effect, this period covering the last twenty-one

years of the thirty years of existence of the board of health.

Chart No. 2 shows the mortality rate for diphtheria

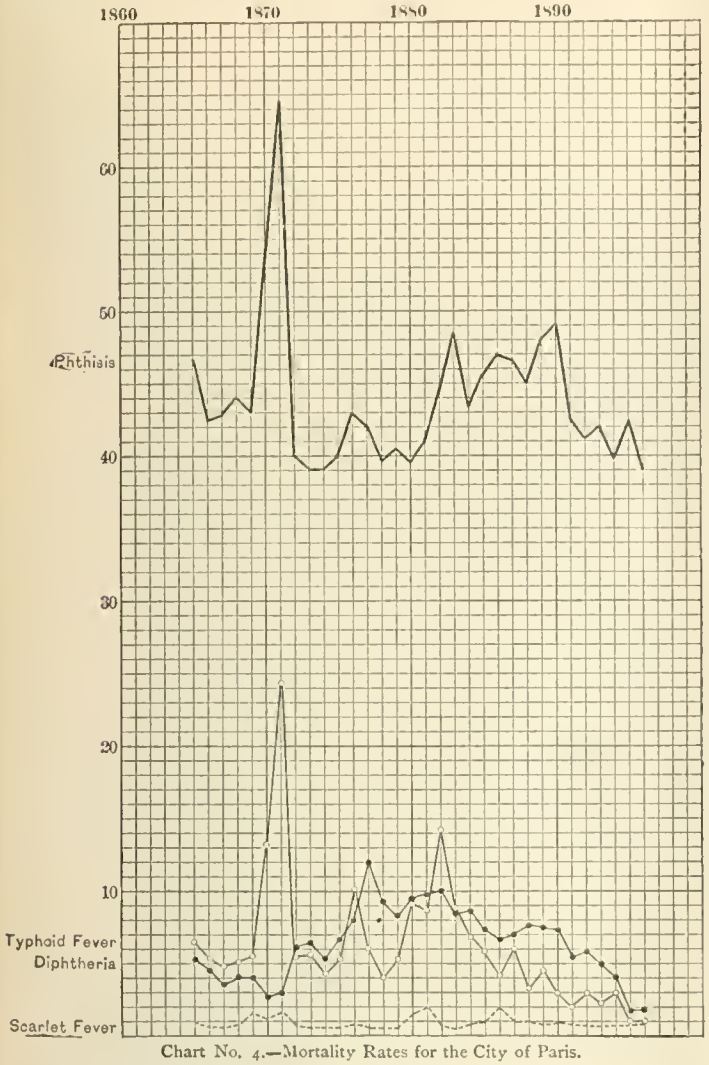

Chart No. 4.—Mortality Rates for the City of Paris.

in Massachusetts from 1850 to 1895. It follows the chart compiled by Dr. J. F. A. Adams,[1] completed from the year 1890 by figures taken from the reports of the Massachusetts State board of health. Dr. Adams says that Massachusetts was the first State to establish a board of health (about 1870), that the trustworthiness of the Massachusetts registration reports is generally conceded, and that nowhere else in the United States are the conditions so favorable for estimating the value of public-health measures.

Here we observe, in the curve for diphtheria, two great epidemic waves, in 1863 and 1876, and the apparently aborted tendency toward a third in 1889—the intervals between them being thirteen years.

Since 1876 the fall has been fairly steady, but the average for the last five years is not so low as that for the six years from 1867 to 1873 and the period from 1850 to 1859.

Chart No. 3 shows the diphtheria mortality rate for England and Wales from 1855 to 1895, taken from the figures given by the registrar-general. From 1859 to 1872 the yearly rates show a steady and marked reduction, since which date there has been a rise, especially during the period from 1892 to 1895. Although it is not my intention in this paper to compare the mortality rates of different localities, since so many varying factors must be taken into account that deductions are apt to be deceptive, yet it seems fair to do so in the case of England and Massachusetts, thus making evident the much lower and less fluctuating rate in the first-mentioned country.

Chart No. 4 shows the mortality rate for the city of Paris, from figures prepared by Dr. Bertillon. The remarkable reduction in the mortality rate of diphtheria in the last five years, and especially in the last two, is apparent. From this chart it can be seen that in 1870 and 1871 the mortality in Paris was lower than at any subsequent time until 1895, and that, too, during the Franco-Prussian war and the siege of Paris, when the mortality from some of the other infectious diseases rose enormously.

From the chart for England it is evident that the mortality was at about its lowest average during the same period (1870 to 1872). Also from the Massachusetts chart the mortality is seen to have been lower from 1867 to 1873 than at any time since, and the same feature is apparent on the chart for New York City from 1867 to 1871. In Michigan as well, in 1869 to 1871, the mortality was far lower than it has ever been since (1869, 1.7; 1870, 2.09; 1871, 2.25; the rate for 1893 being 5.52). The same is true for Rhode Island from 1868 to 1870. The report of the Chicago health department for 1895 and 1896 gives the lowest mortality rate for diphtheria ever there recorded, in the period 1871–1875.

So we find indicated for the period about 1870 an extremely diminished mortality rate, very wide spread, lower than at any subsequent time, apparently without the operation of any special treatment or sanitary measures. This low point was preceded and followed by periods of high mortality, and there are evidences of a still earlier period of low mortality, though records are too defective for exact determination of this question.

There is thus suggested the idea of cycles of from twenty to twenty-five years in length in the life history of this disease, independent of the

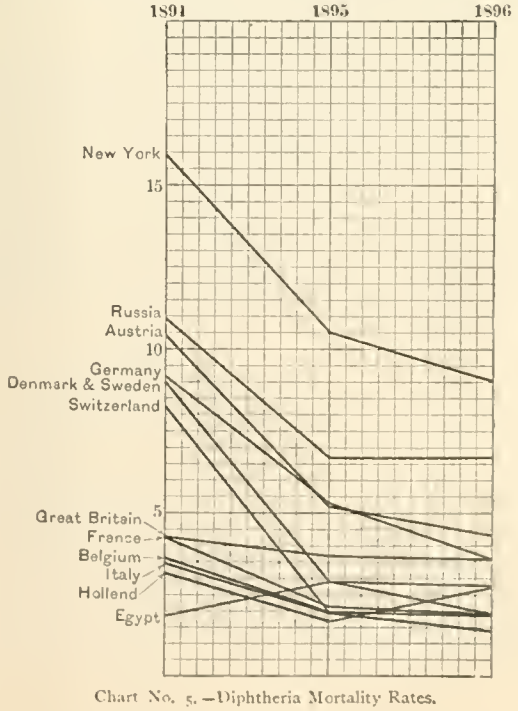

Chart No. 5.—Diphtheria Mortality Rates.

periodical epidemic fluctuations generally attributed to variation in the number of susceptible individuals.

[1] Boston Medical and Surgical Journal, July 14, 1892, p. 29.

This may possibly be the result of a partial immunization of alternate generations of the population. It is also apparent that a period of decline is now due, and the suggestion of a cycle of rise and fall is especially interesting at this time of universal reduction of the mortality rate coincident with the use of antitoxin.

This universal fall is well shown on Chart No. 5 (amplified), following the published figures of Dr.

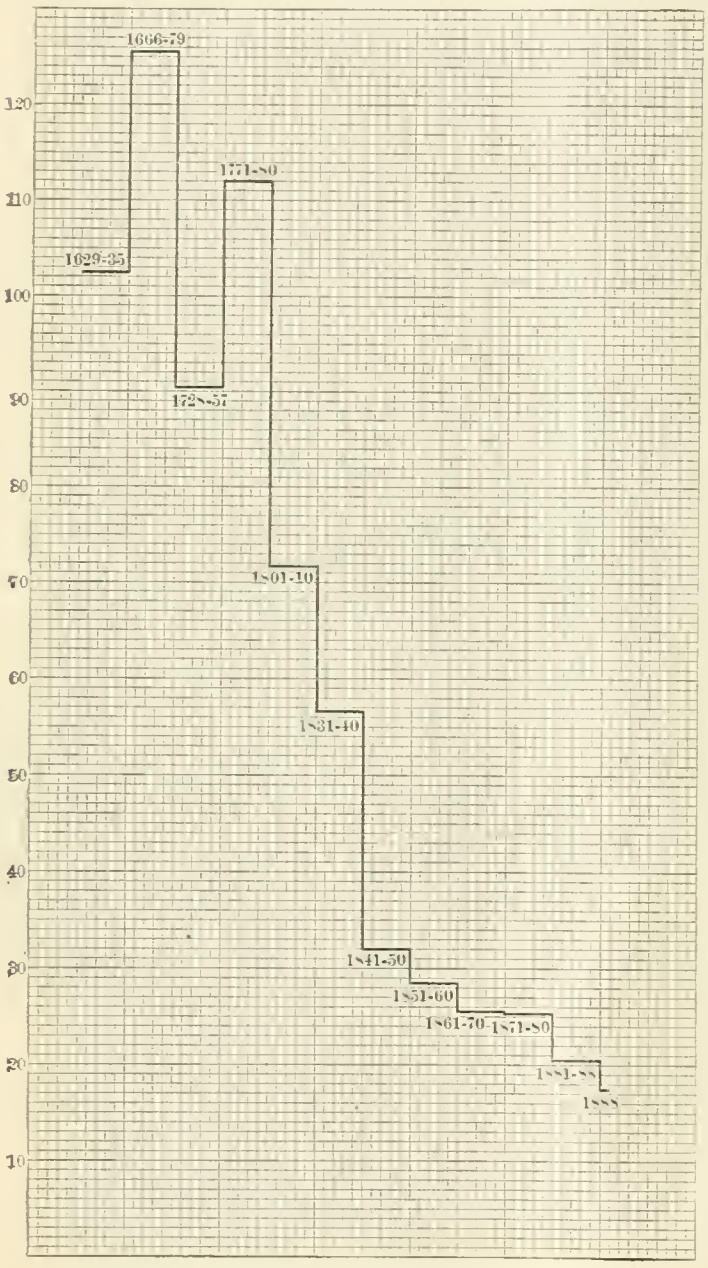

Chart No. 6.—Mortality Rate for Phthisis in the City of London.

Biggs and Dr. Guerard, which represents the mortality rate in cities of over one hundred thousand inhabitants throughout a large part of the civilized world for the years 1895 and 1896. One is struck by the unenviable position of New York, far at the top of the list, the rate for that city standing, in spite of its remarkable fall, still nearly as high as the highest of the others before the fall began. Of course allowance must be made for the fact that New York is a city of much greater population than the average population of the other cities, but even then the disparity remains striking.

Scarlet Fever. — In Chart No. 2 the dotted line shows the improvement in the mortality rate of scarlet fever in Massachusetts, making it clear that the epidemic waves, which recurred every four to six years from 1853 to 1875, have quite steadily diminished in height since 1857, that the depressions have shown the same tendency, and that since 1875 the epidemic waves are scarcely perceptible and the mortality rate has fallen to a very low point.

Even more marked is the steady fall of the mortality rate from scarlet fever in England (Chart No. 3), the rate of 1.5 in 1895 being the lowest ever there recorded. This line falls below those of diphtheria and typhoid fever, so that from being by far the highest of all it is now the lowest. The decline in the mortality rate of scarlet fever in Chicago is phenomenal. From epidemic fluctuations rising as high as 19.05 to 27.20 in the years preceding 1878, it has steadily fallen since then to the record point of 0.33 in 1896.

In New York City (Chart No. 1) at the present time the mortality rate has fallen to a point not reached since the period from 1845 to 1850, when from some cause the rate was even lower than it is now, thus suggesting again for this disease also the idea of a cyclical rise and fall. In Michigan there has been a marked and quite steady decline from 7.20 in 1870 to 1.63 in 1893. Dr. Baker says that the mortality from scarlet fever in Michigan has been only one-half of what it was before the systematic operation of sanitary measures. New Hampshire shows a remarkable and fairly steady drop of from 1.44 in 1884 to less than 0.15 per 10,000 in 1895—"chiefly if not solely by sanitary regulations." Rhode Island reports for 1870 a rate of 3.5; 1880, 16.92 (epidemic): 1881 to 1885, 2.8; 1886 to 1890, 3.8: 1891 to 1892, 1.4—a marked reduction. In Ireland, for the ten years from 1871 to 1880, the rate was 4.359; in the ten years from 1877 to 1886 it fell to 2.75, and then gradually to 0.66 in 1891, from which point it has again risen to 1.29 in 1895. In Hamburg the number of deaths from scarlatina was lower in 1895 than in any year since 1888 (the second year following an epidemic). In Paris (Chart No. 4) the constant extremely low mortality rate of scarlet fever is very remarkable.

It is interesting to note Dr. Farr's statement that "Sydenham (who wrote from 1666 to 1683) describes simple scarlatina distinctly: he does not refer to the throat affection, and says the patient can die only by the doctor's default;" and that "Joseph Frank describes the disease now (1869) as the most dreadful scourge in Europe."[1] Again there is, as noticed in diphtheria, the suggestion of a cyclical rise and fall in mortality or occurrence. This has been studied by Dr. Ransome, who has constructed, from the Swedish tables of mortality, charts showing cycles in this disease.[2]

It is a common impression at the present time that scarlet fever is a disease of diminishing prevalence and increasing mildness. This, if true, may be only the result of a waning epidemic influence, to be followed sooner or later by a rising one. But since we find that our impression is confirmed by the figures gathered from many parts of the world, especially from those places where sanitation is best enforced, we may indulge the belief that the diminished prevalence and severity are due to sanitary efforts and are permanent. Unfortunately we cannot obtain reliable figures from extensive areas where sanitation is not enforced, to learn if the diminution also prevails in such places.

[1] "Vital Statistics," p. 324.
[2] Transactions of the Epidemiological Society, 1881–82.

It is not unlikely, it is even probable, that the germ of scarlet fever is less viable than that of some of the other diseases, and that stricter observance of isolation and disinfection is beginning to have a permanent effect on its dissemination and its virulence. It is to be observed that in warmer climates there is a much smaller incidence of scarlet fever, and the same is true with us during the warm months, the reason for which is probably that more sunlight, better ventilation, and more outdoor life, aside from the influence of the closing of schools in summer, have a strong inhibitive effect on the development of the germ.

Phthisis.—When the figures for phthisis are charted we obtain some very uniform results. On Chart No. 2 are shown the curves for Massachusetts and for Glasgow from charts of Dr. Adams[1] and figures given by James B. Russell.[2] Massachusetts shows a fall in the mortality rate from 42.5 in 1853 to 21.7 in 1895. In Glasgow the decline did not begin until 1871, but since that time it has kept pace closely with that in Massachusetts.

In New York City (Chart No. 1) the fall is almost equally well marked. In the early part of the century either the mortality from phthisis was excessive or else some serious cause of error has operated to make it appear so. Three periods of especially great mortality are indicated from 1804 to 1832, the rate rising to nearly seventy in two of these, and falling to about forty-five in the intervals. Then follows a sudden and unexplained drop in the mortality curve to a point which is maintained with very little improvement during a long period of years, from 1838 to 1881. But it is evident that the periods of especial mortality, which still continue, show a decided tendency not to rise so high. From 1881 to the beginning of the present year the drop has been most striking, and coincides closely with that which is shown by the Massachusetts and Glasgow curves.

In the curve for England (Chart No. 3) the same conditions are manifest—namely, a fall from nearly thirty in the year 1853 to about fourteen in 1895, a reduction of over fifty per cent., corresponding closely to the percentage of reduction in Massachusetts and Glasgow, and greater than that in New York for the same period, but reaching a much lower point than in any of these places.

Chart No. 6 follows figures given by Dr. Farr.[3] From below upward the scale is the same as that of the other charts, but from left to right it is much compressed for economy of space. It shows, in periods of years, the mortality rate from phthisis in London from 1629 to 1888. These figures must be only approximate, since the first attempt to take a census of the population in England was made in 1801, and estimates for population before that time are said to have been made from the number of deaths; but at least this chart must give us some idea of the enormous mortality from phthisis in those times.[4] The figures have been quoted elsewhere to demonstrate that the introduction of vaccination influenced the mortality from diseases other than small-pox, since many persons who recovered from that disease were left peculiarly susceptible to phthisis; and so, with the reduction in the occurrence of the former, the mortality from the latter fell also. This fall is shown from 1801 to 1841, vaccination in England beginning in 1799. Other influences were undoubtedly also at work, for the years of greatest mortality, 1666 to 1679, were just after the great plague in 1665 and the great fire in 1666.

The effect of such influences on the mortality from phthisis is well shown on the chart for Paris (No. 4) by the curve during the war of 1870–71.

It may be noticed that the mortality for New York for 1804 and for 1812 was about the same as in London in 1801 to 1810.

Taken in connection with these enormous early mortalities, it is interesting to note that the disease which carried off, in the first year after their landing, fifty-one out of the one hundred Pilgrims who came to this country in the *Mayflower* in 1620, is thought to have been quick consumption.[1]

It can very well be believed that these mortalities must have been tremendous, when we realize that the average duration of life, as given by Dr. Wynne in his work on vital statistics, and calculated by Edward Mallet from the very accurate statistics of Geneva, which date from 1549, was in—

1550–1600	8	years	7	months	and	26	days.
1600–1700	13	"	3	"	"	16	"
1701–1750	29	"	7	"	"	13	"
1751–1800	31	"	3	"	"	5	"
1801–1813	40	"	8	"	"	10	"
1814–1833	45	"	0	"	"	29	"

Ireland is the only country, of those whose figures have been examined, to show a rising rate. This may be the result of lack of general prosperity and advancement in that country. In the city of Paris the mortality rate from phthisis is astonishingly great and has not been materially reduced.

In a "Summary of the Vital Statistics of the New England States for 1892" (p. 45), compiled by the secretaries of the several boards of health, the statement is made that "in those States which have had registration for several years, the mortality (from consumption) is found to be steadily diminishing."

Certain sources of fallacy must be taken into account in accepting these figures for phthisis. Newsholme says that "proper diagnosis of cases of phthisis is a slight cause of the reduced mortality, but not all, since the mortality from phthisis has diminished at all age groups, while the mortality from all respiratory diseases has increased only in the group under five years and in those over thirty-five years, and the chief mortality from phthisis is in the age groups from fifteen to fifty-five, while that from respiratory diseases is low during those years and greatest at extremes of life."[2] And the same author says, on p. 130: "There can be no question as to the great diminution of phthisis in this country [England], and that this is due to sanitary improvements."

"The mortality from 'phthisis' is diminished, at ages five to thirty-five, fifteen to twenty-eight per cent., whereas at all these ages the mortality from 'diseases of the lungs' remains comparatively stationary."[3]

The tendency to return deaths from phthisis hastened by influenza as due solely to the latter disease, has been noticed by Dr. Baker in Michigan. Dr. Tracy, registrar of vital statistics for New York City, says that he has investigated this source of error, and that, for New York City certainly, it is of little account.

Emigration of the sick has no doubt some share in the fall of the mortality rate from phthisis; probably greater effect in New York City than in a State or country as large as Massachusetts or England. Yet the majority of phthisical patients have not the opportunity for emigration, and very many who have emigrated come home to die. Dr. Tracy believes that emigration of the sick has had very little to do with

[1] *Loc. cit.*

[2] "On the Prevention of Tuberculosis," republished by the Massachusetts State Board of Health, 1896.

[3] "Vital Statistics," p. 304.

[4] Longstaff ("Studies in Vital Statistics," p. 169) says: "We have no means of estimating, even approximately, the number of inhabitants of London before the beginning of the present century."

[1] New England Magazine, February, 1897.

[2] "Vital Statistics," 1889, p. 213.

[3] Longstaff: "Studies in Statistics," p. 234.

the fall in the mortality rate from phthisis in New York City.

Falsification of death certificates to avoid forfeiture of insurance has been alleged as a cause in the reduction of the mortality rate. Dr. Tracy informs me, however, that he has investigated this point also, and finds no evidence of a transference of mortality from phthisis to any other disease or class of diseases. Moreover, the reduced mortality from phthisis is mainly among women—a fact which gives rise to most interesting speculation—and the insured are mainly among men.

The assertion that "the apparent diminution in the death rate from tuberculosis is due to the facts that such reports [to health boards] tend to place a stigma upon the family and may invalidate insurance," is unimportant, since it is evident that the death rate has been falling steadily for many years.

Typhoid Fever.—Whatever doubt can be cast on the apparent significance of the mortality rates of other infectious diseases, the reduction of that of typhoid fever, I think, does not admit question. For wherever adequate water supplies and sewer systems have been introduced, there most striking changes have been shown in the mortality rate from typhoid fever.

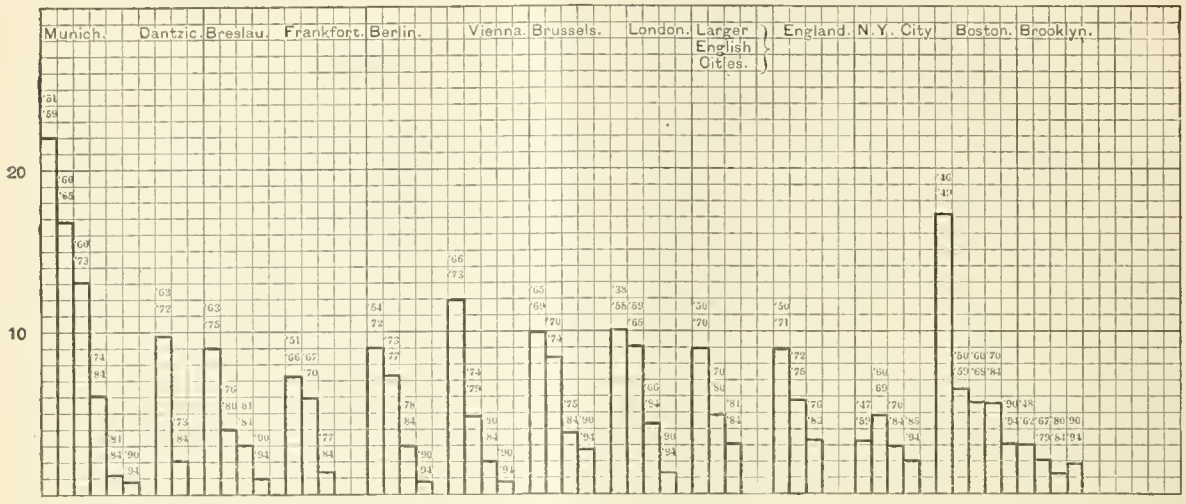

Chart No. 7.—Mortality Rates from Typhoid Fever.

The case for this disease may be allowed to rest on this chart alone (No. 7).[1] It shows the deaths from typhoid fever in each ten thousand inhabitants, over a very large part of the civilized world, before, during, and since the introduction of sewerage and water supply. These facts are emphasized in another way by this chart (No. 8),[1] which disproves the statement that reduction in the typhoid fever mortality rate is due to improved treatment alone.

A comparison of charts Nos. 1, 2, 3, and 4 presents in all of the curves a striking diminution in epidemic fluctuation and a highly encouraging tendency to fall toward a common point.

Conclusions.—It seems justifiable to draw the following conclusions from the facts presented: Good results are shown in many localities in the reduction of the mortality rate from diphtheria by sanitary measures alone, and we have reason to hope for still more striking and permanent effects from the introduction of the use of antitoxin.

With scarlet fever there is evident almost universally a quite marked tendency for a good many years to a steady decline in the mortality, with an absence of great epidemic fluctuations—a result which it is difficult to attribute to causes other than improved sanitary efforts, although the apparent tendency to cyclical movements in this disease should be borne in mind.

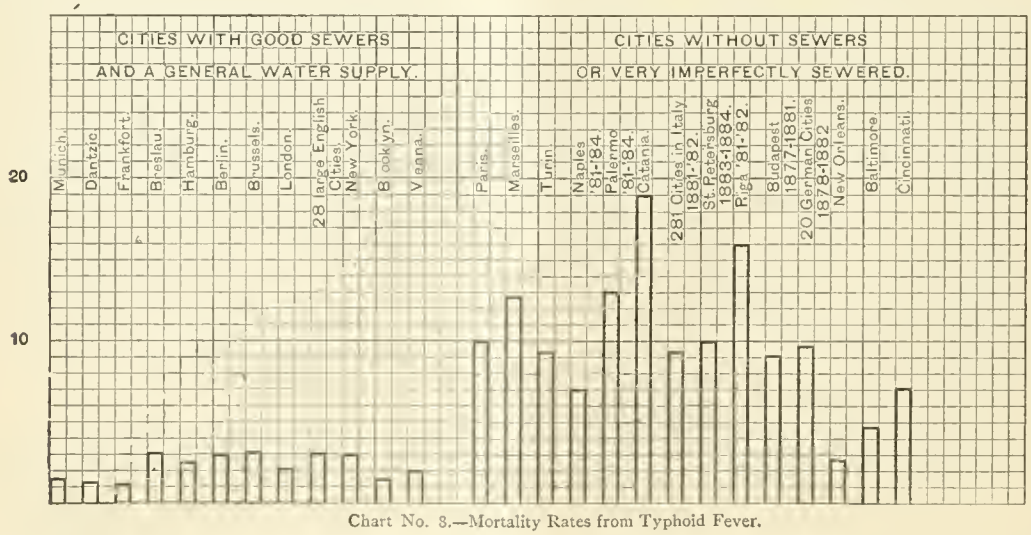

Chart No. 8.—Mortality Rates from Typhoid Fever.

In the case of consumption an immense decline in the mortality from the time of the earliest records is evident, and in late years also the decline has been rapid and marked. A great part of this later reduction is no doubt actual and permanent, but the effect

[1] Annual Report of the Michigan State Board of Health for 1893, with the figures for 1890 to 1894 added from the tables of John W. Hill, quoted by Dr. Carpenter before the New York State Medical Society, January 28, 1897.

[1] *Ibid.*

of emigration of the sick and other sources of error have also somewhat to be taken into account.

The case for typhoid fever is unquestionably proved. While we must allow something for better results of treatment, it is certain that by far the greater part of the enormous reduction in its mortality rate is due to sanitary efforts alone.

THE DIET OF DYSPEPTICS.[1]

By MAX EINHORN, M.D.,

NEW YORK.

A few years ago I had the honor of reading a paper before this society, on "Dietetics in Diseases of the Stomach."[2] To-night I wish to discuss more fully a few points which are of eminently practical importance, and which I had at that time broached only superficially. The majority of dyspeptics, or of patients suffering from chronic digestive disorders, are affected with functional or nervous derangements. Most of these patients suffer either from loss of appetite or from gastralgia, sometimes from both, and hence take inappropriate and insufficient nourishment. Thus some live on small quantities of peptonized milk; others on artificial meat extracts (beef juice, liquid peptonoids, etc.). If these dyspeptics adhere strictly to this rigorous diet, they almost always depreciate more and more in health.

A marked fear of food is distinctly observed in all these cases. This symptom I would like to designate as "sitophobia" (fear of food). If the patients give in to this sitophobia — which frequently occurs—the dyspeptic symptoms increase more and more, even after the ingestion of small quantities of liquid and predigested foods. Soon varied symptoms of inanition manifest themselves, such as dryness in the throat, headache and dizziness, a feeling of decided weakness, intense anæmia, sometimes even pernicious anæmia.

Should we therefore be astonished if such patients, addicted to this wrong course of living, gradually waste away and finally succumb?

Either inanition itself, or complications arising in consequence of malnutrition, may easily bring on a fatal issue. As a whole, it is rather surprising how long these patients can live in spite of insufficient nutrition. This goes to show how tenaciously the organism clings to life; it learns to economize its expenditures and to subsist on scanty means. This is the only explanation why these invalids, who, after at first losing considerably in flesh, subsequently maintain their slight bodily weight and are able to lead a meagre existence.

Gentlemen, the number of such emaciated dyspeptics is not small, and every practitioner meets with a few of them every year.

I will now present a few points by means of which these cases may be recognized.

Generally speaking, the term dyspeptic signifies one who suffers from a chronic disorder of his digestive organs, without having, however, any organic affection.

We will have to determine, first, the presence of some protracted ailment (for one or several years); second, the absence of any organic disease (ulcer, stenosis) of the stomach or intestines. An examination of the gastric contents may be omitted in these cases, although the knowledge of the chemical condition of the gastric juice may sometimes be useful with regard to the treatment.

How shall we treat such dyspeptics? Medicaments are not of much value, or play only a subordinate part. The main factor lies in proper nourishment. These patients, who have abstained from most kinds of food for years, must now learn anew to eat. Their stomach and intestines very quickly adapt themselves to this new condition. First and above all, it is of importance to increase the quantity of nourishment; second, to provide a sufficient variety of foods. An ample but too one-sided diet (as a purely milk diet, or hot water and beef) is not suitable for a long period of time, for under this regimen there may be a partial lack of certain substances necessary for the welfare of the organism, and thus may be exerted a deleterious action upon the economy.

In order to improve nutrition, two articles of food, which hitherto have been often avoided by laymen as well as physicians, play an important part. I mean bread and butter. In my previous paper I have already hinted at this topic; I now take the liberty of again discussing it.

Bread forms one-third of the total amount of ingested food in health, and, besides having nutritive value, serves the purpose of increasing the flow of saliva during its mastication. It also creates an appetite for other food.

Butter not only improves the taste of various kinds of food, but is also in itself a nutriment of the greatest importance. The great number of calories which butter contains (one hundred grams give eight hundred and thirty-seven heat units, while the same amount of bread develops about two hundred and seventeen) shows this in the clearest manner. Another advantage which butter presents is that its volume is only about one-third that of bread. A patient taking about one-quarter of a pound of butter a day receives therewith more than one-half of the heat units required. This quantity of butter is, according to my experience, well borne by most of the patients.

I now take pleasure in presenting to you two cases, in which the main symptoms consisted principally of a deficient nutrition. By improving the latter the patients got well. These two cases I take at random from a large number of similar character.

Case I.—Miss G. M——, about twenty-six years old, suffered for the last five years continuously from marked dyspeptic symptoms. Severe gastralgia often appeared, which was frequently accompanied by vomiting. The appetite was not greatly decreased, but fearing the pains the patient abstained from most articles of food. Obstinate constipation was another of the troublesome symptoms present. The patient ran down very fast. She was treated by several eminent physicians, and as a last resort the ovaries were removed. Her ailments, however, persisted, and she steadily grew worse. When she first consulted me she reported that she had lost sixty pounds in weight. The patient was abed the greater part of the time, and lived exclusively on small amounts of peptonized milk and Wyeth's beef juice. A thorough examination of the patient did not reveal any organic disease of the digestive apparatus. A condition of enteroptosis was found, but this was not considered important. The patient was ordered to take more nourishment. She was at first placed (during the first week) on a fluid and semifluid diet: soon, however, the bill of fare was increased, and after about three or four weeks she partook of nearly all the plain and ordinary articles of food. During the first fortnight the patient continued to complain of manifold severe symptoms after meals, but soon her complaints grew less frequent and after a while entirely ceased. The patient was plentifully nourished in a methodical way (among other directions she was told to take one-quarter of a pound of butter a day), and she gained fifty pounds in weight in a period of five months. After that time she could be considered as restored to perfect health. She could

[1] Read December 21, 1897, before the section on general medicine of the New York Academy of Medicine.

[2] Einhorn, M.: New York Medical Record, June 24, 1893.

take long walks without fatigue, she rode a wheel, and attended to all her household duties.

Case II.—Mrs. Caroline A——, sixty-five years old, had suffered for the last four years, off and on, from dyspeptic symptoms. During the last five or six months her condition grew materially worse. The patient usually had severe pains after meals, and suffered from obstinate constipation, weakness, and insomnia. During this entire time she had been on a rigorous diet (beef juice, etc.), and had been treated with various medicaments: but under this treatment she had lost thirty-five pounds in weight. The physician in charge and also her relatives were of the opinion that she had a cancer. A thorough examination revealed only a downward displacement of the liver and stomach. The liver at first simulated a tumor, but on further examination it could be easily seen that the latter was the prolapsed liver, and not a neoplasm. The patient was told to partake of nourishment every three hours and was allowed certain articles of food which had been previously forbidden. At first zwieback, crackers, and gruels were permitted, besides a small quantity of scraped beef. Soon, however, the ordinary white bread, butter, eggs, and similar substances were added, and the patient began to gain in strength. (The wearing of an abdominal bandage was not advised, as the patient did not feel relieved when the lower part of her abdomen was supported with the hands when she was examined.) During a period of three weeks the patient gained eight pounds in weight, got rid of her dizzy spells, as well as her gastralgia, and could sleep much more comfortably. She is still under treatment, but her convalescence continues.

As nutrition plays the principal part in the treatment of these patients, it will not be amiss to give a few hints with regard to its management. To begin with, it does not appear advisable to permit patients who have abstained for a long while from the coarser varieties of food everything at once. This abrupt change may at times be the cause of various unpleasant symptoms; therefore it should be accomplished gradually. At first give, besides milk, gruels, and thickened soups, eggs beaten up in milk, etc. A few days later begin to add to this bill of fare zwieback or crackers with butter: then permit meat, the white of chicken and well-scraped beef: next, mashed potatoes: still later give wheaten bread, baked or boiled potatoes, soft-boiled or scrambled eggs, oysters: at last allow vegetables and fruits.

An essential point with regard to nutrition is punctuality in the taking of meals. In most of these cases, in which a gain in weight is of great importance, frequent meals (five or six daily) will be advisable. Although it does not appear advantageous to prescribe for the patient the quantities of the various foods in exact weight (grams or ounces)—as by so doing they are too easily reminded of their ability or inability to digest this or that quantity and not more—it is nevertheless of value to mention approximate figures by which they may be guided or below which they shall not go. Thus, for example, they may be told to eat as much as their neighbors at table, or that they shall take ten ounces of milk at this or that meal; or, as I frequently advise, that they shall consume one-quarter of a pound of butter a day. Emphasize those points which appear to be the most important, and leave the patient great liberty in all other particulars. We must strive to familiarize the patient with the idea that ample nourishment will strengthen his organs (including the stomach and intestines), and we must always endeavor to dispel the fear of food with which he is harassed.

For patients who are greatly run down and are confined to bed a nurse is advisable, who shall see that the physician's orders (with regard to food) are promptly carried out. Massage may certainly be used on and off as an adjuvant. For patients who are up and about, a nurse is unnecessary. In the latter instance it is important to see that the patient's time is properly occupied: by that I mean to say that the patients should lead a rational mode of living, and should work neither too much nor too little. With some patients (wealthy people having no vocation) we must try to give them something to do; while in the case of merchants whose business strain is too great, lawyers, and physicians, we should advise that sufficient leisure be taken. The points just mentioned serve in a high degree to render possible a healthy nutrition, for only a rational mode of living gives sufficient appetite for abundant food.

In cases in which the condition of the gastric juice is known there are still other special rules with regard to diet; for, as is well known to you, we should give abundant quantities of meat in hyperchlorhydria, while in hypochlorhydria and achylia gastrica the starchy substances (and vegetable food) should predominate.

The above suggestions, however, play the principal part in the treatment, and good results may be obtained often enough without analyzing the gastric contents.

Gentlemen, I have endeavored to give you in this paper a few practical hints with regard to the nourishment of most patients afflicted with chronic stomach troubles. If I have succeeded in convincing you that it is much more important to take care that such patients are sensibly nourished than to forbid them everything, I shall feel that my object has been accomplished.

20 East Sixty-Third Street.

THE POST-DIPHTHERITIC PALSY AND THE ANTITOXIN.

By JOSEPH McFARLAND, M.D.,

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At this late hour, when every one ought to be informed upon it, one can scarcely undertake to write upon such a subject as this without feeling that an apology is necessary. Recent conversation with several otherwise well-informed physicians about the unfortunate outcome of some of their antitoxin-treated cases of diphtheria has convinced me, however, that there must still remain a large number of busy men in the profession who have not had time to think seriously upon the relation of the antitoxin to the palsies, and who need, in consequence, to have their thoughts properly directed. It is to them that I address this paper.

Of the various sequelæ of diphtheria, the occurrence of paralysis is most important. It is likely to come on in any case, and can be expected with equal frequency regardless of the therapeutic measures employed. More cases follow the use of antitoxin than any other mode of treatment, unless the remedy be prescribed early enough and in sufficient amount. This does not argue against the use of antitoxin, but for it.

The frequency with which diphtheria is followed by paralysis is said by Gowers to vary considerably in different epidemics and at different ages, and is variously estimated as occurring in from eight to sixty-six per cent. of all the cases. Sir Dyce Duckworth[1] finds it in from ten to twenty per cent. of all cases. It may not be an exaggeration of the truth to say that nearly one-fourth of all diphtheria patients who recover suffer from a more or less severe palsy in the course of the convalescence. The cases collected by

[1] British Medical Journal, April 4, 1896.

Landouzy indicate that the proportion of palsies is greater in adults than in children, and that the frequency of the trouble increases with each year of life.

The previous health of the individual seems to have nothing to do with the occurrence of the palsy. It does not more often occur in the weak than in the strong; it follows both mild and severe attacks, and occurs after diphtheria of the cutaneous surfaces as well as after the ordinary pharyngeal form.

As a rule, the primary disease is over before the palsy makes its appearance, but there are recorded exceptions in which the latter has come on earlier, sometimes on the second day. Quite a regular order of invasion is observed. It usually begins in the soft palate, and can be at first detected by a nasal quality of the voice and a tendency to regurgitate in drinking. The palsy may extend to the constrictor muscles of the pharynx, so that deglutition becomes embarrassed. A second very common seat of the disease is the eye, where the muscles of accommodation are affected. There may be strabismus and ptosis as well. In less common cases the palsy takes the form of a peripheral neuritis, which may affect a single limb or may be more widely spread, so that the limbs are found to be very weak when an attempt is made to stand upon them. In these "weaknesses" there may be loss of the knee jerk. The most important form that the palsy can take is found in connection with the heart. Heart failure and fatal syncope may come on at any time during the attack or during the convalescence. The multiple form of peripheral neuritis also occurs, and may be widespread and serious. It may begin with the ordinary affection of the throat and gradually extend to the limbs, where it is soon manifest by the muscular weakness, partial palsy, and loss of the tendon jerks. The palsies are most varied in character, and may affect all of the muscles except those of respiration, or may be limited to a few symmetrical or asymmetrical groups of muscles. When it is so widespread as to include nearly all of the muscles of the body, the case appears very desperate; in reality, however, only about one-half of these cases terminate fatally. Under ordinary conditions the cases progress slowly but favorably toward recovery.

I think it is the experience of most men that the majority of the cases of diphtheritic palsy seem to follow the severe attacks. Formerly "bad" cases meant those in which a large extent of membrane was formed in the throat. At present, however, the meaning of the term has changed somewhat, and, instead of the local conditions receiving so much attention, we devote ourselves to the constitutional aspects, and call only those cases "bad" in which there is a profound toxæmia. It is therefore a correct scientific statement to make when we say that the diphtheritic palsy follows the toxic cases, and is mild or severe according to the amount of toxin that is absorbed.

The amount of membrane that forms in the throat is no index of the amount of toxin that is to be absorbed, and therefore of the probability of the occurrence of palsy or of the severity of the palsy that is anticipated. The membrane is formed alike by distinctly toxic and mildly toxic bacilli, and its extent is dependent solely upon the vegetative powers of the bacillus. If it were always certain that a larger amount of toxin is absorbed from an extensive membrane, it would be very easy to gauge the cases and decide what the outcome would be.

It seems to be true, however, that when the bacillus causing the lesion is extremely virulent much more toxin can be absorbed from an insignificantly small patch of membrane than from the large patch produced by mildly virulent bacilli.

Whether, therefore, the case is one that appears serious or not has nothing to do with the real condition, which it is beyond the power of the diagnostician to tell. That a patient not very seriously ill may unexpectedly die is the common experience of many who have made good prognoses and subsequently lost their patients.

Without treatment, all cases of diphtheria are divisible into two classes: 1st, those that would recover spontaneously; 2d, those that would end in death.

Spontaneous recovery in diphtheria indicates that there has not been enough toxin absorbed to kill the patient.

There is only one scientific treatment for diphtheria: the use of antitoxin. If it could be determined exactly how much toxin a patient was absorbing, and therefore how much of it the antitoxin had to neutralize, the task of the physician would be very much simplified. As, however, there is no method of determining that at present, and as its determination would no doubt be attended with difficulty, it is only rational that all patients should be treated alike and in all cases sufficient of the remedy prescribed to neutralize more toxin than we are ever likely to encounter. This is in reality what every one who uses antitoxin judiciously does. In all of the directions accompanying the remedy it is explicitly stated that the dose should be large, and if necessary repeated several times. It is a pity that there ever should have been an accusation made that these instructions were originated for no other purpose than increasing the sales of the unfortunately but necessarily expensive remedy. Nothing could be more untrue. The dosage of the remedy has been worked out in the laboratory with the greatest expenditure of time and pains, and it is particularly worthy of note in this connection that the united experience of numerous entirely disinterested scientific bodies—such, for example, as the Pædiatric Society—has invariably led them to recommend larger doses than those suggested by the manufacturers.

In the treatment of a case of diphtheria according to the rules given for the administration of antitoxin, the physician injects as his first dose a quantity of the serum that is more than enough for the cure of a mild case, and probably enough for the cure of a bad case. In doing this, however, he makes no mistake, for the impossibility of estimating exactly what work the remedy has to do must not be forgotten. The one dose may be all that is necessary for the cure, or it may need to be repeated, sometimes may need to be repeated several times.

In either case, if the patient recovers, the physician has done one or the other of two things—either he has exactly neutralized the toxin in the child's body or he has done more than exactly neutralize it. In the latter case nothing of interest will be noted; in the former case the exact neutralization that would save life may not be enough to prevent the sequelæ of the disease, and that most common one—paralysis—will appear.

Need I add that in this illustration the antitoxin is not the cause of the palsy? Yet in a certain sense it is, for if the patient had died he would not have had palsy. It is because he lived that he has palsy; he lived because he received antitoxin, therefore he has palsy because he had antitoxin! This argument will surely make clear to every one that palsy is more common in diphtheria treated with antitoxin than in diphtheria treated without it. I would be glad to have the palsy if only I could be cured of the dreadful disease. The only suggestion for the avoidance of the palsy that I can give is to use more of the remedy and let the increase be given at the first dose.

I should feel that I owed my readers an apology if I had said this without offering them some experimental evidence of the truth of the argument.

When guinea-pigs are injected with diphtheria

toxin, they are differently affected, according to the quantity administered. A very small dose of toxin may produce no changes at all, depending upon the strength of the particular toxin employed. If the dose be a little larger the animal shows no change for a day or two; then it begins to show evidence of a constitutional disturbance, that lasts for three or four days, and then passes away and leaves it as well as ever. During the period of illness the animal seems to be much depressed, refuses to eat, sits with its fur puffed out, and as the result of its refusal to take food becomes thin and emaciated. If the dose be still larger, the day after the toxin is injected there is observed at the site of inoculation an œdematous swelling, which, according to the size of the injection and the virulence of the toxin, may be of the size of a pea or extend over most of the abdominal wall. The presence of such an œdema would in itself be sufficient to upset the health and happiness of the animal, but in addition to the swelling we find that the same constitutional depression that was observed in the former case is also present, and the animal sinks into a much more depressed condition than would be brought about by the local condition alone. Not infrequently the animals die from the combined effects of the toxin and inflammatory infiltration. The exact significance of the infiltration is a little in doubt; it seems to be true that the animals that are thus affected often do better than those receiving the same dose of toxin and showing no infiltration. If the dose of toxin be very large the animals of course always die—sometimes without the local lesion.

Guinea-pigs that receive both toxin and antitoxin can be divided into three classes: 1, those that are thoroughly protected; 2, those that are partly protected; and 3, those that are not at all protected. Two of these classes we can dismiss with a word. Those that are fully protected show no signs or symptoms at all; those that are not at all protected die. The interesting class is therefore the remaining one, whose members are protected, it is true, but so insufficiently that some signs of the disease can be observed in them. It is in this very group that we find the cases of palsy occurring.

The thousands of tests of diphtheria antitoxic serum that it has of recent years been my privilege to make have furnished me with an immense field of observation, the outcome of which has been the discovery that the guinea-pig cases form an exact parallel to the cases in human medicine. Among the animals of the interesting group mentioned, dozens of cases of typical palsy have occurred.

For the sake of those not informed upon the subject, I will briefly outline the method of testing antitoxins.

In order that the death of the animal shall be made absolutely certain if it is not protected, each guinea-pig used for the test is given ten times the least certainly fatal dose of the toxin as estimated by experiments upon a large number of animals. With this enormous quantity of toxin varying quantities of the antitoxin are mixed, and the strength of the remedy is estimated by observing which of the doses given is just sufficient to prevent the development of signs of disease.

It must be clear that in this work there is no uncertainty as to the amount of poison received by the animal; it is ten times as much as is necessary to kill it. Each one of these guinea-pigs is in exactly the same position as a child hopelessly poisoned with the disease and treated by antitoxin. To save one of these animals from death is really to snatch it from the grave, and to save the life of a child in the same condition is to do likewise. The children, like the guinea-pigs, are also divisible into three similar classes: 1st, those receiving enough antitoxin completely to protect them, so that they at once recover without further trouble; 2d, those that receive enough to save life, but not enough to prevent the further progress of the case and the development of sequelæ; 3d, those receiving altogether too little of the remedy and dying in consequence, as if no interference had been attempted by the physician. It is not in the cured or in the dead that the palsies occur, but in the ranks of the "barely saved," where they are very common.

The lesson that we should learn from this is, I think, clear. The antitoxin should be administered in doses sufficiently large to obviate all possibility of there being any unneutralized toxin remaining in the child's body to cause further damage. As the dosage cannot be accurately gauged, it will always be best to err on the side of too much rather than too little.

There is a second immensely important fact to bear in mind about the use of antitoxin—it must be prescribed early in the disease. All of the papers that have appeared upon the subject have, however, taken pains to inculcate this principle, so that its reiteration now is only going over old ground.

There is a scientific reason underlying this "must" also, for it is easily shown by experiment that the longer one waits after giving the toxin to animals before giving them the antitoxin, the less the likelihood of recovery becomes, until a time is reached when it is absolutely impossible to modify in any way the progress of the case to a fatal termination.

THE EDUCATION OF THE EPILEPTIC, WITH ESPECIAL REFERENCE TO THE VALUE OF INDUSTRIAL FARMS.[1]

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An American physician of note, delegated some years ago to attend a meeting of the British Medical Association, expressed, while speaking before the association, the following sentiment: "It seems hardly worth our while to attempt to put a five-thousand-dollar education into a five-hundred-dollar brain." The doctor's remarks were intended to apply to students of a certain class, and, while we may regard them as somewhat harsh and feel that they might have been clothed in softer language, candor compels us to admit that they contain more than a grain of homely truth, in so far as they apply not only to one class of students, but to a contingent of many classes to whom we are trying to give highly specialized knowledge far in advance of their needs or of their individual receptive and assimilative capacities fixed by the inexorable laws of nature.

And just here, for fear that I may be misunderstood, I make the unequivocal statement that I am not, to the extent of one jot or iota, opposed to the giving of an education that educates; an education that puts into an individual's possession an instrument fitted to his capacity to wield, and which instrument, if properly used, will tend to make him a producing and a self-supporting agent. This should be the end and aim of education. A man may not always be obliged to wield the club that is put into his hands, but it is there whenever he needs it. And that club with which his blows are to be struck must be fashioned according to his strength, his needs, his power to make it, to hold, and to use it.

A period of time measured by less than a generation just passed witnessed radical changes in our system of education, and the march of progress is just fairly begun. The newer educational methods have come as the logical result of a better knowledge of the human

[1] Read at a meeting of the National Conference of Charities and Corrections, held at Toronto, July 7 to 14, 1897.

forces as exemplified in psychology. We are trying to go hand in hand with nature in the teaching and acquisition of better things; trying to broaden and expand all that is good that nature provides, and to dwarf and subdue the evil.

While educational methods, in so far as they apply to teaching, have radically changed, and while the greatest good has come from the use of the newer methods, I believe we have not yet reached that high altitude of proper discrimination that teaches what is best for an individual to know. I do not think that we properly weigh and determine individual qualifications and needs; and from the vast amount of educational work to be done it is not likely, except in circumscribed cases, that we ever will.

The colony system in the care and treatment of epileptics forms an exception to the rule of limitations and makes a circumscribed case that it is my purpose to consider; and all that I may say hereafter in this paper on the education of the epileptic is intended to apply to him primarily as a colony resident, and afterward to him at large.

When it is realized that one person in every five hundred of the population is an epileptic, and when we further realize the more important fact that seventy-five per cent. of all cases of epilepsy begin under twenty years of age, and that not more than six or eight persons in every hundred who have the disease get well, and that unless especial pains be taken to correct the tendencies of the disease in early life, progressive mental and physical failure is sure to follow—we can appreciate the great value of the proper education for this class, especially when it carries with it the potent influences that serve so materially to stay the ravages of the disease. Not only, therefore, do we educate, but through the same agencies we ameliorate and cure. For no other class of dependants is it possible to do these two things at the same time.

In educating and training the epileptic it is well to bear constantly in mind the infrequency of the cure of the disease; and keeping that in mind, and understanding that he will always as an epileptic be an object of social and business distrust, and, if he remains uneducated and unimproved, an economic burden so far as the cost of his care is concerned, we can readily see that the kind of education he needs is one that will put, not complex algebraic formulas and a mass of ill-defined and useless knowledge of the dead languages and ancient history into his brain, that cannot be called into useful account through the ends of his fingers, but an education that puts an instrument into his hands that, wielded by him, will give him a practical result in the form of his daily bread.

I do not decry collegiate or scientific education. There are plenty who need it and can use it, but the epileptic is not among them. Brain processes for him must be simplified to the greatest possible degree, and before we begin to stimulate and educate them at all it is needful that they be strengthened and built up through the medium of an enlarged sphere of bodily action—an action daily and specifically employed in useful, helpful, saving manual labor.

How well the value of labor is understood at the great colony for epileptics at Bielefeld in Germany! I do not know when they learned the lesson, but that they know it and know it well is exemplified in the great diversity of industrial teaching that is going on there to-day in the name of charity. Julie Sutter, in "A Colony of Mercy," wrote of Bethel Colony: "The most striking feature of this colony of sick folk is its capacity for work; the place is a hive indeed, and as busy as a hive." What a revelation in charity methods! And every word of it is true, as I can testify from a two-weeks' residence at the colony, spent in intimate contact with the daily life of its inhabitants.

Going in and out among the houses at Bielefeld, you are confronted by a board sign nailed on the corner of a building. It reads "Workshop Street." You turn into this street and walk into the first house on the corner. It is the carpenter shop, and forty epileptics are daily employed here. In twelve months seven new houses, large enough to hold twenty persons each, were put up in the colony, and all the woodwork for them was done by these epileptic carpenters. They made besides an endless number and assortment of chairs, tables, and bedsteads, enough to supply the entire colony.

In one household a boy with a paralyzed arm blacked the boots of an entire household, holding the boots between his knees to accomplish the purpose. To learn how to do that was his education. It was as far as he could go, the best he could do; but, having learned it, he does it constantly and does it well. He earned a place in the industrial life of the colony. He could not have learned Greek or Latin, nor could he have become a teacher, a musician, a sculptor, or a painter; but there was something useful he could learn to do, and he learned it and did it.

On all sides and in every department there was the same display of systematic productive and useful energy; and what has it done for the dependants who are obliged to recognize and exert it? Just this: It has cured six times as many as are cured under any other system or form of treatment, and so greatly benefited from forty to sixty per cent. more under three or five years' treatment that many of them are able to go back to their homes and take up their former vocation.

Did labor alone do it all? you ask. No, not all; proper food, proper habits, proper environments helped, but labor was the keystone in the regenerative arch. Under its influence Bethel Colony produces the maximum of cures with the minimum of cost. And let us bear in mind the fact that there are no secret remedies, no all-healing drugs, no sacred charms, and that physiological and moral reasons in abundance can be adduced to explain fully the means that accomplish the end.

It has been our aim since the opening of the Craig Colony to profit by the lesson Bielefeld has learned so well; and, while the Craig Colony has been in existence for a comparatively short period of time, our experience has been such as to demand from us a warm indorsement of the Bielefeld methods.

Of the difficulties encountered I need not speak further than to state that they arose in consequence of having to deal with a rapidly increasing number of recruits, and under colony conditions not yet perfected in any department or particular.

The first one hundred and fifty patients came from county almshouses and poorhouses, where some of them had been forty years and where none of them had been accustomed to work.

And just here let me digress a moment, to say that my experience with them so far has caused a loss of faith in the so-called epileptic energy of legendary renown. I have not found that epileptics are any more ambitious to work than other people are, but there are exceptions, of course, that prove the rule. I am unable to understand how the belief in the so-called epileptic energy ever came into existence. It is against the simplest laws of nature, of physiology, to ascribe such a condition to a class of people who periodically and to an extreme degree expend every atom of energy there is in their bodies. The pent-up tide that often precedes the fit does not show itself in the way of energy to be spent in labor. It is rather an accumulation of the forces of the emotions, and of the psychic rather than the grosser material elements.

Of the two hundred and thirty epileptics admitted

into the Craig Colony since the opening, all of whom were admitted as not insane, not more than five per cent. of them, under the most liberal estimate, were capable of performing unaided any sort of useful labor. These are two reasons why this is true:

1st. The long standing of the disease and the consequent general deterioration.

2d. The lack of any kind of training after the disease began. Of the one hundred and forty-five subjects admitted prior to October 1, 1896, only one had been an epileptic for less than a year, while one hundred and twelve of that number had suffered from epilepsy for from five to forty years, and eleven for forty years and over. Sixty-three of the one hundred and forty-five had no occupation, while many to whom forms of occupation had been ascribed had been forced on account of the disease to count their vocation among the lost arts.

For the epileptic, therefore, we seek to accomplish two things:

1st. To cure him if possible.

2d. During the effort to cure him to educate and train him to useful and self-sustaining labor.

The means employed in the colony system to cure, to educate intellectually, morally, and industrially, and to teach self-support, are so intimately interwoven that they must be considered as one and all at the same time.

When they enter the colony the patients' education is begun along two lines—one to give them a common-school education; the other to put a means in their possession whereby they can become producers as well as consumers, and at the same time become themselves the effective agent in the application of a remedy of untold value in the treatment of their disease. The first is necessary by virtue of the fact that educational advantages are denied to epileptics in the common schools, and the character of the disease is such that the majority of them will always suffer from it and be isolated from home ties; and the ability to communicate with friends is a simple pleasure that should not be denied them.

The younger patients are sent to school two and one-half hours a day, and besides being taught to read and write they are taught many other simple things, the entire trend of the methods pursued being toward the awakening and development of the powers of observation and the cultivation of the motor activities, combined with only a modicum of study directed solely to the stimulation and growth of the higher intellectual faculties. Modelling in clay, studying the forms and sizes of figures—in fact, kindergarten work of all grades is of value to them and should have a place in their education.

Nature studies, too, should have a place in their curriculum. Their knowledge of nature, of plants, shrubs, and flowers, and of birds and insects is meagre to a marked degree. Some of the younger patients who have come to us from the great cities had never seen a pig, did not know that milk comes from cows, and could not tell a carrot from a mullein stalk. The birds, their haunts and habits, and the trees of the forest were as inanimate objects to them, while in reality these things are all full of beauty and perpetual interest to the eye that sees and to the mind that has some knowledge of the wonders of nature.

Nature study is receiving much attention at Cornell University, and the following is a brief description sent out from that university as to what nature study means:

"It is seeing the things which one looks at and the drawing of proper conclusions from what one sees. Nature study is not the study of a science, as of botany, entomology, geology, and the like. That is, it takes the things at hand and endeavors to understand them without reference to the systematic order of relation of the objects. It is wholly unsystematic and informal, the same as the objects are which one sees. It is entirely divorced from definitions or from explanations in books. It is therefore supremely natural. It simply trains the eye and the mind to see and to comprehend the common things of life; and the result is not directly the acquirement of science, but the establishment of a living sympathy with everything that there is. The proper objects of nature study are the things which one oftenest meets. To-day it is a stone: to-morrow a twig, a bird, an insect, a leaf, a flower."

How simple! you may be tempted to exclaim. So it is; and yet it is just what these defectives need and about which they know so little. It is the beginning of knowledge, the very first lessons in the training of the powers of observation. It leads to reasoning and creates a desire to investigate.

Next in order in the education of the young epileptic comes the use of all forms of industrial training, and the value of an institution for the care and treatment of epileptics may be measured largely in proportion to its ability to furnish the means for the accomplishment of these purposes. Such an institution should possess no lack of broad and fertile acres where the minimum expenditure of labor will produce the greatest yield.

Not only is outdoor life best for the epileptic, but his efforts well directed in the garden and on the farm will go farther than in any other direction toward producing his support. Agricultural work for him has a double value, and our experience has been that just in proportion to the increasing number of hours spent in active out-of-door labor, there has been a corresponding decrease in the number and severity of seizures, and that the good effects are most marked when individual interest shown in the work is greatest.

However unscientific the theory may be—which I do not concede to be the case at all, but which cannot be discussed here—it is my firm conviction that energy that would be illegitimately expended in a convulsion may be made to expend itself gradually through the medium of legitimate muscular exercise. I might cite a score of cases in support of this belief, and one of them is of such interest that I will briefly mention it.

V. S——, a young man, twenty-six years old, was admitted to the colony, February 5, 1896. He had been an epileptic eighteen years. Twice he had been under treatment in State hospitals, and was discharged from them both times as a hopeless case. He had no occupation, could do nothing, and when admitted his attacks averaged from three to five in twenty-four hours; and that had been his record for five years. He was extremely emaciated, tottered in his walk, and had to be assisted to his meals by two persons. We got him out of doors as soon as the weather was mild enough, and when potato planting commenced he was sent to the field and made to take part in the work. He began immediately to acquire an appetite, gained in weight, had fewer attacks, and during the three months that followed the change that was wrought in his condition in every respect was little short of marvellous. During the first month at the colony he had 110 seizures: second, 98; third, 13; fourth, 0; fifth, 1, and this was due to the excitement incident upon a visit to him of relatives who took him from the colony over night; and for twelve months he has not had a seizure. He has learned the printer's trade and is now doing most of the printing-work of the colony.

Next to farm and garden work the greatest value for the epileptic lies in the forms of industry that call for the systematic and measured expenditure of muscular force indoors. Such work includes carpentry, ironwork, shoe and mattress making, and so on. A course in elementary woodwork, such as the Sloyd system

provides, is of the greatest value. Under this system the eye, the faculties of the mind, and the muscular system are conjointly exercised, educated, and strengthened. From the initial step of the work in wood, a simple straight groove cut in a short board, there grows out the ability to carve, turn, and make woodenware and furniture of all kinds.

Most boys have a natural fondness for tools, and the Sloyd system fixes their use in a systematic and useful way. The epileptic is fertile in irregular and ineo-ordinate muscular movements, and one of the most valuable features of the Sloyd system is in the toning down and drilling into purposeful movements the entire muscular apparatus.

We are on the point of introducing the system at the colony for a class of twenty boys. I might go on to an indefinite length specifying the forms of labor suitable and valuable for epileptics to engage in, but it is unnecessary. The main thing is labor—labor that demands a real use of muscular force; labor that is systematically performed; labor that opens the pores of the skin, quickens the circulation, brightens the eye, and brings about a healthful physiological fatigue; labor that has a place in the world of economics; labor that conquers all things.

As further exemplifying the value of labor, I had taken from the records of the colony the histories of eight patients who under its influence have been benefited at the colony, almost to the extent that the case cited above had, and, singularly enough, they are all men and boys, no girls or women among them.

For obvious reasons the employment of the female patients at the colony up to the present time has not been practicable, further than that they have weeded in the garden and done a little play work about the lawns and in the houses. But what is good for one sex is good, properly modified, for the other. Slightly different means may be just as successfully used to accomplish this end, and as soon as possible we shall carry out such a policy at the colony.

I need say nothing of the difficulties to be overcome in the carrying out of these plans. I have spoken only of the excellence and value of the plans in operation. It is not easy to do, and it is only through the application of the same persistent force that a falling raindrop has when it wears a stone away that anything can be accomplished.

Of the value of medicines and proper diet, I likewise have not spoken. Both have a place high up on the list of remedial and curative agencies. As triple forces, medicine, diet, and labor, under judicious, continuous, and discriminate use, are destined to accomplish more toward relieving the distress of this great afflicted class than we have sufficient wisdom to understand to-day.

Gastric Ulcer.—Three methods of operating for gastric ulcer must be considered: (1) Resection, which is the most dangerous method and not very satisfactory, but must be performed when the case is considered to be one of carcinoma: (2) pyloroplasty, which is a more simple method, but can be carried out only when the gastric and duodenal walls are soft; and (3) gastro-enterostomy, which also gives good results, though sometimes the contents of the stomach penetrate into the ascending limb of the jejunum, and Professor Mikulicz therefore recommends that a second anastomosis should be made between the two loops. Speaking of the indications, he says that in cases of adhesion of the stomach to adjacent viscera, an operation is necessary to relieve the pain and the adhesions must be separated. In cases of perforation immediate laparotomy is essential. When the patient cannot take an anæsthetic local anæsthesia must be used.—Professor von Leube.

AN OLD REMEDY FOR DIABETES MELLITUS.

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About ten years ago a drug was introduced as a new acquisition to our materia medica which at that time attracted considerable attention. Inasmuch as its active principle had not been determined and its chemistry was still unsettled, in spite of some favorable reports it did not receive the thorough investigation which is now possible, and it gradually fell into disuse. Many of the reports demonstrated its utility, while others recorded but negative results. Besides, there was great discrepancy in dosage, as recorded by several observers. It is worthy of remark that in no instance were any untoward symptoms observed. My own experience, although limited, convinced me that the drug was capable of accomplishing distinctly beneficial results, and that of some failures to obtain these results the cause might be sought for in our rather scanty knowledge of the morbid processes going on, of which persistent glycosuria was a prominent symptom.

During the decade just passed the unknown of diabetic pathology has been considerably lessened, and to-day we do not permit the view that the present unknown is long to remain unknowable. At that time I believed jambul to be a new drug. My reading since that time has taught me that it is a re-discovery. As we read Kaviratna's excellent translation in the "Charaka-Samhitā," which traces its origin to the time of Harun and Mansur (A.D. 775), we find jambul or jamvu (jambu), as the original has it, used in gruel as an astringent (p. 17), the leaves to relieve vomiting (p. 39), and that the bark alters the color of the fæces and reduces the secretion of urine (p. 41). This was a pretty closely reached opinion based upon empiricism, for glycosuria was not known until the time of Thomas Willis in the seventeenth century, who ascertained that sugar was present in the urine of patients suffering from polyuria and emaciation.

So far as ascertained, jambu, or jambul, as we prefer to name it, has been in uninterrupted use in India for twelve centuries. Ten years ago we had not advanced much further. We used the powdered seeds, and, tentatively, since the dose was undetermined, in undoubtedly too small quantities. For all that more extended experience led me to increase the dose, yet never was the dosage administered in an adequate amount. With the larger dose more and more obstinate constipation supervened, which necessitated the morning administration of a saline laxative. The results were good, still failures ensued. Some observers recorded that the sugar reappeared as soon as the remedy was discontinued.

To-day we stand in a decidedly different position. The last word on the subject of diabetes is to be found in the Medical Record of recent date, where we learn from Pavy that the serious fault is in the villi of the intestine. To be sure, the future may have in store for us that we shall ascertain that the trouble is a nervous condition acting upon the vessels of the intestine, but at this writing we know that in the alimentary tract the carbohydrates are so changed that little or no (practically no) sugar gets into the portal vein. Further, any sugar which finds its way into the portal vein, or in any way gets into the general circulation, is rapidly and completely eliminated by the kidneys. It is undoubted that the carbohydrates are changed into fat, for almost as much fat is found in the lacteals after ingestion of carbohydrates as after ingestion of fatty food. So long then as we can prevent sugar from finding its way into the

portal circulation, just so long can we prevent sugar elimination by the kidneys and the various renal degenerations resulting from the same. Coincidently with the presence of sugar in the urine we find that the power of assimilation in the intestine is weakened.

The first patient to whom I administered jambul presented such a brilliant result that a recital of his history is of interest.

A merchant of forty-two years of age had suffered from loss of flesh, progressive weakness, and considerable thirst for the past six months. When he consulted me on April 25, 1886, he was accustomed to rise four or five times each night to void urine. His appetite had markedly increased, and that, when taken into consideration with his loss of flesh, had attracted his attention. He was still in fair flesh, but a considerable number of wrinkles on his face showed that he had emaciated. A careful physical examination detected nothing beyond flabby muscles, a pulse rate of 90, and a high-pitched, shortened first sound of the heart. The urinary examination showed that he was passing daily eighty-six ounces of urine of a specific gravity of 1.038, which contained five and one-quarter per cent. of sugar. A moderate regulation of diet was ordered, namely, prohibition of foods containing a large starch percentage, but not excluding bread if toasted. On May 9th, the amount was reduced to seventy-two ounces and the sugar to four per cent. Jambul in five-grain doses of the powdered seeds was given after each meal. On the 16th, the amount was reduced to sixty-three ounces, the specific gravity to 1.028, and the quantity of sugar to two and one-half per cent. On the 20th, the quantity was fifty-two ounces, and sugar percentage one and one-quarter. The dose of jambul was now doubled. On July 17th, the amount was slightly lessened (fifty ounces), but the sugar excretion had fallen to one-fourth of one per cent. Since the constipation was the chief complaint, a half-bottle of Hathorn water was given on rising. The strength had somewhat increased, the muscles were firmer, and the first sound of the heart was nearly normal. The patient rose but once at night, and that rather from force of habit. On August 11th, the quantity was forty-eight ounces, the specific gravity 1.021, and no sugar was found. On September 21st, substantially the same report was presented. The appetite had now become normal; jambul in five-grain doses was continued to the end of the year. For the three succeeding years the drug was used only occasionally, and the patient remained in good health.

On November 7, 1890, the patient consulted me for a rather severe broncho-pneumonia which had confined him to his bed for two days. This was recovered from in fifteen days, the low temperature (99° to 100.5° F.) being the only unusual symptom. On the 10th, three-quarters of one per cent. of sugar was found. This was reduced to one-quarter of one per cent., by the 14th, under ten-grain doses of jambul thrice daily. No sugar was found on the 18th or 22d, but the drug was continued until December 6th.

Examinations on January 13 and 28, 1891, developed nothing abnormal, excepting that upon both days the quantity was above fifty ounces (fifty-six and fifty-one). On December 18th of that year, a careful examination detected no sugar. During 1892, jambul was used occasionally for a few days at a time. Since that year—that is, for the past five years—I have seen this patient at frequent intervals, but have never prescribed for him. He lives upon his ordinary diet, and always reports that he feels well. He is able to attend to his business, and is unwilling to believe that he has ever suffered from any serious disease.

In this instance the outcome was all that could have been desired, and this may be cited as one of the many cases on record in which, as Van Noorden says, such good results have been obtained with jambul that they cannot be ignored.

In arriving at an opinion as to the mode of the action of the drug, we have certain facts upon which we may rely. The analysis of Lascelles-Scott, as reported in the "Pharmacology of the Newer Materia Medica," 1892, showed that, while a certain quantity of diastasic matter (freshly made but rather weak malt extract) converted 44.8 per cent. of starch (amount employed being fifty grains) into sugar in fifty minutes, normally with the same materials and in the same time 19.6 per cent. was so converted when fifteen grains of powdered jambul was also present, and only 12.6 per cent. when twenty-five grains of the seeds was present.

In the *Lancet* for 1889 the observations of von Mehring and Graser are recorded. They first induced an artificial diabetes in dogs by the administration of phloridzin and later gave jambul. The latter drug promptly reduced the amount of sugar excreted to one-sixth or one-tenth of its former amount.

From these observations it is evident that we need not invoke the explanation advanced by Morse in the *Maryland Medical Journal* for October, 1887, where he claims that the drug increases vasomotor and reflex functions of the spinal cord, producing a general rise of blood pressure, especially in the renal arteries, to account for the relief of distressing symptoms and returning health and strength. Nor, indeed, are we surprised that in the East it is believed to possess the power of producing a rapid and in many instances a permanent cure.

The source of the drug is the bark and seeds of the Syzygium Jambolanum (De Candolle) or Eugenia Jambolana (Lamarck). This is one of the Myrtaceæ, to which the common names of rose apple and Java plum have been applied. The tree is found in tropical Asia and the neighboring islands. Vix, in the *Therapeutische Monatshefte* for April, 1893, prefers the rind from which to obtain his preparations, on the score of expense. Personally I am in accord with Stevenson, who regards the seeds as more powerful; the preparations made from them are the more serviceable and only certain agents for administration. Probably all parts of the tree which are used in medicine are astringent, from the contained tannic or gallic acid.

The analysis of the seeds made by Elborne in 1888 is probably the most accurate. He found:

Insoluble residue	83.75 per cent.
Moisture	10 "
Coloring matter	2.7 "
Albumin	1.25 "
Gallic acid	1.65 "
Resin	0.3 "
Chlorophyll	0.27 "
Essential oil	Trace.

So far, analysis leads us to believe that the bark, and probably the seeds as well, contain an alkaloid or glucoside. Gerrard has isolated a white crystalline substance possessing the formula $C_{10}H_{15}NO_3$, which is tasteless, soluble in ether, alcohol, and chloroform, but insoluble in cold and slightly so in warm water. It is quite likely that this presumably active principle exists in the resin and in connection with a special acid. We may justly expect that an analysis made at the present time, making use of more modern methods, would establish the chemistry of the drug on a substantial basis.

As for the dose, Stevenson administered from five to ten grains of the powdered seeds. Britto[1] gives one drachm of the powder or of the fluid extract thrice daily, stating that an ounce of the powdered seeds may give rise to nausea and depression. Rosenblatt and Zevasker used both the powder and fluid extract.

[1] Indian Medical Record, July 18, 1892.

In the early days of the study of this drug I made use of the powdered seeds; the fluid extracts proved to be disappointing, perhaps owing to failure to possess reliable methods of extraction. As the demand for the drug became greater, I discovered that it was apparently less reliable, and careful investigation showed that a considerable amount of Indian real estate was being purchased as jambul. These uncertainties were done away with, to a very great extent, by procuring the seeds and comminuting them as required.

The earlier clinical reports, as found in the *Practitioner*, *Lancet*, *British Medical Journal*, and *Bulletin Général de Thérapeutique*, were discriminating, and in the main favorable to the drug; yet it was felt that both its chemistry and pharmacy required much revision.

Recently my attention has been called to a preparation which promises to yield the beneficial effect of jambul. The formula is:

℞ Jambul	50
Buckthorn bark	20
Celery	5
Aromatics (Paraguay tea)	25

The buckthorn bark is introduced to counteract the constipating effects of the jambul, to which allusion has already been made. The excipient, Paraguay tea, contains a very satisfactory percentage of caffeine, which is undoubtedly useful for the weak hearts so generally met with in diabetic subjects. Altogether it is not a disagreeable preparation when administered in from two to four drachm doses every four hours. Thus far the results have been eminently satisfactory. If it should be found that the questions of pharmacy have been solved in this preparation, we can accept without reserve the dictum of Levaschev, of Kazan, who believes that jambul is superior to all other known remedies in the treatment of diabetes, according to the *American Medico-Surgical Bulletin*, September, 1897.

749 Madison Avenue.

Progress of Medical Science.

Leucin and Tyrosin in the Urine of a Case of Erysipelas.—For many years the presence of leucin and tyrosin in the urine has been looked upon as distinctive of acute yellow atrophy of the liver and of phosphorus poisoning, although cases of each of these disorders have been reported in which neither substance was present. Both substances further have been found in conjunction with diseases other than those of the liver; for instance, typhoid fever, smallpox, epilepsy, leukæmia, and hydrophobia. Some authorities have even maintained that leucin and tyrosin are normal constituents of the liver. The microscopic appearance of these substances is alone not sufficiently characteristic, so that a reliable conclusion requires, in addition, confirmation by chemic tests. An interesting case is reported by Kirkbride (*Centralblatt für innere Medicin*, 1897, No. 41, p. 1,057), in which leucin and tyrosin were demonstrated both microscopically and chemically in the urine of a girl, eighteen years old, who was passing through an attack of facial erysipelas. The urine examined on the ninth day of the disease exhibited characteristic spheres of leucin and crystals of tyrosin. The secretion was of acid reaction and failed to precipitate uric acid on addition of hydrochloric acid. To isolate the leucin and tyrosin the sediment was separated by means of centrifugation, then extracted with hot alcohol, and filtered. The filtrate, evaporated almost to dryness and permitted to stand until crystallization had taken place, yielded numerous layers of leucin crystals, displaying a deep yellow color. The alcoholic residue was digested with hydrated copper oxide in aqueous solution and the resulting precipitate filtered. The resulting solution evaporated to the point of crystallization contained small pale blue granules, containing nitrogen and soluble in water with difficulty. The precipitate upon the filter was treated with hot potassium sulphide, and the resulting filtrate evaporated and extracted with alcohol. In the residue of the alcoholic extract the leucin crystallized out in macroscopically visible granules, which responded to further chemical tests for leucin. The tyrosin was demonstrated by treating the residue left upon the filter after extraction with alcohol with hot water, to which ammonia had been added, and evaporating the solution to the point of crystallization. The crystals, which appeared as granules and sheaves, formed a red precipitate when dissolved in water, heated with mercuric nitrate, and finally boiled.

The Treatment of Gout.—What is gout? Must we believe with Professor Bouchard that it is a disease caused by scant nutrition, or with Lecorche that it is a trouble due to exaggerated nutrition? Or shall we think with Murchison that it results from hepatic insufficiency, or again explain all by uræmia as Garrod does, or think with Sir Dyce Duckworth that it is a question of bulbar trophoneurosis? Shall we consider it a proteiform dystrophy which may bring into play one or the other of these processes? This opinion would perhaps be the wisest. In any case it does not carry with it an absolute or doctrinal idea, and consequently one which results in theoretical treatment which is not even symptomatic. A useful mode of treatment ought to be symptomatic when gout is involved. The sufferer from gout demands relief, that the articulations may be reduced, that he may eject uric acid and urates instead of carrying them into the tissues and especially into the articulations. What medication can fulfil this complex requirement? Is it salicylates, antipyrin, iodine, quinine, lithia, the alkalies, or what? Each of these substances has its indications and its line of action, we might say, but no one alone can respond to all indications. There is nevertheless an old remedy that produces these various effects: it is colchicum. Unfortunately colchicum contains certain acrid substances which act as an emetic. It quite frequently cannot be tolerated. Some years since Lartigue, a member of the Academy of Medicine, tried to do away with these secondary effects while preserving to the remedy its peculiar activity. He prepared small pills, in which he put five centigrams of extract of colchicum deprived of its nauseous elements. He added a small dose of sulphate of quinine and digitalis, and enveloped the whole in a resinous substance. This remedy he employed upon himself during the rest of his life without feeling any disagreeable effects, and was entirely relieved of his sufferings from gout. The pills should be made of absolutely pure extract of colchicum, and covered with some resinous substance, and then again with thin goldleaf. In this way they traverse the stomach intact and dissolve only in the intestine. The colchicum liberated here easily penetrates to the tissues, modifies nutrition, acts on the trophic articular nervous system, and perhaps directly on the articulations. It calms the pain, causes the attack to cease, and reduces the size of the articulations. The patient should commence with two pills, one eight hours after the other. After each he is to eat something or drink some hot infusion. Then it will be necessary to regulate treatment in the following manner: Two pills in the morning, one at midday, and one at dinner. The following day he can take two pills on retiring, and

four during the following day, taking one when he retires. In a chronic case it will be well to prescribe one pill daily at meals for five days, then nothing for ten days, then five pills daily for five days, etc. It is often useful to complete the action of the colchicum by giving an alkaline powder in the interval. One of the best contains soda, lithia, and magnesia, combined with carbonic, citric, and benzoic acids. By this means the solution and elimination of uric acid and the urates are said to be effected.—*La Médecine*, October 2, 1897.

Therapeutic Hints.

Syphilitic Laryngitis.—

℞ Hydrarg. chlor. corros. ..... gr. i.
Potass. iodidi..... ʒ ij. to ʒ iv.
Syr. sarsaparillæ comp. ..... ʒ iss.
Aq. ..... q.s. ad ʒ iij.
M. S. ʒ i. twice daily after meals.

—Stevens.

Acute Catarrhal Bronchitis.—

℞ Potass. citrat..... ʒ ss.
Apomorphinæ hydrochlor..... gr. i.
Syr. ipecacuanhæ ..... ʒ ss.
Succi limonis..... ʒ ij.
Syr. simplicis .....q.s. ad ʒ iv.
M. S. ʒ ss. in water every three hours.

—Wood.

Or:

℞ Vini ipecacuanhæ ..... ʒ ij.
Liq. potass. citrat..... ʒ iv.
Tr. opii camph.,
Syr. acaciæ.....āā ʒ i.
M. S. Tablespoonful three times a day.

—Da Costa.

Ascites.—

℞ Mass. hydrarg.,
Pulv. digital.,
Pulv. scillæ.....āā gr. xij.
M. ft. pil. No. xii. One three times a day.

—Niemeyer.

Vomiting Following in the Course of Intestinal Affections.—

℞ Menthol ..... 0.50 cgm.
Cognac ..... 40 gm.
Simple tincture of opium..... 10 gm.
M. S. Take twenty drops several times daily.

—Peck, *Journal de Médecine de Paris*, June 27, 1897.

Hemorrhoids.—

℞ Chrysarobin..... 0.75 cgm.
Iodoform ..... 0.30 cgm.
Extract of belladonna..... 0.60 cgm.
Vaseline ..... 14 gm.
M. S. To be applied to the exterior two or three times daily.

Or:

℞ Chrysarobin ..... 0.08 cgm.
Iodoform ..... 0.01 cgm.
Extract of belladonna..... 0.01 cgm.
Cacao butter ..... 1.80 gm.
M. S. To be used as a suppository.

—Kossoberdckji, *Journal de Médecine de Paris*, June 27, 1897.

Anorexia.—

℞ Tincture of cinchona,
Tincture of colombo,
Tincture of gentian.....āā 5 gm.
Tincture of rhubarb ..... 3 "
Tincture of nux vomica ..... 2 "
M. S. Fifteen to twenty drops with each meal.

—*Journal de Médecine de Paris.*

Insomnia.—Nature's plan for curing insomnia is to limit the supply of oxygen to the blood. The cat and dog bury their noses in some soft hollow in their hair or fur; birds put their heads under their wings, and soon fall asleep. Those suffering from insomnia should cover their heads with the bedclothes, and breathe and rebreathe only the respired air. When drowsiness is produced sleep quickly follows, and the bed covering may be pushed aside and as much fresh air obtained as is needed.—*Indian Lancet.*

The scientific basis for the above idea no doubt lies in the fact that a certain degree of cerebral anæmia is requisite for the production of sleep. It is well known experimentally that dogs deprived of their normal cerebral blood supply by ligation of the carotid and vertebral arteries are afflicted with an intense drowsiness, so great that they readily fall asleep under most adverse conditions and are aroused with much difficulty. Practically there might be some difficulty in carrying out the plan suggested, but theoretically the soundness of the idea cannot be questioned.—*Yale Medical Journal.*

Pyelitis.—

℞ Potass. bromid.,
Sodii bicarb.....āā gr. cix.
Ext. belladonnæ..... gr. iv.
Ext. buchu..... ʒ i.
Syr. sarsap. comp.....q.s. ad ʒ iv.
M. S. ʒ ss. t.i.d.

—Pepper.

Acute Catarrhal Laryngitis.—

℞ Potass. chlorat.,
Potass. bromid.,
Pulv. ext. glycerrhizæ.....āā ʒ i.
Tr. ferri chlor. ..... ʒ ss.
Sacchar. alb..... q.s.
M. ft. trochisci No. xx. S. One every three or four hours.

—Seiler.

Aphthous Stomatitis.—

℞ Acid. boric ..... gr. xx.
Glycerini..... ʒ i.
Aquæ.....q.s. ad ʒ ij.
M. S. Locally.

—Smith.

Tinnitus Aurium. Dr. Aubert suggests in *La Médecine Moderne* a means of avoiding the ringing in the ears caused by quinine. The addition of five milligrams of atropine daily to preparations of quinine will suffice to prevent any inconvenience.

The Treatment of Exophthalmic Goitre and Other Vasomotor Ataxias with Preparations of the Thymus Gland and of the Adrenals.—From the clinical observations, including sphygmographic tracings made in the various cases I have thus far studied, I conclude that thymus extract will in many cases of exophthalmic goitre improve nutrition, mitigate nervous disturbances, reduce exophthalmos, greatly reduce goitre, and moderately quiet the heart and restore vascular tone, completely accomplishing this in milder cases; while adrenal extract seems to have greater influence upon the circulation and less effect upon the thyroid and ocular symptoms. I am making studies upon the blood and secretions, which are not sufficiently advanced for publication. I do not believe that either of these remedies or any other remedy removes the fundamental, constitutional, idiosyncratic instability of the toxic mechanism of the circulation; but I do believe that they are competent in the one case—thymus—chiefly by an antitoxic action to counteract the exciting influences, and in the other case—adrenal—chiefly by opposing action upon the circulation to neutralize the effect of those influences. Probably both share both these actions in some degree, and I should expect the best results to follow their combined administration.—Dr. Solis-Cohen, *Journal of the American Medical Association*, July 10th.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE REPORT OF THE RUSSIAN PLAGUE COMMISSION.

OF the various governments which sent scientific commissions to study the epidemic of the plague in India last year, there was none which was more directly and immediately interested in the practical results of such an inquiry than the Russian. Extensive epidemics of cholera and influenza have within recent years invaded Russia in Europe from her Central Asian possessions, and the sanitary authorities have been more or less concerned lest the Indian pest advance northward and enter Europe through these same channels. There is also a constant menace of a lighting up of some of the endemic foci of the disease which are known to exist in Asia and of an independent epidemic invasion from such source. We may therefore well understand the lively interest with which the report of this commission has been received by medical men throughout Russia, and especially by those in the south who would be called upon to resist the first approaches of the disease in case of possible invasion. The report, which was read at one of the section meetings of the International Congress and again at a meeting of the Kiev Medical Society, is published in the *Russki Arkhiv* of October 31, 1897.

The commission consisted of Professor Vysokovich and his assistant, Dr Zabolotny; Dr. Redrov, the third member, was ordered to Poonah almost immediately upon his arrival in Bombay, and so took no part in the main labors of the commission. The epidemic which began in September reached its height in January and had already begun to decline, the panic having for the most part subsided when the Russians arrived in the city about the end of February. By the beginning of June the epidemic was practically at an end, new cases for study being by that time found with some difficulty, and when the commission left Bombay, on July 2d, all the emergency hospitals were closed with the exception of two, which were for the reception and care of convalescents. The commission had therefore only about three months in which to study the affection. The authorities received them very kindly and placed four hospitals at their disposal, only two of which they were able to use, namely the Grand Road and the Charni Road Hospitals.

The report of the Russian commission is an excellent monograph on the plague as regards chiefly its clinical, etiological, bacteriological, and therapeutical features, but it contains few facts that were not already well known to those conversant with the results of earlier investigations in Bombay and during the previous epidemics in Hong Kong and Amoy. Dr. Vysokovich admits that the plague is a most formidable disease when once it has fastened its clutches on any one, native or European, but he regards it as comparatively easy of control by reason of the slight resisting powers of its bacillus, which cannot live long in water and perishes when dried. It is an "indoor" germ, the contagion being carried in clothing and other fomites or transmitted by direct contact. The members of the commission could not satisfy themselves as to the truth or otherwise of the popular belief that the disease is spread by rats and in grain. If rats are not instrumental in transporting the disease, the plague can be very certainly prevented from entering a country by means of an effective quarantine, but this is a difficult matter in the case of a long artificial frontier line, not formed by wide rivers or high mountains with narrow passes. The measures best suited for the crushing out of an epidemic already established are therefore of importance. Those which were the most successful in Bombay consisted in removing the sick at once to a hospital and the well from the infected house to quarantine for eight or ten days, the house where the case occurred being thoroughly disinfected before its former inmates were allowed to re-enter it. The clothing and other articles which have been in contact with the sick should be disinfected by dry heat, or better, if of little value, burned up. If all people were intelligent and reasonable, an epidemic of plague could be readily controlled by simple measures such as these, but experience in many parts of the world has shown the difficulty and danger of dealing in this way with an ignorant populace; hence the necessity of quarantine.

Naturally the experiments in orrhotherapy made by Haffkine and Yersin are referred to at some length. In the experience of the Russian commission neither Yersin's nor Haffkine's serum conferred any lasting immunity, a dose of ten cubic centimetres of the former or five cubic centimetres of the latter making a monkey immune for only ten days or two weeks. The injection of a fresh agar culture, kept at a temperature of 60° C. for one hour, produced immunity more slowly, but the protection so obtained was more lasting. The curative effects of the serum were better, yet they could hardly be regarded as entirely satisfactory when it is stated that forty per cent. of the cases treated by Yersin's serum terminated fatally. Apparently, therefore, we cannot yet rely upon serum treatment to repress an epidemic of the plague, and so we must still look to the much abused quarantine to preserve a country threatened with a visitation of this reviving enemy of the human race.

The Laurens County (S. C.) Medical Society held its annual meeting in Laurens on December 30th, under the presidency of Dr. William Hastings Dial.

THE DIET QUESTION.

The perennially interesting question of diet, which has been the cornerstone of medical systems and the stumbling-block of the honest and patient practitioner, is beginning to undergo the rigid test of scientific investigation, other than that which is paid for by the manufacturer of absolutely pure and essentially compressed food supplies. The importance of a study of the fundamental principles of nutrition is receiving attention in this country in a series of experiments along the lines of Kuntz and Pettenkofer.

The United States department of agriculture publishes an interesting report of the work done by Professor Atwater and Prof. E. B. Rosa, of Wesleyan University, in "Preliminary Investigations on the Metabolism of Nitrogen and Carbon in the Human Organism."

The manner in which they went to work was simply to put a man in a box and watch him eat, sleep, read, and think, keeping account in the mean time of all the elements of nourishment in the food and air that were administered to him, and subtracting therefrom all the excreta and waste products of his body, and putting down the difference to the energizing quality of the food actually assimilated.

The "box," or, technically, the respiration chamber, in which the subjects were placed for times varying from fifty-four hours to twelve days, was a small, elaborately constructed, triple-walled room, with a window. It was provided with conveniences for eating, sleeping, sitting, and working, as well as arrangements for ventilation and the study of all the metabolic products. Communication with the outside world was afforded by means of a telephone.

The methods of analysis of the food, fæces, urine, air, etc., were essentially those adopted by the association of official agricultural chemists; and the diet of the subject was beef, bread, oatmeal, potatoes, apples, canned beans, pears, peaches, milk, crackers, sugar, cheese, butter, eggs, and water.

In the case of one subject, his occupations were varied—three days were spent in hard mental labor, studying eight hours a day; three days in muscular activity, in using a pulley calling for such energy as would be required in hard labor; while another three-day period was spent reclining, at mental and physical rest.

It was found that, whatever had been the occupation during the day, six hours' rest was sufficient to bring the elimination of carbon dioxide back to a normal quantity, even after the large elimination which accompanied muscular work. In the case of the elimination of nitrogen in the urine, however, the increase upon hard muscular work and the decrease during rest were not manifested until some hours later. With reference to the weight of carbon dioxide given off, it was interesting to note that the amount averaged 900 gm. for the days of rest, and was not increased by mental activity, but that it averaged 1,360 gm. for the days of muscular work; and that during six hours of hard work there was eliminated 513 gm. against 175 gm. during six hours of sleep.

The experiments upon food values showed that when the same person was engaged in severe muscular work the amount of protein burned rose from 78 to 98 gm. a day, and the energy utilized rose from 2,695 to 4,325 calories.

The conclusions are encouraging in the prospects of obtaining a satisfactory balance of income and outgo of energy. They bring out clearly the differences in amounts of nourishment required by different people under different circumstances, and show that muscular work is performed mainly at the expense of the fats, sugars, and starches.

Such work necessarily requires a vast amount of accurate observation before generalizations can be drawn, but the method of work and the description of the apparatus which are given in this preliminary report lead us to hope that the advance work will throw much light upon the working value of foods.

COMPARATIVE FREQUENCY OF STONE IN THE BLADDER IN THE WHITE AND NEGRO RACES.

For very many years the view has been held in this country, and is still adhered to by the majority of medical men, that vesical calculi are much more frequently found in the white man than in the black. Indeed, the old opinion was that the negro race enjoyed an almost complete immunity from this disease. In these days, when time-worn theories are being continually disputed and often upset, it would appear to be but in the nature of things that there should be dissenters from the common belief in regard to the comparative prevalence of stone in the bladder of the two races. Dr. George Ben Johnson is such a dissenter, and states his case with much ability in a paper read before the Southern Surgical and Gynæcological Association, 1895, and now reprinted. It is not denied that stone is less frequent in the negro than in the white, but it is contended that the disparity is not so great as is generally supposed. Statistics are appealed to in order to show that 1 person in every 16,352 is afflicted with a stone in the bladder, the ratio of stone in the whites being 1 in every 11,732, and in the blacks 1 in every 55,305. The presence of stone in the bladder is thus proved to be 4.12 times more frequent in the whites than in the negroes. That the negroes are subject to this disease to a greater extent than was formerly imagined is in all likelihood true, but it is more than probable that they are at the present day more liable to the formation of vesical calculi than in bygone times. Since their emancipation their conditions of life have completely altered, and this is a point which is frequently overlooked. Previously to the abolition of slavery the negroes enjoyed a comparative immunity from many of the diseases from which the white man suffered; for instance, tuberculosis and insanity were almost unknown. After the abolition of slavery they quickly lost this immunity, and now are prone to contract all the diseases of the white man. Dr. Matas, of New Orleans, is of the opinion that the colored man on this continent is at nearly all

points different from his original African ancestors, and it may be said that in their liability to contract diseases the two races in this country are on about the same plane. The more typical African diseases have disappeared or are disappearing, while the liability to contract the diseases formerly peculiar to the white man is increasing in the same ratio. This view of the question will greatly aid in the explanation of the cause of increase of stone in the bladder among the colored people of America. With medical practitioners of the old school the belief that stone was in a large number of instances caused by the quality of the water was almost an article of faith; but this belief has of late been greatly shaken. Dr. Johnson remarks in reference to this that the general opinion of the men whom he had interrogated was that water had no influence whatever upon the production of stone. Roswell Park, Treves, and other writers on the subject say that the formation of urinary calculi is greatly due to the consumption of nitrogenous food. Yet in India, where the complaint is very prevalent, the natives subsist on a vegetable diet and seldom if ever indulge in alcoholic beverages. The causes entering into the formation of stone in the bladder are many, but outside all questions of diet that there are some districts in which the disease is more widespread than in others cannot be doubted.

COAL TAR AS A THERAPEUTIC AGENT.

Coal tar and its preparations as a therapeutic agent are rapidly coming to the front. Among the recent valuable additions to the materia medica are various preparations derived from gas or coal tar, to which a special interest is attached from the not unreasonable expectation that from the same source may be drawn an efficacious remedy for Asiatic cholera. A prominent American weekly, in reference to this matter, says: In the condensing vessels of coal-gas works is a gas liquor from which is obtained the muriate of ammonium. This has a wholesome influence on diseased conditions of the intestinal membranes. It might have been inferred from the many useful medical agents extracted from coal tar that the exhalations from the processes of gas making would be beneficent. As a matter of fact, however, it was not until the exceptionally good health of gas-works employees was accidentally observed that anybody recognized the medicinal value of the gas-works atmosphere. During the last severe epidemic of cholera in Paris, it was noted that those workmen who remained for many hours in the offensive air of the gas works were positively exempt, while those less exposed to that atmosphere were affected by that disease, but to a lower degree than workmen in other occupations. This led Dr. Lemaire to make a systematic study of the subject. Of 25,553 whose health he made a matter of record, 764 were specially occupied with coal tar. These not only experienced an absolute freedom from epidemic diseases to which a large percentage of the others fell victims, but only three suffered from any sickness in the course of seven years. Dr. Bauley, a professor in the Veterinary School at Alport, was the first to call attention to the exemption of the gas workmen from cholera, but nobody undertook to verify his investigations. Now, however, we may look for medical men everywhere to study the subject on the first appearance of Asiatic cholera. In Paris, whenever there is an epidemic of whooping-cough or croup, hundreds of mothers and nurses crowd the yards of the gas works in order to give the afflicted children the benefit of the offensive atmosphere. Although no record is made of the results, the increasing population is an indication that they are favorable.

News of the Week.

Antitoxin Testing.—The New York State board of health has decided to have analyses made from time to time of all the therapeutic serums manufactured in the State, in order to insure the maintenance of a proper standard. The proprietors of the *Pediatrics* laboratory in this city and of a laboratory in Syracuse have been designated by the board as special examiners of antitoxins.

The Other Side of the Hospital Question.—The Presbyterian Hospital of this city, after treating during the past year over twenty-three thousand of the "sick and suffering who appealed for help," finds that its annual expenses exceeded its income by over $72,000! The trustees ask the necessary pecuniary aid from its friends. Rather than close the doors of this model and costly hospital, they would ask for more money. Thus it is shown that there are two sides to the medical charity question. It is too bad that an institution so notoriously discriminative in its charity should suffer pecuniarily. We trust that such of our readers as can feelingly sympathize with the situation, especially the members of the charity-abuse committees, will subscribe accordingly.

Medical Charity Abuse in Boston.—The following resolutions were adopted at the meeting of the Boston Medical Society, on December 18, 1897:

"*Whereas*, The unrestricted abuse of medical charity in the large hospitals and dispensaries of Boston is being seriously complained of by a large number of general practitioners; and

"*Whereas*, The State has granted charters to these hospitals and dispensaries for the definite purpose of giving medical and surgical care and treatment to indigent persons within this city and commonwealth; and

"*Whereas*, The Boston Medical Society, individually and collectively, recognize, with every feeling of sympathy, the right and just claims of some of our citizens to the benefits of public and private charity; and will not be found wanting in generosity in whatever may tend to foster the moral, social, and physical well-being of the sick, the poor, the destitute, the lowly, the worthy, and the unfortunate; and

"*Whereas*, Large numbers of persons of both sexes frequently, daily, and repeatedly receive medical and

surgical advice and treatment gratuitously, for numerous cases of minor surgery and ordinary illness, who are believed to be financially competent to pay moderate fees; and

"*Whereas*, The time, facilities, and attention at the dispenaries being necessarily limited, that which is received by the well-to-do and the undeserving is in that proportion withheld from those who, by the chartered rules of those institutions, are justly entitled to their benefits; and

"*Whereas*, The practitioners of medicine and surgery of any community who have duly graduated from accredited medical colleges, and have incurred the expense of locating in such communities, naturally and justly feel that their present and prospective rights and privileges are wrongly encroached upon by the abuses now in practice in connection with medical charities; therefore,

"*Resolved*, That it is the opinion of this society that some means can be found to check or modify this formidable evil; and

"*Resolved*, That an urgent call be made upon all such members of the profession, who are in sympathy with this movement and have at heart the best interests of the medical profession, to render such moral assistance and financial support in the adoption of such measures as will tend to eradicate and prevent these evils, abuses, and practices; and

"*Resolved*, That an open meeting be held in the near future, and the profession at large be invited to be present; and

"*Resolved*, That a copy of these resolutions be sent to the *Boston Medical and Surgical Journal*, *Journal of the American Medical Association*, MEDICAL RECORD, *New York Medical Journal*, and *Medical News*, for publication.

[Signed for the society.]

"M. GERSTEIN, M.D., *Secretary*."

A Proposed New Harlem Hospital.—Residents in the upper part of the city have petitioned the commissioner of charities and the board of estimate and apportionment to authorize an immediate issue of bonds for the purchase of a site and the erection of a new building for the Harlem Hospital, now located at the foot of East One Hundred and Twentieth Street. The present building is wholly inadequate to meet the calls upon it for the reception and care of emergency cases. Some years ago an appropriation was made of $300,000 for a new building, but for some reason nothing further was done and the money was expended on improvements of other of the public hospitals.

Obituary Notes.—DR. STEPHEN H. CONGER, of Summit, N. J., died suddenly in the railroad station at that place on Christmas eve. He was seventy-six years old, and was a graduate of Princeton College and of the College of Physicians and Surgeons in this city. He leaves a widow and two sons.—DR. S. AMELIA BARNETT, the oldest woman physician, in point of years, in this city, died on Sunday, at the age of eighty-four years. She was a graduate of the Women's Medical College (Homœopathic) in the class of 1865, and had practised continuously for that time up to four years ago, when increasing infirmity compelled her to retire.—DR. H. P. WILSON, of Baltimore, died in that city on December 27th, at the age of seventy years. He was a graduate of the University of Maryland in 1851. He was one of the founders of the Hospital for Women of Maryland, and was ex-president of the American Gynæcological Association, of the Gynæcological and Obstetrical Society of Baltimore, of the Medical and Chirurgical Faculty of Maryland, a member of the Maryland Academy of Sciences, and was connected as gynæcologist with a number of the hospitals of Baltimore.

Antitoxins in Paris.—In France there is a law which forbids the manufacture of therapeutic serums by any one who has not obtained permission from the government to do so. The health authorities of Paris have recently discovered, however, that many of the serums sold by the apothecaries in that city are made by unauthorized parties, and it is believed that, as was recently discovered in the case of a fraudulent tuberculin preparation, many of these serums are absolutely inert.

Yellow Fever in Brooklyn.—The purser of the Clyde Line steamer *New York*, which arrived here from Hayti a few days ago, died about a week after his arrival, with what was pronounced yellow fever. Even if it were yellow fever, there would be no danger of the disease spreading at this season of the year.

The Northwestern Ohio Medical Association held its fifty-third meeting, in Toledo, on December 16th. A number of papers were read by members of the society, and an address was delivered by Dr. Milliken, of Cincinnati.

The Estate of the Late Dr. Evans.—It is announced from Paris that Dr. Thomas W. Evans, the American dentist who died there recently, left all but a quarter of a million dollars of his estate, which is estimated at $8,000,000, to the Thomas W. Evans Museum and Institute of Philadelphia. It is also stated that the heirs, some thirty in number, have decided to contest the will.

Artificial Sea Air.—It is said that in the new public hospital now building in Berlin there is to be a large room in which patients with certain diseases of the respiratory organs and other affections can breathe air which has been impregnated with salt so as to resemble the air of the seashore.

Dr. Harold N. Moyer, of Chicago, the editor of *Medicine*, was held up and shot in the thigh by footpads on December 9th. The deed was committed in the early evening, and near Dr. Moyer's residence on one of the principal streets in Chicago.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending December 24, 1897. December 20th.—Medical Inspector J. G. Ayers ordered to duty at the navy yard, Portsmouth, N. H., January 17th; Medical Inspector

J. B. Parker detached from the navy yard, Portsmouth, N. H., and ordered to duty as member of the naval medical examining board, Washington, January 22d. December 21st.—Passed Assistant Surgeon T. B. Bailey, unexpired leave revoked, and ordered to the Washington navy yard.

Lebanon County (Pa.) Medical Society.—The annual banquet of the Lebanon County Medical Society was held at Lebanon, Pa., on December 7th, and was attended by twenty-seven participants. Dr. J. H. Musser, of Philadelphia, delivered an address on the subject of "Medicine." Other addresses were delivered by Dr. William B. Atkinson, of Philadelphia; Dr. James W. Keiser, Dr. W. M. Guilford, and Dr. S. P. Heilman.

Philadelphia Hospital.—The eleventh annual dinner of the Association of Ex-Resident and Resident Physicians of the Philadelphia Hospital was held on December 8th. Dr. E. L. Duer, vice-president, presided in the absence of the president, Dr. Alfred Stillé. Addresses were made by Drs. H. C. Wood, J. B. Walker, B. F. Stahl, William Pepper, Jr., J. H. Jamar, D. J. McCarty, and others.

Pathological Society of Philadelphia.—At a special meeting of the Pathological Society of Philadelphia, held December 9th, Dr. John Guitéras, professor of pathology in the University of Pennsylvania and surgeon in the Marine Hospital service, delivered an address on "The Epidemic of Yellow Fever of 1897." This epidemic was characterized by the lateness of the season at which it appeared and the mild character of the cases. It was pointed out that many children are attacked, the disease in them passing unrecognized and being diagnosticated malaria, meningitis, pneumonia, etc. This is shown by the increased mortality among white children during periods of prevalence of yellow fever, the colored population being relatively though not absolutely immune. The three most distinctive manifestations of the disease are considered the facies, the presence of albumin in the urine, and a want of correlation between the pulse and the temperature, the pulse being relatively infrequent, while the temperature is high.

Philadelphia County Medical Society.—A stated meeting of the Phil delphia County Medical Society was held on December 8, 1897, the president, Dr. James Tyson, in the chair. Dr. James K. Young read a paper entitled "Accurate Measurement for Scoliosis," exhibiting various forms of apparatus and demonstrating the mode of employment. Dr. Lawrence F. Flick read a paper on "The Treatment of Tuberculosis with Inunctions of Europhen," and exhibited several cases. In addition to the inunctions he employed large doses of creosote. Good results were reported from the method. Dr. H. A. Hare read a paper entitled "The Influence of Digitalis on the Heart Muscle when Administered for a Long Period of Time." He reported a series of experiments that tended to show that animals to which digitalis was administered with their food exhibited greater activity, increased body weight, and increased weight of the heart, with increased size of its muscular fibres, as compared with animals placed under the same conditions but to whose food digitalis was not added. Dr. H. E. Wetherill exhibited a number of medical instruments of precision, and demonstrated the results of some original work. He showed a clinical thermometer capable of recording differences of 0.01° F.; a hygroscope, for determining the degree of moisture of the surface of the body; an inclined-plane vest-pocket microtome; a rotameter; and a small stove for use in the sick-room, that could be folded together and carried in a coat-pocket, and was capable of bringing ice water to the boiling-point within ten minutes. Dr. John B. Roberts exhibited a woman, about fifty-five years old, in whom a considerable deficiency of the nose resulting from injudicious cauterization was made good by autoplasty, first from a finger, and second from the adjacent cheek, with a very acceptable cosmetic result.

A Prize for Physiological Research.—The University of Cambridge has just received, under the will of the late Dr. Joseph Gedge, who died at Khartoum in 1890, the sum of £1,000 for the establishment of biennial prize for original research in physiology.

The Health of New York.—The president of the health board sent to the mayor a few days ago a statement of the death rate of the city for the completed eleven months of 1897. It was 19.62, the lowest on record.

A Memorial of Mr. J. Greig Smith.—It is proposed to commemorate the late Mr. J. Greig Smith, professor of surgery at University College, Bristol, by erecting within the precincts of the University of Aberdeen, of which the deceased was a graduate, a memorial tablet.

Dr. Carlo Saglione, physician to the King of Italy, recently died in consequence of a stroke of apoplexy. He had been paralyzed for a considerable length of time. He is succeeded in his office of medical adviser to the king by Dr. Quirico.

A Sanatorium for Consumptives in New Mexico.—It is reported that the ranch of ex-Senator Dorsey at Chicos Springs, New Mex., will be converted into a large sanatorium for the climatic treatment of sufferers from tuberculosis.

Beriberi is reported as prevailing to an alarming extent in Matanzas, Cuba, new cases appearing among the wretched inhabitants daily.

The First Annual Meeting of the Maryland Conference of Charities and Correction was held in Baltimore in November. Among the subjects discussed was the State care of the insane, feeble minded, and epileptic.

The Maryland Public Health Association held its first semiannual meeting in Baltimore in November. This association is the outcome of a conference of health officers from the State board of health, from county health officers, and a committee on general sanitation from the Medical and Chirurgical Faculty.

At this meeting the principal subjects considered were typhoid fever in connection with water and soil pollution, the dangers from hogpens and slaughter houses in small towns, the sanitary condition of public schools, school life and children's eyesight, and the consideration of the best method of a sewage system for Baltimore.

Ozone.—It may not be generally known that a very simple and effectual way of bringing ozone into the house consists in first suspending moist linen sheets in a keen, dry wind, and afterward hanging them up in the house. The air in the room will thus become considerably charged with ozone and its presence will be easily detected by its peculiar smell, while a moistened starch-iodide paper will instantly turn blue. Why ozone is accumulated in wet cloths in this way is not quite understood, but it may be due to the rapid passage of the oxygen in air over a large wet surface. It is not improbable that this interesting phenomenon plays an important part in the real hygienic cleansing of our linen articles of clothing. In big laundries, when the not quite dry linen is brought in after having been exposed to a cold, dry air for a short time, the smell of ozone is almost more than is agreeable.—*The Lancet.*

Professor Tarnier, of Paris, died recently in that city, at the age of seventy years. He was graduated in medicine in 1857, from the University of Paris, and held the chair of clinical obstetrics in that university at the time of his death. He was well known for his many works on obstetrics.

Proprietary Professorships.—A physician of Chicago recently advertised for a purchaser of his practice, and offered as a special inducement a professorship in one of the medical colleges of the city. We can sympathize with a man who is so anxious to escape from Chicago that he will make the man who helps him a real professor, but we doubt whether the inducement is sufficient. Professors are too numerous these days to count for much.

The Albany Medical College Alumni of Greater New York.—The third annual meeting of this society was held December 3d, at the residence of Dr. William H. Thomson. The following officers were elected: *President*, Dr. Horace Tracy Hanks; *Vice-President*, Dr. John J. Van Rensselaer; *Secretary*, Dr. Warren C. Spalding; *Assistant Secretary*, Dr. Edward F. Quinlan; *Treasurer*, Dr. Henry F. C. Muller.

A Crazy Desire.—A Brooklyn druggist has been arraigned in the police court several times in the past few weeks, charged with practising medicine without a license. The last time he was arrested the jury found him guilty on the charge made, and he was remanded for sentence; but when the case was called it was reported that the man was insane, and the justice had to adjourn the case. The opinion of the officers seemed to be that any man who would risk arrest and imprisonment for such an unprofitable pursuit as the practice of medicine must of necessity be of unsound mind.

The Plague.—The epidemic of the bubonic plague at Poonah and at Bombay is reported to be growing in extent, while the mortality rate is steadily increasing.

Dr. Anthony Brownless, chancellor of Melbourne University, died a short time ago. He was first a practising physician in London, but went to Victoria in 1852, and was the founder of the medical department of Melbourne University. He was vice-chancellor of the university for twenty-nine years, and since 1887 had been chancellor.

Compulsory Vaccination.—In the hope of stamping out the epidemic of small-pox, the officers of the Atlanta board of health have been making a house-to-house visitation in order to vaccinate and revaccinate the inhabitants of the city. A few days ago a fashionable dressmaker of the place refused to submit to the vaccinating physician's salutary operation, and for this she was arrested. A case was made against her and she was fined $25. She pleaded as an excuse that the operation would disable her from earning a living for two children whom a dead sister had left in her care. She said she could not afford to pay the fine, and was sentenced to twenty-five days' imprisonment in the city prison. When she had been there three hours she relented. She was then vaccinated and released.

The Hospital Saturday and Sunday Collections.—At a meeting of the Hospital Saturday and Sunday Association recently held in this city, it was stated that the indications were that the collection for this year would be the largest in the history of the organization. It has been proposed that the two associations in this city and Brooklyn consolidate and issue a united appeal to all the citizens of the greater town.

Congratulations to Sanarelli.—The Italian Society of Internal Medicine, recently in annual session in Naples, sent a letter of felicitation and of admiration to Dr. Sanarelli, "who, in distant lands, while in peril of his life, made such memorable discoveries concerning the etiology of yellow fever, thereby winning for himself imperishable honor and giving to his native land a cause for legitimate pride."

Medical College Courtesies.—When yellow fever appeared in Memphis last autumn, some of the students of the Memphis Hospital Medical College became frightened, just as if they were mere law or divinity students, and the authorities of the college feared they would lose them if once they left the city under no supervision, and so looked about to see what could be done to keep them together. In this emergency a sister institution came to the rescue, and the medical department of Vanderbilt University courteously extended the privileges of the school to the faculty of the Memphis institution, and the latter gladly availed itself of the offer by sending a number of students in charge of the dean to Nashville for a week. Doubtless this kind deed was prompted by no desire to make known to the strangers thus taken in the facilities for medical instruction possessed by the hospitable host.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 16, 1897.

EDWARD G. JANEWAY, M.D., PRESIDENT.

THE meeting was in charge of the section on general surgery.

The Treatment of Chronic Empyema.—DR. B. FARQUHAR CURTIS read a paper on this subject. He said that if all cases of pneumonia were carefully followed for some weeks afterward a certain proportion of the cases of latent empyema would be prevented. Empyema complicated with tuberculosis would not be recovered from in the majority of cases, no matter what the treatment. Diminished resistance on the part of the patient was probably often an important factor in pleural surgery. No granulation production of any amount took place on the interior of the pleural sac, but that some granulation occurred he had been able to demonstrate in his own cases by actual inspection. Very frequently, although drainage had been established, the lung did not expand and the cavity did not fill up.

The Different Operations.—It was certainly due largely to the writings of Estlander that the operation of resection of the ribs had become popular. His idea had been to resect a considerable portion of the ribs over the cavity, and his work was published in 1878. Schede published a very similar method in the following year. His operation differs from Estlander's in removing also the thickened costal pleura, which offers a very considerable obstruction to healing. As the periosteum is left, the ribs are reproduced—sometimes so rapidly as to leave a condition the same as before the operation. The layers of fibrin on the pleura in chronic cases often bind down the lung to such an extent that simple drainage will not suffice to effect a cure. The indication evidently is to resort to evacuation of the pus as early as possible. The majority of physicians and surgeons now believe that incision is the quickest and safest method. The speaker personally believed that free incision is the best treatment for abscesses in general, and hence he could see no reason for not employing it in cases of empyema. Many cases of empyema give a history of small openings having been made, or of small drainage tubes having been used, and removed too soon. If the lung does not expand promptly, it will be more or less crippled by adhesions. General surgical opinion now favors an opening in the chest, low down and far back, together with resection of the rib and the establishment of free drainage. One German authority, it is true, still favors the high incision because of the opening being farther removed from the diaphragm. He would oppose such a view, although he had once known a careful and experienced surgeon, while operating according to the usual rules, to injure the diaphragm and the peritoneum. This led to the patient's death, and subsequent investigation showed that the accident was due to a rare and peculiar distortion of the diaphragm resulting from its adhesion to the chest wall. Having secured thorough evacuation and drainage, the next point for consideration is as to the time for diminishing or removing the drainage tube. After the cavity of the empyema has contracted to a flat space, the tube should always be shortened—indeed, it is well to keep the tube half an inch shorter than the depth of the cavity. Unduly prolonged drainage is apt to result in a chronic sinus or in necrosis of the bone. A not uncommon accident is the slipping of the tube into the chest cavity, without the knowledge of the patient or of the surgeon. The drainage tube should be of good fresh rubber, and should be secured by a safety pin passed through one side. It should be changed whenever it is found that the rubber has become brittle. Schede claimed a fair proportion of cures, even in tuberculous cases of empyema.

Varieties of Chronic Empyema.—In considering the treatment of chronic empyema in detail, the reader of the paper divided the cases into three groups, viz.: (1) total empyema; (2) partial or encapsulated empyema; and (3) pleural fistula. A closed empyema would be found in neglected cases in which the pus had not been evacuated for a long time. Very frequently after drainage had been established, owing to the crippling of the lung, such a case would be found to have been simply converted into an open empyema. The cavity should always be thoroughly drained for a short time before resorting to resection of the ribs. A rather serious complication was the communication of an empyema with a bronchus. Here, the cavity should be drained by a simple incision between the ribs, or at most by the resection of only one rib, the radical operation being delayed until the patient had recuperated somewhat. The radical operation was indicated as soon as it was evident by the contact of the margins of the ribs that the cavity would not further fill up. By means of a long probe it was possible to determine the shape as well as the size of the cavity. Some authorities advocated doing the radical operation after waiting two weeks, but he preferred to wait four to six weeks in the earlier cases, although two weeks might be sufficiently long in the old, neglected ones, from which but little could be expected. In cases presenting a long, narrow cavity, or a "pleural fistula," a cure was most easily effected when the fistula ran parallel to the ribs; in other cases it was usually necessary to resect portions of a number of ribs. In some cases the sinus ran backward so near the spinal column as to require an unwarrantably severe and dangerous operation. Here it was better not to operate.

Technique.—Some surgeons raise a horseshoe flap over the ribs to be removed; others expose the ribs by an "L" or inverted "T" incision. The latter had proved most desirable in his experience. The transverse incision should be parallel to the lowest rib to be removed. The two triangular flaps are dissected backward sufficiently, and then the ribs are resected. If possible, at least one inch more rib should be removed than the diameter of the cavity. It was not necessary to remove as much from the upper as from the lower ribs. After the removal of the rib a thorough exploration of the cavity should be made with the finger, and the incision enlarged. The thickened pleura should be cut away with scissors, and the intercostal artery controlled by clamp or ligature. The cavity having been thus exposed, its walls should be thoroughly curetted and wiped out with pads. The cavity should next be packed with dry sterilized gauze after a large piece of two layers of iodoform gauze had been inserted in the cavity. This gauze should be large enough to fill all the irregular recesses of the cavity. There was less danger of iodoform poisoning by this method than if the cavity was entirely filled with the iodoform gauze. The two flaps of skin should be laid together over the packing. The external dressing did not need to be heavy, and it should be retained until a rise of temperature or the profuse discharge indicated the necessity for renewing it. In the majority of cases there would be more or less sloughing and suppuration, and the discharge would be rather profuse for the first two or three days. In performing the Schede operation he was in the habit of using a vertical incision in the midaxillary line and a transverse one over the lowest rib to be removed. The

amount of blood lost depended largely upon the rapidity of operating, as the hemorrhage should be controlled by pressure from large towels and not from clamps. The anterior and posterior flaps having been retracted and the ribs exposed, each rib in turn should be cut out subperiosteally. Schede divides each rib in the centre with bone forceps and breaks it off, but the speaker preferred to divide the rib with cutting forceps at each side of the wound. The enormously thickened tissues could usually be divided with very stout scissors. In this way the wall of the abscess cavity was freely exposed by a large triangular opening. The ragged edges of the divided ribs should be covered by tacking the skin over them. The cavity should then be curetted and packed. It would be noted that there was not much practical difference between the operations of Estlander and Schede, except in the treatment of the skin. The Schede operation was especially suitable for cases of total empyema. When the pleural destruction had not been very extensive, granulation should be well under way at the end of a week. After the granulations had once started, iodoform could be used more freely, as there was less danger of absorption. Schede asserted that even in seemingly desperate cases it would be found that the lung would often expand considerably, and this had been his own experience. The first deformity produced by these radical operations was truly startling, yet in the course of a year or two it would be impossible to see that such an extensive operation had been done. Some condemned the operation in children because of the deformity, but in his experience the lateral curvature remaining was no greater than in every case of empyema in which the ribs lay in contact.

Forcible Expirations Aid Recovery.—Convalescence should be assisted by forcible expirations, *e.g.*, with a spirometer. The time necessary for recovery depended mainly upon the size of the cavity. Schede states that at least a year generally elapsed before complete recovery in total empyema. Of the speaker's three cases of total empyema, recovery was exceptionally rapid in one, the patient being discharged in three months and a half. In another patient the cavity filled up, but would not cicatrize owing to poor general condition. In the third case, that of a boy of seven years, the lung expanded to the surface of the chest in the course of three months, but, owing to some ill-defined constitutional taint, he relapsed. Death occurred one year after the operation.

In conclusion Dr. Curtis said that one should not be alarmed at the apparent severity of the operation, for even the weakest patients bore it well if it were done rapidly and skilfully. The secret of success lay in using slight anæsthesia and in the easy control of hemorrhage. Considering the incurable and dangerous condition for which the operation was undertaken, the risk was not too great a price to pay.

Dr. R. F. Weir said that his experience with Schede's operation was limited to four cases, two of them being examples of total empyema. In none of them did he resect higher than the fourth rib. He had found that the ribs did not snap off as Schede claimed they did when they were divided only in the centre. De Bove, of Paris, had suggested that the thickened layer should be peeled off the lung to such an extent as to allow the lung to expand rapidly and fill the cavity of the chest. Dr. Weir said that he had been waiting for an opportunity to test this method, for, if it proved successful, it would be a very valuable procedure, enabling one to avoid the dangers of Schede's operation, the chief of which was hemorrhage. Moreover, De Bove claimed that only one, two, or three ribs need be removed, thus greatly simplifying the operation.

The Operation a Grave One.—Dr. A. G. Gerster said that cases of extensive chronic empyema were now very much less common than they had been ten or fifteen years ago, undoubtedly because the cases were at the present time more promptly operated upon. One should be careful not to underestimate the dangers of the extensive operation described in the paper, for they were great. The most skilful operator would find himself confronted with serious depression arising from the profuse hemorrhage. It should be borne in mind that even cases in which the cavity of the empyema communicated with a bronchus were amenable to a cure. He had had one such case during the past summer. The danger of flooding the sound lung during the progress of the operation was certainly a very grave one, but this could be avoided by performing the operation without any anæsthetic, unless it were a local anæsthetic. He could confirm what had been said in the paper about the very remarkable disappearance of the extensive deformity. Even though a case of chronic empyema might seem desperate, the surgeon was not justified in looking upon it as incurable, as was formerly done. He had had bad cases in which he had done the old Estlander operation, but the ribs had filled in so quickly that it had become necessary to repeat the resection one or more times. Even under such circumstances he had obtained a good result.

Dr. F. W. Murray said that his experience comprised only four cases, yet these had served to exemplify the danger of tuberculous infection when there had been improper drainage and treatment. The result might be as good in children from simple incision, but he was in favor of resection of rib in all cases. Notwithstanding the apparently formidable nature of the operation described in the paper, the results were remarkably good. Of one hundred and thirty-five cases collected by a German writer, in which extensive rib resection had been done, fifty-six per cent. healed without fistula, and death directly followed the operation in only four cases.

Self-Inflation of the Lung.—Dr. Andrew H. Smith said that while the comparative rarity of cases demanding such radical procedures was largely the result of better knowledge and treatment, it was also in part owing to the plan of inflating the compressed lung by means of the spirometer or a similar device. Some years ago he had demonstrated that the lung could be reinflated by closing the nostrils and making an expiratory effort, the air being forced over from the sound lung into the collapsed one. In cases in which the thickening had not become very extensive, it was perfectly possible to facilitate the inflation of the affected lung in the simple manner alluded to. The patient should be instructed to make this expiratory effort twenty times or more a day, and it could be carried up to the point of tolerance of the individual.

Dr. Curtis, in closing, said that in his experience the loss of blood had not been so great as he had expected it to be, and not enough by any means to exsanguinate the patient.

Regulation of Midwives.—Dr. N. E. Brill said that under the present laws the midwife had no legal status in this city. The Society of Medical Jurisprudence had recently drawn up a bill, for presentation to the next legislature, having for its object the proper regulation of midwives. Briefly, this bill provides that all midwives must be licensed by the regents of the university, and the license must be registered in the county in which they practise. Such license is to be issued only to persons of good moral character, who can read and write, and who have satisfactorily passed through a prescribed course of study of at least a year's duration. The State board of health is empowered to make regulations for midwives from time to time. The licenses may be revoked by the board for cause.

Dr. Brill then moved that a committee of three be appointed by the chair to confer with the committees of the Society of Medical Jurisprudence and of the county societies of New York and Kings. According to the rules regarding new business, no action can be taken until the next meeting of the academy.

Election of Officers.—The following officers of the academy were elected: *Vice-President*, Dr. W. H. Katzenbach; *Recording Secretary*, Dr. Louis Faugères Bishop; *Corresponding Secretary*, Dr. M. Allen Starr; *Treasurer*, Dr. Henry E. Crampton; *Trustee*, Dr. A. M. Jacobus; *Chairman of Committee on Admissions*, Dr. Henry Ling Taylor; *Committee on Library*, Dr. Edward D. Fisher.

SECTION ON GENERAL MEDICINE.

Stated Meeting, December 21, 1897.

LOUIS FAUGÈRES BISHOP, M.D., CHAIRMAN.

The Diet of Dyspeptics.—DR. MAX EINHORN read a paper with this title (see page 7).

Digestion the Cure for Indigestion.—DR. WILLIAM H. THOMSON said that the vastness of the subject selected for discussion this evening reminded him of the title of a certain book, "Five Days in Africa." The class of patients to which the reader of the paper had especially referred included a very large number of women. The physician too often accepted without question the statements of patients regarding their inability to take certain articles of food. He had long been of the opinion that the greatest cure for indigestion was digestion; in other words, we must find out just what was the patient's digestive capacity. He had often found that the patient could digest a certain nutritious article of food, and on this the nutrition had been improved very decidedly before the dietary was enlarged. If one were fortunate enough in the individual case to discover such an article of food, the treatment would be greatly simplified. It was well to inquire of the patient what articles of food were first noticed to "come up" in the mouth, or "repeat" after eating, and such articles it would be well to avoid. Many individuals would declare that they could not eat bread, yet there were "breads" and "breads." In his experience the crusty Vienna bread was exceedingly useful in cases coming to him from the country after having been accustomed to the heavy, sour bread sometimes found in rural districts. The quantity taken was also of much importance. In these cases of malnutrition emaciation was frequently present, but it should be remembered that emaciation is a great deal more than thinness—it is a loss of bulk of every tissue in the body except the nervous tissue. By passing in review the various causes of emaciation, it was comparatively easy by exclusion to diagnosticate those very common cases of malnutrition due to functional dyspepsia. These patients were very often starving themselves from fancy.

The Palate Rules Supreme.—The nervous system had much to do with the loss of relish for food, and in laying down rules for dyspeptics one must give much weight and consideration to this matter of relish. Many people are hungry, and yet have no relish for food. This is distinctive and peculiar to the human subject. The palate constitutes itself a court from which there is no appeal, and, no matter what the teachings of physiological chemistry, this court renders the final decision. Many of the cases under consideration, it would be found, had originated in a nervous derangement whereby the relish for food had been lost.

New York Chicken Poisonous.—DR. GEORGE B. FOWLER said that the books classified dyspepsias and multiplied them, and experts gave a distinct symptomatology for each variety, so that the average physician was confused and discouraged. But if he had sufficient common sense he would usually come at last to take a matter-of-fact view of the subject, and would put his dyspeptic patients on a rational but fairly liberal diet. Personally he believed, with Sir William Roberts, that it was not so much in many instances what one ate, as the amount taken. He was a strong believer in the value of bread and butter. In these patients the mind became concentrated upon the stomach, and hence the moral treatment—getting control of the patient—was a very important element of success. Concerning special articles of food, he wished to say that it was wise to avoid turkey, chicken, hashes, and stews. He regarded chicken and turkey, as found in the markets of New York City, as nothing short of an absolute poison. Personally he would no more think of eating roast chicken than he would of taking four grains of arsenic, and he had had numerous patients who had suffered dreadfully for a long time from colics, and had even been thought to be suffering from gall stones, when in reality their distress was owing to indulgence in chicken. This had been proved by the quick and permanent relief experienced in simply avoiding this article of food. Hashes and stews should be placed in much the same category.

Attend to the Teeth.—DR. W. H. KATZENBACH said that in considering the matter of diet it was important to remember that the food should be adjusted to the age of the patient and the condition of the teeth. This, of course, implied that the natural teeth should be put in as good condition as possible, or artificial teeth substituted for them.

Three Guiding Principles.—DR. C. E. LOCKWOOD remarked that a recent writer, in speaking of dietetics, had very well said that the quantity of the food should be determined by the motor activity and the sensibility of the stomach, and the quality by the digestive power of the gastric juice. Many women, when troubled with nervous dyspepsia, were inclined to restrict the diet to such an extent as to impair their nutrition. There were three important points to remember in the treatment of such cases, viz.: (1) to get the confidence of the patient; (2) to limit the quantity of the food; and (3) to give small doses of sedatives to allay the irritability of the stomach. As an example of the power of the mind over the stomach, the speaker cited a case of colloid carcinoma of the stomach, in which only an exploratory operation had been done. Before the operation the patient had been losing flesh rapidly, but since the operation, not knowing that the disease had not been extirpated, he had regained thirty-five of the fifty pounds that had been lost, and had ceased to vomit and complain of distress. Notwithstanding this apparent improvement, the physical signs indicated a decided extension of the disease. In a general way he would advise treating these cases by giving at least six meals a day, a small quantity of a varied diet at a time, together with ten grains of bromide, three or four grains of chloral, and two or three minims of tincture of belladonna in chloroform water before eating. In this way he thought he had diminished the sensitiveness of the stomach so that the patient had been able to bear the food much better. He also favored a pretty dry diet.

Eat Slowly and be Merry.—DR. F. A. BURRALL spoke of the amount of mischief done by the very common habit of eating the meals rapidly, according to the farmer's motto of "Quick to eat and quick to work." Thorough mastication was of the utmost importance, and, of course, this presupposed a proper condition of the teeth. Gastric digestion was often weakened and much distress was caused by the ingestion of too much fluid with the food, particularly at the beginning

of a meal. Another factor in causing dyspepsia was the habit of eating food in silence, or without that mirth and good fellowship so necessary to insure a nervous condition favorable to the normal action of the digestive organs. These little details might seem trite and unimportant, but it was the duty of the careful physician to instruct his patients in regard to them. The long-continued and free use of digestive agents served to make the digestive organs lazy and inactive. At the present time there seemed to be a tendency to return to the more common use of mercurials. He had himself known of one case in which three grains of mercury with chalk had been taken almost nightly for a year without anything but good resulting. If the cause of the dyspepsia did not seem clear after careful examination, it should be the rule to examine the urine, as in disease of the kidney one would often find the key to the situation.

Eat Crusty Bread.—Dr. W. H. Weston said that he wished to speak a word in favor of bread. Dr. Thomson had spoken of crusty bread as being easily digested, and to this he would heartily assent, but he would go further and recommend that the bread should be almost all crust. If hash were properly made it should be quite digestible.

Dr. Einhorn, in closing the discussion, said that his paper dealt only with cases of chronic functional dyspepsia, but his cases were not confined to those exhibiting anorexia. In some of those referred to, the patients had had a good appetite, but had had distress after the ingestion of food. It was this that gave rise to the "fear of food." Even in the cases of hyperchlorhydria he did not favor a one-sided diet for more than a short time. He could not agree with Dr. Thomson that we should be governed in our selection of food by the question of whether or not the taste of the food was "repeated," for not only did such a rule seem to him unreliable, but it was not wise to encourage the patient in this way to practise introspection. He had never seen any harmful or poisonous effects from the ingestion of chicken or turkey when properly prepared; certainly the white meat could be digested by most persons. Regarding the case cited by Dr. Lockwood as evidence of the mental impression produced by an exploratory operation, Dr. Einhorn said that he had had an exactly similar case, but he was not inclined to accept the explanation given. The improvement could hardly be attributed to a purely neurotic influence, because certainly a person with carcinoma of the stomach had abundant reason to vomit and complain. It was rather an instance, of which tuberculous peritonitis was another familiar example, of a mysterious and inexplicable influence exerted by an exploratory laparotomy. In his own practice he sometimes prescribed the bromides to reduce the sensitiveness of the stomach in dyspeptics, but it did not seem to him a very essential part of the treatment. He did not give his patients a dry diet, but limited the quantity of fluid at a meal—say to about ten ounces. If we restricted the fluid too much, the food could not be taken with a relish, perhaps not at all. The first principle of our treatment should be to make the patient eat.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, December 23, 1897.

Simon Marx, M.D., Chairman.

Enucleation of Large Interstitial Fibroid without Hysterectomy.—Dr. Frederick Holme Wiggin presented a married woman, forty-two years of age, who had been admitted to the gynæcological ward of the City Hospital on July 12, 1897. The first menstruation had occurred in her fourteenth year, and thereafter had been of the monthly type. She had not been pregnant, and her last period had occurred shortly before admission. Four years ago her attention had been called to the fact that her abdomen was enlarging. After the first year the tumor seemed to diminish in size for a short time, and then began to grow rapidly. It had caused no distress until recently. Examination showed a large tumor which seemed to be connected with the uterus. She was weak, suffered from nausea, and could not eat solid food. On July 19th, after the usual preparation, the abdomen was opened by an incision through the left rectus muscle. The tumor was found to be an interstitial fibroma, and was rapidly shelled out of its bed. This was considered better than an abdominal hysterectomy, owing to the feeble condition of the patient. Three buried sutures were inserted, and the walls of the cavity in this way approximated. The peritoneum was brought over the line of incision by a Lembert suture. Very little blood was lost during the operation. The right ovary being cystic, it was removed. The abdominal cavity was irrigated freely with saline solution before the wound was closed, and about one quart was left in the cavity. The pulse had been very weak at the beginning, and after the operation the patient did not rally well. At the end of three hours the pulse became imperceptible, and she was given a large intravenous saline infusion. It was necessary to repeat this about two hours later. After this her convalescence was very good. Dr. F. M. Jeffries, who examined the tumor at the Carnegie Laboratory, reported that it was a fibroma rather than a myoma. The tumor after removal weighed a little over ten pounds. The patient has not menstruated since the operation.

Virginal Endometritis.—Dr. Louis J. Ladinski presented a girl of fourteen years, who began to menstruate in her eleventh year. She flowed rather profusely at each period up to about a year ago, and from that time until she came under observation she had almost constant hemorrhages. When first seen, November 1st, she was pale and poorly developed. The depth of the uterine cavity was about three and one-half inches, the os was patulous, and a grumous material was oozing from the uterus. A curettage was done for diagnosis. It was thought at the time that the uterus was possibly the seat of tuberculosis or malignant disease. Microscopical examination, however, proved the case to be one of ordinary fungoid endometritis. The uterus had since then diminished in size and the hemorrhages had ceased. The sputum had also been examined on several occasions, but no tubercle bacilli had been found. No cause could be assigned for the endometritis except her poor general condition.

Instrument for Establishing Vaginal Drainage.—Dr. Philander A. Harris exhibited an instrument which he had found very convenient in establishing drainage through Douglas' cul-de-sac. The point of the instrument is like that of the Cleveland ligature carrier, and it is stoutly made. With it the vaginal roof can be punctured, the opening enlarged, and then the gauze drawn back through the opening.

New Portable Operating-Table.—Dr. Harris also exhibited an operating-table intended for use in private houses. It is made largely of wood, with braces of steel and aluminium, and, while very light, was demonstrated to be capable of holding on one end a person weighing one hundred and eighty pounds. One peculiar feature of the table is the fact that when it is fixed for the Trendelenburg posture the field of operation is not elevated above the level which the table assumes when used in the ordinary position. The table weighs twenty-seven pounds.

Dr. H. N. Vineberg said that he had examined the case presented by Dr. Wiggin. He found the uterus

slightly enlarged, but in fairly good position. Of course, if the patient had been in better condition at the time of the operation, it would have been better to remove the uterus entirely, in view of her age. Almost from the beginning he had made it a practice to make the incision through the rectus muscle, and he was therefore interested in noting that it had been so made in this case. Certainly the scar and the result were excellent, and he felt in his own cases that whenever he could make the incision outside of the linea alba the chances of getting good union were better.

Dr. E. B. Cragin said that he believed in the future surgeons would operate more and more according to this plan—*i.e.*, myomectomy. It was still somewhat uncertain as to how useful these uteri would be after having had three or four fibromata removed from them. The fact that it could be done without danger had been demonstrated by the case just presented, but it did not follow that it was necessarily the best method in all cases.

Dr. Harris thought there was a limited field for work of this kind, provided there was a certain indication—*i.e.*, not too advanced years. In a patient of thirty-three or thirty-five years, with a prospect of child-bearing before her, the operation of myomectomy should be the one of election. The field for the operation was necessarily limited, because fibroids were usually met with toward the close of the child-bearing period. He had removed a tumor of the size presented, in six minutes, by what Dr. Kelly calls "continuous incision." Although Dr. Kelly had operated in this way many times, none of his patients had become pregnant since the operation. This, of course, was to be expected, yet it seemed to him that the operation represented an extreme conservatism.

Dr. H. L. Collyer said that the case was a valuable one, if only because it served to encourage others to practise greater conservatism. When the pedicle was thick the tumor could usually be enucleated as easily as hysterectomy could be done. The large tumors were apt to be complicated with many adhesions. In some of these cases he had adopted the plan of gathering up the sac, stitching it to the abdominal wall, packing the sac, and allowing it to granulate. This was far better than attempting to tie off numerous adhesions.

Dr. A. E. Gallant said that Martin, of Berlin, had had pregnancy follow more than once in cases so treated.

Dr. Wiggin said that there had been no adhesions and no difficulty in enucleation. There was some ascitic fluid present, and it had been his experience that when such fluid was present the adhesions were usually very slight. It was for this reason that he had left some saline fluid in the cavity after the operation. The whole operation occupied only about thirty minutes. In several instances he had enucleated small fibroids from the posterior wall of the uterus through a vaginal incision. It was important not only to close the cavity by buried sutures, but also to bring over the peritoneum by means of Lembert sutures, in order to guard against infection. As an additional precaution, it was his custom to disinfect the tissues with pyrozone. He saw no reason why many of these women should not afterward conceive and bear children, and hence he did not look upon the field of the operation as so limited as Dr. Harris seemed to believe.

Dr. Collyer, referring to the case of virginal endometritis, said that the anterior vaginal wall was very short, as were also both broad ligaments, as though the girl had had a peritonitis. He had known children of even five years to participate in sexual excitement with the opposite sex, and he was inclined to believe that in the present instance the endometritis had some such origin.

Dr. Vineberg objected to the use of the term "virginal" as absurd and misleading. Many young girls, he said, developed an endometritis shortly after the establishment of the menses. The shortness of the anterior vaginal wall and of the broad ligaments would seem to indicate an imperfect state of development, and this would also point to endometritis entirely independent of any sexual excess.

Dr. J. Milton Mabbott said that from the history and appearances presented by this young girl he was inclined to doubt the fact of her being a virgin.

Dr. Ladinski said that not only from the clear history obtained, but from the condition found at the time she came under observation, he still felt positive that this was an example of endometritis occurring in a virgin.

Dr. John Polak said, regarding the operating-table presented, that in those tables in which the fixation of the legs of the patient was depended upon for holding the weight of the body, he had found that the popliteal circulation was apt to be interfered with and that the recti muscles were made unduly tense. He preferred a table on which the patient was supported, while in the Trendelenburg posture, by the shoulders.

Dr. Vineberg, speaking of the vaginal instrument presented, stated that it was well to caution the surgeon against allowing an assistant to pass an instrument of this kind in cases in which there were extensive adhesions.

Dr. Harris replied that in using the instrument he of course passed his own finger down from above and outlined the uterus, while the assistant passed the instrument against his finger; hence it was difficult for him to understand how harm could be done with the instrument. Regarding the table, Dr. Harris said that he had had three very disagreeable cases of paralysis from the use of shoulder supports in connection with the Trendelenburg position.

A Fœtal Monstrosity. — Dr. Henry M. Hazen presented photographs of a fœtal monstrosity. It was a male child, born at full term. A large encephalocele corresponded to the position of the anterior fontanelle, and there was a smaller one posteriorly. The parietal bones were absent; the lower part of the frontal bone only was developed; the left testicle and the right thumb were absent. The child also presented a harelip and a cleft palate.

Subperitoneal Lipoma Mistaken for an Incarcerated Hernia.—Dr. Leonard S. Rau presented a lipoma removed from a stout woman of forty years, who had, twelve years ago, after a confinement, first noticed a small mass in the groin. When this mass protruded much she had been accustomed to reduce it by digital pressure, but on September 20, 1897, for the first time it could not be reduced. On September 23d, when first seen by him, it was still unreduced. It was hard and about the size of a hen's egg. It could not be reduced by gentle taxis, so immediate operation was advised. Her general condition was excellent. The case was believed to be one of incarcerated inguinal hernia, and from the denseness of the mass it was assumed that the sac was very thick. He operated the same afternoon, and found the tumor surrounded by a thick capsule. The tumor was attached by a very long pedicle of peritoneum, which passed into the abdominal cavity. He carefully followed it up to the uterus, and positively excluded an ovarian hernia. The pedicle was ligated, the tumor removed, and the wound treated as in an ordinary Bassini operation. The wound healed by primary union, and the patient was allowed up on the tenth day. The mass measured six by five centimetres, and presented the appearance of fatty tissue between masses of fibrous tissue. The tumor was reported by Dr. Elsner to be a pure lipoma.

Dr. Rau said that he had been unable to find more

than a few reported cases of subperitoneal lipoma. As a rule, the prognosis was good, and treatment consisted in removal of the tumor. The chief points of interest in the case related were: (1) the ability of the patient to reduce the tumor for so long a time; (2) the fact that it finally became irreducible; (3) the fact that, owing to the existence of the long pedicle, it must have floated free in the peritoneal cavity when pushed back; and (4) the differential diagnosis. The irreducibility was probably owing to an increase in the size of the tumor.

Post-Partum Eclampsia with Uterine Hemorrhage.—Dr. R. Abrahams said that in 1895 he had been called in to see a woman in confinement with her ninth child. She had long suffered from chronic Bright's disease, and her urine always contained some albumin and casts, but at no time was there any general œdema. He had attended her in two previous confinements. When he arrived this time he found a midwife, a dead child, and a partially delivered placenta. After completing the delivery, and just as he was about to leave the house, he noticed evidence of an impending attack of eclampsia. She had within a few minutes three eclamptic seizures, and then such a severe uterine hemorrhage that it became necessary to pack the uterus. Before this could be accomplished, however, she was pulseless. She was restored by injections of saline solution and of ergot and strychnine. The patient made a good recovery, and was out of bed on the tenth day.

Fœtal Dislocations.—Dr. Abrahams also reported three cases of dislocations occurring in the fœtus at the time of delivery. In the first case the child had been delivered by a midwife after violent traction, the child presenting by the breech. There was a dislocation of the hip. In the second case there was a double dislocation of the lower jaw, brought about by efforts at delivering the after-coming head. He had reduced the dislocation without difficulty. The third case was an upward dislocation of the sternal end of the clavicle, produced by a pernicious practice prevailing among the ignorant classes of manipulating or "measuring" the limbs of a newborn child.

The Statistics of Lying-in Institutions.—Dr. H. N. Vineberg said that certain lying-in institutions, particularly those having an out-patient service, often published remarkable figures, showing the immunity from sepsis in large numbers of cases, in spite of repeated examinations by physicians and students. But such statistics did not by any means tell the whole truth, as the following case would serve to emphasize: A woman, twenty-three years of age, had been delivered by forceps a few years ago in such an obstetric service. She had a normal and ideal puerperium, and was up in a few days, but she soon found that every few weeks it became necessary for her to give up her work and go to bed. She grew steadily worse, and was finally sent to him by Dr. Rau. Examination showed a semi-elastic mass like an abscess, between the vagina and rectum. The uterus was in good position; the cervix was much torn; a large mass could be felt to the left side of the pelvis, extending down to the other mass. The patient was etherized and an opening made into the first mass posteriorly. This gave exit to some serous fluid and pus. On introducing his finger he found another cystic mass, which when punctured was found to contain pus. Other masses being detected by examination, he made lateral incisions, pushed back the bladder, and cut away the cervix (according to the method of Ségond), so that the uterus could be delivered through the anterior incision. It being impossible to deliver the mass on the other side, the adnexa were clamped, the uterus was delivered, and a much swollen and elongated tube removed. A pyosalpinx and a multilocular ovarian abscess were found on the left side. The specimens were exhibited. Dr. Vineberg said that there was no doubt in his mind that the woman had originally had an infection in the left tube and ovary. It was in just such a case as this that the French operation from below was specially indicated. During the whole operation the intestine was entirely out of the way. It seemed to him that in a case of this kind the surgeon could work more safely and intelligently from below than from above.

Dr. Ladinski said that in the last two weeks he had had three cases illustrating the absolute necessity of operating under such circumstances as were present in Dr. Rau's case. The first of his cases was one in which the tumor had become irreducible only within the past four or five months. It proved to be an incarcerated omental hernia. In another case the tumor had existed for a number of years. A physician reduced part of the tumor, and then applied a truss. When he saw the case there was an abscess. He found that there had been a hernia which had ruptured, leaving a fæcal fistula. In still another case, occurring in a woman of about sixty years of age, the appearance was that of an ordinary omental hernia. Taxis had already been tried without success. The pulse was rapid and the patient was beginning to vomit. On operation, the hernia was found to be intestinal and the bowel in an advanced state of gangrene.

Dr. Vineberg said he thought the proper line of treatment had been followed by Dr. Rau. Even though it might have been possible to reduce the tumor, it was safer not to make prolonged taxis. He knew of one such case in which death had followed persistent efforts at reduction.

Dr. F. Pirkner said that about one week ago he had seen a girl infant of two months, with a tumor like that in Dr. Rau's case. It had been first noticed about a month ago, and by exclusion he had made the diagnosis of lipoma. He should watch the case with increased interest.

Dr. E. W. Peet said he believed the case of eclampsia reported by Dr. Abrahams was saved by the uterine hemorrhage and the consequent rapid elimination of the poison. He cited a case of severe eclampsia, occurring in the practice of a country practitioner, in which the successful result seemed to be entirely attributable to a very free venesection.

Dr. S. Marx said that the remarks of Dr. Vineberg called to his mind some remarkable statistics published by one institution. He was in a position to assert that the apparent exemption from sepsis and mortality in the lying-in wards was because it was the custom there to transfer a case to the gynæcological service as soon as there was evidence of sepsis or a fatal termination was expected. If the morbidity were given, the statistics of these outdoor departments would be very different.

Dr. Gallant said that in a certain rural district he had learned from conversations with the people living there that it was not uncommon for as many as three in one family to die of puerperal fever. It was necessary to send ten or fifteen miles for a physician, and it was customary for the physician to make only two visits after delivery. Such a frightful mortality from a disease brought on by the physician's own lack of cleanliness could not be too severely condemned.

Dr. Abrahams said that the statistics of lying-in institutions were very misleading for another reason—*i.e.*, if sepsis or other serious complication developed the physicians from these institutions would be discharged by the family, and some private physician would be summoned to take charge. He had seen many cases of this kind.

Dr. Vineberg, in closing, said that at the present time among the better classes an extreme view was

held regarding the occurrence of sepsis, so that if in spite of great care the temperature rose the physician was at once blamed. So strong was this feeling now that some physicians, in self-defence, abstained from having the temperature taken in obstetric cases.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 20, 1897.

J. Blake White, M.D., Vice-President, in the Chair.

Necrosis of the Hip.—Dr. Thomas H. Manley presented a little boy who, three years ago last May, fell down into a cellar and sustained some injury of the left hip. After hospital treatment for some time without benefit, the child was brought to him. At this time there were much emaciation and a temperature of 104 F. Being convinced that there was necrosis present, he made an incision down to the diseased area, and found this to be the case. Within four months the bone was entirely regenerated, and the child had now regained his health as well as good use of the limb. The shortening at the present time was exactly the same as at the time of the operation—one and one-half inches.

Resection of the Inferior Maxillary Nerve for Neuralgia.—Dr. Manley then presented a man who, five years ago, began to have a peculiar trigeminal neuralgia affecting the region of the lower jaw on one side. So great had been the pain that he had been unable to obtain proper nourishment and sleep. Accordingly, under cocaine anæsthesia, Dr. Manley had trephined and exsected a portion of the inferior maxillary nerve. The relief was immediate, and continued for three years. For the last three months the man had again suffered from pain in the same region, but not of a very severe character. It was the speaker's intention to perform another resection of the nerve should the pain become sufficiently severe to demand it.

Dr. Edward von Dönhoff said that the result in the little boy was very satisfactory indeed. It was never safe to operate in such a case unless one could quite positively define the existence and extent of pelvic disease.

Dr. Achilles Rose said that it had been demonstrated by experiment on animals that every joint could be resected and its function still be preserved, provided the periosteum was saved. He had himself made a resection of the ankle-joint, with a perfect functional result.

Dr. A. E. Gallant referred to a case of tic douloureux in which Dr. Hartley had resected nearly three centimetres of the nerve. At that time Dr. Hartley had made the statement that if less than 2.5 or 3 cm. was resected there would certainly be a recurrence of the neuralgia.

Some Remarks on Mechanico-Therapeutics.—Dr. T. J. McGillicuddy read a paper with this title. He said that it was an undisputed fact that lack of exercise was a cause of much ill-health. Systematic and uniform physical exercise, under medical direction, was to-day a prominent method of curing many ills. It was especially applicable to the deformed, the convalescent, the feeble, the aged, and those engaged in sedentary occupations. Among the more immediate results of such exercise were increase in the strength of the heart beats, greater activity of the excretory and secretory organs, and an increase in the size and strength of the muscles. The exercise should be adapted from the beginning to the strength of the patient, and increased according to the same rule. Cardiac hypertrophy and albuminous urine were often the result of overexertion. It was necessary to ascertain for each patient the amount of exercise requisite to produce "normal fatigue." In November, 1895, in a paper read before this association, he had insisted upon such work being entirely under medical supervision. It would be better if the word "massage" was abandoned by the profession, because it had become debased. A better expression would be "manual treatment." It was only in this country that the lay massage operators were allowed to occupy the position they did. If physicians would devote their attention to manual treatment, as applied to special organs, and leave the general rubbing to nurses, much would be done in the way of keeping this valuable method of treatment from the hands of quacks. Cold and heat were valuable cardiac and vascular stimulants, and their application through hydrotherapy was a useful part of mechanico-therapeutics. The circulation of the blood and lymph was greatly influenced by the action of the muscles. Where the latter were inactive, scientific physical exercise would quickly restore the normal balance of the circulation. He knew of no other method of treatment that would so quickly increase the breathing-capacity; he had known it to be trebled in a few weeks. Thus a young anæmic girl, who had been taking Blaud's pills for a long time without benefit, had a breathing-capacity of fifty cubic inches on beginning treatment. In four weeks it had increased to one hundred and thirty cubic inches. In brief, it might be said that mechanico-therapeutics was useful: (1) in many chronic digestive disorders; (2) to increase assimilation; (3) to increase vital action in cases of debility; (4) to regulate muscular action, as in various distortions of the spine resulting from unequal muscular action; and (5) to increase the lung capacity.

Dr. H. J. Garrigues said that the term "mechanico-therapeutics" covered a very large field, and might even be made to include surgery. Hydrotherapy came within this field, not only by reason of it being a convenient mode of applying heat and cold, but because it was capable of accomplishing much in a purely mechanical way. The practice of massage was probably a thousand years old, but it was not generally brought to the attention of the medical profession until about a quarter of a century ago. He had had the good fortune to learn this method shortly afterward, and it had soon become popular in the Scandinavian countries, owing to the fact that it had greatly benefited a member of the royal family of Sweden.

Massage Excellent for Acute Synovitis of the Knee.—Dr. Garrigues said that for such a troublesome condition as acute synovitis of the knee he knew of nothing that could be compared to proper massage of the limb twice daily. Under this treatment the patient was allowed to continue at business, and recovery was more rapid and satisfactory. As a rheumatic individual he could speak from personal experience of the great relief afforded by massage. He had seen a case of sciatica cured within two weeks by this treatment. Of late years massage had gained recognition in a new field of surgery—in the treatment of fractures.

Pelvic Massage.—Regarding the application of massage to gynæcology, the speaker said that it too had been introduced by a layman—Brandt. There was not the slightest doubt that the uterus could be made to stay in the body by mere massage and gymnastics, but the great drawback to it was that the treatment was very tedious, each séance requiring one-half to one hour. In his own experience the treatment had been restricted to pelvic inflammations. If there was the slightest suspicion of the presence of an abscess of any kind in the pelvis, the treatment was positively contraindicated—indeed, its use in such cases would be quite likely to cost the patient her life.

Nature Cures.—Dr. S. Baruch said that forty years ago Oliver Wendell Holmes had said that if all the medicines were thrown into the sea it would be better for humanity and worse for the fishes; but the great truth embodied in this sarcastic remark had been slow to dawn upon the medical profession. We were losing sight of the old Hippocratic idea that "nature cures"; that those agencies which maintain health—fresh air, exercise, rest, diet, cleanliness inside and outside of the body—are just as valuable in restoring health when it has been lost. It was, therefore, very gratifying to listen to the paper just presented.

Hydrotherapy.—Hydrotherapy consists in the application of heating and cooling effects in a systematic manner; there is little or no mechanical effect from such treatment. The circulation of the blood consists not only in the propulsion by the heart, but in the action of the elastic fibres in the capillaries. In cases of grave toxæmia, such as typhoid fever, these fibres are paralyzed. If such a patient were immersed in a cold bath and nothing more done, the circulation would be still more embarrassed; but if, in addition to immersing the patient, the body surface were subjected to friction, as it should be, the circulation would be greatly aided. He heartily indorsed what the reader of the paper had said about the harmfulness of leaving mechanico-therapeutics, and particularly hydrotherapy, to laymen. No physician would think of leaving the bathing of a typhoid patient to the nurse, except under the strictest supervision; yet it was exceedingly common for a physician to tell an individual afflicted with some chronic disease to "go and take some baths," or "get massage."

Dr. H. N. Vineberg said that in 1890 he had paid a visit to Brandt to study mechanico-therapeutics, and particularly pelvic massage. He would say at the outset that it was not necessary to spend half an hour or more in the treatment; indeed, Brandt himself treated upward of a hundred cases a day, so it was obvious that each treatment must have been short. Personally he was convinced of the great value of pelvic massage in a certain class of cases. Brandt had first recommended it in the treatment of procidentia, but had learned after a time that this was not the best field for its use.

Where Pelvic Massage is Useful.—The cases of procidentia in which it is beneficial were those of recent origin, and in which the pelvic supports were not greatly weakened. The other conditions of pelvic disease in which the treatment was useful were: (1) cases of chronic inflammatory adhesions; (2) cases of uterine displacement in which the uterus had not yet become retroflexed or undergone parenchymatous change; (3) pelvic exudates after the acute stage, provided pus was not present in any quantity; and (4) those cases of ovarian enlargement due to inflammation of the surrounding tissue. In cases of the fourth class, when the enlargement was the result of cystic disease of the ovary, the treatment was of no avail. The same remark applied to tubal disease, massage being beneficial only in cases in which there was thickening of the walls. It was better for the physician to treat these cases by the old tampon method than to resort to pelvic massage without being properly qualified for this special work.

Dr. Julius Rosenberg said that his experience with mechanico-therapeutics was chiefly confined to the pelvic organs. He had studied pelvic massage in Europe at one time, and in cases of old peritoneal adhesions had been convinced of the excellence of the results. In private gynæcological practice he frequently found retroversion of the uterus without any special laxity of the pelvic floor, and although these patients were usually ignorant of the existence of such a displacement of the uterus, they commonly complained of backache, weakness, and indigestion, and this continued even though the uterus were replaced and maintained in proper position by a pessary. These persons usually get out of bed late, lounge around the house most of the day, and, in short, have little or no exercise. These women are also usually in the habit of resorting to some method for preventing conception, and to this he attributed much of the trouble. It was in this class of cases that he had derived the most satisfaction from the employment of massage. Of course, it was necessary to insist upon a proper amount of exercise, proper diet, and habits of life, in addition to the massage.

Dr. Manley remarked that much had been said about prolapse of the pelvic organs—in other words, hernia—and he would only add that, as the operative treatment of hernia was rarely satisfactory, the importance of mechanico-therapeutics was obvious.

Dr. Gallant said that in the early years of his life he had been a firm believer in hydrotherapy, but had gradually degenerated into a prescriber of drugs. The reason was not that hydrotherapy had not accomplished a great deal, but because it was time-consuming and required special study.

Massage for Sprains and Intestinal Distention.—For four years he had studied the treatment of sprains by massage, treating, with Dr. Van Arsdale, over twelve hundred cases of this kind. He claimed that the patients had been cured in as many days as weeks were required by the old treatment. Many of them had been able to walk within an hour after receiving a sprain of the ankle. At the last meeting of this association he had spoken of the valuable aid abdominal massage had rendered him in treating intestinal distention and obstruction after laparotomy. In many cases of intestinal colic in infants, immediate relief would be afforded by massage of the abdomen. Further than this, he had employed pelvic massage quite extensively in gynæcological practice. It was true that he had not been able to make the uterus that had been prolapsed for some time stay up in the pelvis, but he had been able to relieve the pain produced by old adhesions or the symptoms resulting from various forms of uterine displacement.

Massage in Chronic Blepharitis.—Dr. Rose said all would admit the tedious and unsatisfactory nature of the usual treatment for chronic blepharitis, yet few seemed to be aware of the very gratifying and comparatively rapid results obtainable from gentle and systematic massage with an ointment.

Dr. McGillicuddy, in closing, said that a séance of fifteen or twenty minutes was usually sufficient for mechanical treatment.

Fallopian Tube and an Apendix after Operation.—Dr. A. E. Gallant exhibited the stump of a Fallopian tube, removed some time after operation. There was no ligature present, but the tube was not pervious. He also referred to a case in which it had been necessary to do a secondary operation on a patient who had been previously operated upon for a suppurative appendicitis. During the dissection at the second operation, he had found a very narrow band attached to the cæcum at one end and to the abdominal scar at the other. This proved to be the remains of the appendix, which had apparently been divided in the incision at the first operation.

Nominations.—*President*, Drs. J. Blake White and George T. Harrison; *Vice-President*, Drs. Frederick Holme Wiggin and Neil J. Hepburn; *Recording Secretary*, Drs. P. Brynberg Porter and M. C. O'Brien; *Corresponding and Statistical Secretary*, Drs. N. G. Bozeman and Parker Syms; *Treasurer*, Dr. John H. Hinton: *Executive Committee* (for four years), Drs. S. B. W. McLeod and J. E. Janvrin; (for one year) Drs. S. G. Cook and C. E. Denison.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 24, 1897.

WARREN COLEMAN, VICE-PRESIDENT, IN THE CHAIR.

Peritonitis without the Usual Symptoms.—DR. W. G. LE BOUTILLIER presented specimens from a case of supposed alcoholism and nephritis, in which the autopsy revealed an extensive peritonitis. He said that he was indebted to his colleagues at the J. Hood Wright Memorial Hospital for the specimens and the history of the case. The patient, a woman, twenty-nine years of age, had been brought to the hospital in the ambulance at 3 P.M. She had been found unconscious in the street, and so far as could be ascertained there had been no previous attack of this kind. Her general health had also been good. On admission the patient was profoundly unconscious; the pupils were moderately dilated and equal; the extremities were cold; the pulse was feeble, soft, and 70; respirations were 20; temperature was 99.2 F. in the rectum. The breath had a distinct odor of alcohol; the skin was dry and cold; there were no marks of injury on the face or body. The urine contained about fifteen per cent. of albumin. At 5 P.M. she could be aroused by frictions along the intercostal region, but did not respond coherently to questions. At 6:30 P.M. the respirations became gasping and the pulse imperceptible. In spite of the free use of heat and stimulants and the infusion of four pints of decinormal salt solution, the temperature was 94.6° F. at 8 P.M., and one hour later clonic convulsions developed, which involved chiefly the face, but also the lower extremities to a lesser extent. The convulsions were repeated at irregular intervals up to the time of death. By midnight the temperature had risen to 99.8 F., the pulse was 96, and the respirations were 20. The case appeared to be one of nephritis and alcoholism. At the autopsy general peritonitis was found, which was interesting in view of the low temperature and the absence of vomiting. The intestinal coils were distended with gas, and they, as well as the mesentery, were covered with a recent exudate. The bowel contained fluid fæces. The markings of the kidneys were distinct, and the capillaries, especially of the pyramids, were congested. The pelvic peritoneum surrounding the uterus and tubes was the seat of a recent exudate. The tubes contained a small quantity of pus. An examination of the brain revealed congestion of the pia mater and an acute meningitis over the left frontal and parietal lobes. The anatomical diagnosis was peritonitis, originating in septic salpingitis, probably following gonorrhœal vaginitis and endometritis.

Dr. Le Boutillier said that he had presented this case because of the absence of elevation of temperature and its important clinical bearings. Thus in many cases in which the diagnosis of appendicitis was clear, the presence of a progressive peritonitis was by no means certain. It was possible to have a general peritonitis associated with very slight pain and rigidity of the abdominal muscles, with a normal pulse, and without vomiting; yet the surgeon not uncommonly found that in a few hours the picture would be entirely changed, and on opening the peritoneal cavity a peritonitis would be revealed, which must have existed at first without the usual signs and symptoms. An important lesson to be drawn from the case presented was that it was not wise to consider coma and the odor of alcohol on the breath as sufficient grounds for a diagnosis of alcoholism.

DR. WARREN COLEMAN said that Dr. Buxton had told him of an autopsy that he had recently made, in which there had been marked changes in the kidney, but cultures having been taken from the various serous fluids of the body, the staphylococcus pyogenes aureus was obtained from the peritoneal fluid without any evidence of inflammatory process, either on the visceral or parietal peritoneum. The question therefore arose, whether this organism was not virulent in that particular case, or whether the resisting power of the peritoneum had been sufficiently great to prevent the pyogenic process.

DR. GEORGE P. BIGGS presented a number of miscellaneous specimens.

Fallopian Tube with Two Fimbriated Openings.—The first was a Fallopian tube with a double fimbriated opening—one at the usual site at the end of the tube; the other smaller and about one centimetre nearer the uterus. The specimen had been removed by operation from a woman, thirty-three years of age, because of a persistent salpingitis. There was slight, diffuse infiltration of all the layers of the wall with inflammatory exudate.

Gumma of the Liver.—The second specimen was a gumma of the liver, removed from an Italian laborer, forty-four years of age, who had died at the New York Hospital from a fracture of the skull. At the autopsy some gummatous deposits of unusual size were found in the liver. There were very thick adhesions over the site of these gummata, and the latter together formed a mass about ten centimetres in length and five centimetres in diameter. There was an old cicatrix at the inferior portion of the urethra, but no other lesions that could be considered distinctive of syphilis.

Heart Showing Large Fossa Ovalis and Open Foramen.—The next specimen, taken from a woman of thirty years, was a heart in which the fossa ovalis was of unusual size. In the fresh state it measured nearly 2.5 cm. in diameter. There was also a large, oval, membranous area in the septum between the auricles, sharply outlined; and at the anterior border at one point was a narrow, slit-like opening between the auricles, measuring about 0.75 cm. in the vertical direction. So far as known, there were during life no symptoms bearing upon the condition. Death was caused by acute arsenical poisoning.

Pancreatic Calculi.—The fourth specimen was a pancreas from a woman, forty-eight years of age, a seamstress by occupation, who had died from acute carbolic-acid poisoning. The pancreas was quite small, measuring 15 cm. in length, 1 to 2 cm. in thickness, and 1.5 to 3 cm. in width. The first inch of the duct of the pancreas was normal and pervious, but beyond this point a probe touched some calcareous material. On dissection a large number of calculi were found distributed throughout the course of the pancreatic duct. These measured from one to five millimetres in diameter, were rather irregular in outline, and many of them sent spine-like projections into the side of the duct. Numerous other calculi could be felt in the smaller branches of the duct, but were not exposed in the incision. There was very little pancreatic tissue left. At the tail of the pancreas was a cyst, about 2.5 cm. in diameter, fully distended with a milky fluid. The outer wall of this cyst was in such close relation to the spleen that the cyst was broken, and the contents were under such great pressure that they were forcibly ejected and so lost. It was not known whether any symptoms were produced by this condition during life. Dr. Biggs recalled having seen calculi in the pancreas in only one other case, and in that one there were only a few present.

Excessive Deposit of Fat in the Heart; Fat Necrosis; Hemorrhages in Other Organs.—The next specimen was a heart, taken from a woman, sixty-three years of age, who had given a history of numerous attacks of emphysema for a period of eight years. She had entered the New York Hospital in one of these attacks. She was so obese that the physical examination was very difficult. The heart sounds and

pulse were feeble: there was no elevation of temperature; there was general œdema, with indications of a moderate quantity of fluid in the peritoneal cavity. She became steadily weaker and died shortly after admission. At the autopsy the peritoneal cavity was found to contain six hundred cubic centimetres of straw-colored serum; there were numerous old pleuritic adhesions, together with general emphysema of the lungs and considerable acute œdema. The heart was presented because of the unusual deposit of fat in this organ. It was at least 1.5 cm. in thickness at the base of the right ventricle, and about 1 cm. in thickness at the base of the left ventricle. The heart was considerably enlarged; the cavities were moderately dilated; the valves were all normal. The muscular substance was of good color, but numerous deposits of fat could be seen scattered through the muscular fibres. The right side of the heart showed moderate hypertrophy. Microscopically the heart muscle revealed a considerable degree of parenchymatous degeneration and a moderate degree of fatty degeneration, chiefly in the form of infiltration extending downward in lines from the surface.

The pancreas from the same case showed an early stage of fat necrosis, with recent hemorrhages — an earlier stage than any he had before seen. The abdominal fat was excessive, yet there was no evidence here of fat necrosis. In the pancreas, however, the fresh section showed numerous small points of fat necrosis, and scattered rather diffusely through the pancreas were comparatively recent hemorrhages infiltrating through the pancreatic tissue. The pancreas was only very slightly enlarged. In the stomach, duodenum, and jejunum was a very extreme congestion of the mucous membrane, more marked in the two latter than in the stomach. There was fluid blood also in moderate quantity in the interior of these organs. There had been a number of hemorrhages from the mucous membrane, but there was no evidence of these having been brought about by any acute irritant. The congestion became less marked toward the lower part of the intestine, although all of the abdominal organs were considerably congested. In the stomach, along the summits of the rugæ, were numerous small superficial depressions, which at first glance suggested superficial ulcerations. Along the edge of these depressions were slight deposits of pigment, indicating that these were the sources of the hemorrhages. He had no explanation to offer for the existence of these hemorrhages.

Dr. Donald M. Barstow asked if in the first case there had been a corresponding condition in the other Fallopian tube.

Dr. Biggs replied that, as the specimen had been removed by the surgeon, he could not say.

Dr. Coleman asked how frequently the valve-like opening had been found in the heart.

Dr. Biggs said that he had seen it a number of times, but he did not think much leakage occurred through such a slit-like opening in the natural state of the parts. The case had been presented chiefly on account of the large size of the membranous area.

Dr. Coleman suggested that in the case of pancreatic calculi a fat necrosis might have been the starting-point. Fitz, he believed, had made the statement that these necrotic areas sometimes underwent calcification.

The society then went into executive session.

Indolent Ulcer.—

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Aq.	ʒ ij.

M. S. Use locally.

—Neligan.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE MEDICAL COUNCIL, DR. RENTOUL'S CLAIM—MR. HORSLEY ON REFORM, THE NEWSPAPERS AND HOSPITAL REFORM — UNIVERSITY COLLEGE — DR. SIMS WOODHEAD ON ALCOHOL—MAIDSTONE'S MEDICAL OFFICER—BELFAST'S EPIDEMIC—SIR WILLIAM MACKINNON'S BEQUESTS—THE LATE DR. BARRY, SIR A. C. BROWNLESS, DR. W. F. MURRAY, AND SURGEON-CAPTAIN MURRAY.

London, December 10, 1897.

Dr. Rentoul claimed expenses from the Medical Council in accordance with the standing orders as a member residing at a distance of above two hundred miles. The treasurers reported that the distance was only one hundred and ninety-eight miles. Dr. Rentoul made it two hundred and four, and says the distance from station to station is two hundred and one, which I have so found stated in the railway guide—a mode of verification which does not seem to have occurred to Sir D. Duckworth or Mr. Bryant (the joint treasurers): so they made a laborious calculation of the distance from the charge for fares, and of course were quite wrong. Nevertheless the council adopted their view and refused to pay the ten guineas due to Dr. Rentoul under its own orders. Surely it does not expect to atone for its extravagance in some things by such a mean thing as this? Dr. Rentoul presses his claim, but I am sorry he does so in terms that are certainly strong and even offensive. But this is hardly an excuse for resisting a just claim, and perhaps his indignation at the treatment he receives induced him to express his opinion instead of enforcing his right by legal process.

Now that the session is over and Mr. Horsley has done his work at it, he is not going to sit down and wait for medical reform. On Wednesday he gave an interesting address at the Southwestern Medical Society, on "The Medical Acts of Parliament: As They Are and As They Ought To Be." He confessed that concentrated action in administering the acts must be difficult until the constitution of the council is altered. He also pointed out that the legal advisers of the council had been obliged by reformers to change their views. Mr. Horsley's activity in reform is highly appreciated in all directions, *i.e.*, outside the council.

Hospital reform continues to be very much in the air—so much so that the newspapers are devoting attention to it. *The Times* has admitted a correspondence on the subject, in which Sir William Broadbent, Sir Henry Burdett, and Mr. Loch, of the Charity Organization, have taken part. The letters have been amusing to those who have been behind the scenes, but the taste and tact displayed in the controversy reflect no credit on the parties engaged. There are many who still put some confidence in the Organization Society, but the eyes of many have been opened and they have no faith in any scheme which will give the society power. This is what Mr. Loch aims at. He must seem to do something to earn his considerable salary, and his advocacy of a central hospital board means "Let my society control it." A central board may or may not be desirable, and there is room for free discussion of the point; but there can be no two opinions as to the danger of committing to the Charity Organization Society—that is, to Mr. Loch—the carrying out of any such scheme. The proposal it has circulated is cumbersome and, as Sir W. Broadbent has shown, absurd.

The munificence of Sir Blundell Maple in rebuilding University College Hospital may secure a fine

building, but in the mean time the hospital authorities are hard put to it to carry on the work. They have announced that they must sell their last investment and close fifty beds. If they do the college will no longer be a medical school, for the number will be below that required by the General Medical Council to qualify. This will be a sad blow to the college as well as the hospital. But perhaps some wealthy person may come to the rescue, or the public may refuse to let the hospital be so crippled.

I informed you that Dr. Sims Woodhead, the director of the research laboratories of our royal colleges, was elected president of the Medical Temperance Association, in succession to the late Sir B. Richardson. The new president seems likely to do good work for the temperance cause and not be a mere figurehead to represent the scientific aspect of the question. He lately read a paper to a conference of teachers in Dublin, in which he clearly showed them the present trend of medical opinion, and asserted that medicine would be in a better state to-day if alcohol had been interdicted for a century. In support of his views he quoted from an able address of Dr. Clouston's to the Edinburgh University students (1883). That eminent physician pointed out the many contraindications to the use of alcohol as a medicine, and pretty clearly indicated the wisdom of abstinence from its use as a beverage. Dr. Woodhead indorsed and advocated these views, and urged that in no circumstances should it be given when a desire for its continuance may arise. How near this is to prohibition may be judged from the cases which he mentioned as within the danger, for they include all in which the family history includes drunkenness, insanity, or nervous disease; persons who have used it excessively in early life; all who are nervous, irritable, or badly nourished; who have had injury of the head, sunstroke, or brain disease; who have great bodily weakness, especially in convalescence from exhausting diseases; who have exciting or exhausting work in bad air, as in workshops and mines; who are lonely or feel the want of amusement; who have little self-control or suffer from any brain weakness or senile degeneration. A full catalogue this, yet who would dare to except one of these as contraindications?

It is rather sooner than might have been anticipated, but the usual result of faithful service has come at Maidstone. The medical officer of health has reported that some of the more recent cases were due to direct personal contagion, while others were caused by drains and unflushed closets. This should be satisfactory in at least one way, for it shows that the water supply is now less dangerous. Upon this report a member of the board proposed a vote of dissatisfaction with the medical officer. I have not heard if the proposer is a holder of property in these defectively drained houses —it would not be in the least surprising. The resolution was withdrawn, but what a lesson its proposal affords! The water company and the board which supported its inaction would shift the responsibility of the epidemic on to the medical officer who early put his finger on the cause.

The outbreak of typhoid fever at Belfast will perhaps waken the local authorities to the urgent need of radical sanitary measures. A larger council has been elected as a result of the extension of the boundaries, and it is to be hoped that this "new broom" will "sweep clean." Probably the smaller body may have been impeded by property-owning members who dreaded the cost of sanitation. The zymotic death rate has long been abnormally high, but the local authorities did not take warning. The sanitary condition of the town has also long been a reproach. The new council will have its hands full in dealing with gross abuses, and if the outbreak of typhoid rouses the inhabitants to support stringent measures it will have helped to remove a constant danger.

The late Sir William Mackinnon, honorary physician to the Queen and formerly director of the army medical department, has left his fortune of about £25,000 for the advancement of science and scientific education. The Universities of Edinburgh and Glasgow are to have £2,000 each for these purposes, and after the payment of certain legacies and annuities the remainder goes to the Royal Society.

A memorial is to be raised to the late Dr. Barry, of the government medical department, of whose recent death I informed you. His colleagues and friends at first thought of limiting the movement to themselves, but it has been decided to accept any subscriptions sent but not to appeal for them.

Sir A. C. Brownless, who died on the 3d inst., was the founder of the medical school of Melbourne University, of which he was chancellor. He was also physician to the hospital. He received numerous honors, and at length our government recognized his position and gave him the K.C.M.G.

Dr. W. F. Murray, medical officer of health of Forfar, died on the 28th ult.; and Surgeon-Captain James Murray, of the Indian service, on the 8th ult., at Simla.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE BERLIN LIFE-SAVING SOCIETY—A NEW FACTOR IN THE DIAGNOSIS OF SARCOMA—THE FRANK COUPLER —DIAGNOSIS OF DIABETES FROM THE BLOOD—TREATMENT OF ŒSOPHAGEAL CANCER—VIRCHOW'S JUBILEE.

BERLIN, Dec. 15, 1897.

THE Berlin Life-Saving Society has just been organized under the direction of v. Bergmann, after the model of the Vienna Voluntary Life-Saving Society, which since its organization has proven of such great benefit. The Vienna society came into existence as a result of the awful Ring Theatre catastrophe, and has arrangements for immediate aid at large accidents, fires, ship or boat catastrophes, etc. The aid is voluntary and entirely free. v. Bergmann wants the same arrangement in Berlin; that is, the Berlin Society shall give first aid gratis, and then refuse further treatment, placing the patient in a hospital or turning him over to his private physician. In this respect it differs very much from the accident stations which have existed for two years in Berlin. They are located in all parts of Berlin, render assistance at all times in accident cases, but this assistance is not free. Either the patient himself or the society in which he is insured pays the bill. But the accident stations continue the treatment of the patient, either in the outdoor department or in the hospital; and therein lies the great evil of this system, for in themselves they serve to advertise a few surgeons and give to them at the same time a well-paying private practice. v. Bergmann skilfully avoided this dangerous reef in establishing the Berlin Life Society. He has therefore enlisted the sympathy of the Berlin profession, and with its aid, as well as the financial support of rich patrons, this humane institution is certain to prosper and to accomplish much good.

At a recent meeting of the Berliner medicinische Gesellschaft Dr. Rosin demonstrated a new diagnostic feature of the urine. A man, thirty-six years of age, had at the commencement of his illness much albumin in the urine; later, however, there was present propeptone (albumose) only to the amount of six per cent. The patient died, and the autopsy showed an amyloid kidney and multiple myelogenic sarcoma of

the ribs. A review of the literature of the past fifty years disclosed the fact that in the six reported cases in which propeptone existed in the urine the patients had either osteomalacia or sarcoma of the ribs. We may therefore regard a positive relation as existing between albumosuria and this class of sarcomata; perhaps it is permissible to regard this condition as diagnostic of sarcomata.

At the next meeting of the society, Dr. Frank, of Chicago, demonstrated his absorbable intestinal button, which has already been described in the MEDICAL RECORD.

At the Verein für innere Medicin, Dr. Loewy reported the results of his investigation of the discovery of Dr. Bremer, of St. Louis, that the blood in diabetes manifests peculiar properties toward the aniline colors. Loewy gave the matter a thorough trial, and agrees fully with Bremer that the blood loses markedly its property of taking on the colors. For instance, with eosin the red blood cells take on a brownish color normally; in diabetes a greenish-yellow.

Professor Rosenheim reported a new therapeutic measure for œsophageal carcinoma. It is dangerous to relieve the dysphagia and choking sensations of these patients by means of the tube or sound. Furthermore the neoplasm is thereby irritated and more pain is given to the patient. The increased irritation produces a spasm, thus increasing the difficulty of swallowing. One patient could swallow nothing on account of the spasm, but after a morphine injection could swallow all foods. Rosenheim has attempted by means of a specially constructed spray, which enables him to apply slightly caustic solutions directly to the diseased area, to diminish the symptoms. Among a number of different fluids he recommends these as of special benefit: solution of nitrate of silver, two to five per cent.; or eucaine in three to five per cent. solution. The spraying is carried out morning and evening at first: later less frequently. In a number of cases the difficulty in swallowing was considerably relieved. Rosenheim also reports good results from galvano-cauterization with the porcelain burner.

At a meeting of the Berliner medicinische Gesellschaft, Professor Senator delivered a congratulatory address to Professor Virchow, the Nestor of medicine, and for many years president of the society, it being the fiftieth anniversary of his career as a teacher. With appreciative words Virchow thanked the speaker. He reminded those present that the Berliner medicinische Gesellschaft was also celebrating its fiftieth-year jubilee, and he wished it in the second half of the first century of its existence an ever increasing prosperity and a continuation of its never-ceasing efforts to broaden medical science and promote the dignity of physicians.

THE CHEAT OF CHARITY.

To the Editor of the Medical Record.

SIR: It gave me great pleasure to see that you had the courage editorially to denounce the donation of public funds to private medical institutions. My only regret is that you did not make your denunciation more specific and scathing.

The chief culprits we all know are those hospitals and dispensaries which also teach students or practitioners of medicine.

Once a year, as appropriation day comes around, they come to the front with extended palm, posing as charitable institutions. It is this act of duplicity which condemns them. They are not charities in any sense of the word. They were founded primarily to give a few men titles and a teaching position; secondarily, to give undergraduate or post-graduate instruction in medicine. Incidentally also in order to get clinical material for their lectures, they treat gratuitously a great number of patients, many of them totally undeserving.

The dispensation of charity was not primarily an incentive in the foundation of most of these institutions, nor is it to-day an ingenuous pretext for their maintenance. Their boasted charity is no charity.

In the first place, a poor patient who, in return for free treatment, gives freely of his time and comfort to the cause of medical education repays his obligation, generally fully and often with interest. Submission to demonstration and examination by numerous students, few of whom are either gentle or skilful, in itself often entails a sacrifice of time, comfort, or modesty which repays for the favors granted.

In the second place, the students generally pay directly or indirectly for these privileges, and these fees again help to wipe out the debt that charity entails.

In the third place, while not designed for but while pretending to dispense charity, they claim municipal reimbursement for free services already nearly or quite paid for. Charity which is paid for is no charity, and let us hear no more of this specious cant.

Had the good Samaritan, who stanched the wounds of the man who fell among thieves, hunted up the board of apportionment of Jericho and demanded to be reimbursed for the oil and wine he poured in the traveller's wounds and for the bandages with which he bound them, methinks his name would not stand to-day as a synonym for noble goodness, but rather for tricky evil, like that of Judas or Ananias.

ROYAL W. AMIDON, M.D.

72 WEST FIFTY-FIFTH STREET, NEW YORK CITY.

TO ABATE THE DISPENSARY EVIL.

To the Editor of the Medical Record.

SIR: In your issue of November 27th I note reference to the New York Cancer Hospital, with the reproduction of a circular letter which it sends to the physician of all patients who apply at its clinics for free treatment. Your comments were favorable as to the idea. Permit me to call your attention to a similar letter which has been used by the Chicago Eye, Ear, Nose, and Throat College for several months prior to the adoption of the idea by the New York Cancer Hospital. I herewith inclose copy of this letter, bearing date March 26, 1897, which was the time when first issued. Should not we have the credit of being the originators or at least the first to put in practice this idea for discouraging clinical pauperism?

EDWIN PYNCHON, M.D.

CHICAGO, ILL., December 13, 1897.

"CHICAGO, ILL., March 26, 1897.

"*Dr.*.....

"DEAR DOCTOR: M..... has applied to us for treatment as a charity patient, and has given your name as having been the former medical attendant. We have been led to suspect that this patient is not entirely unable to pay, and hence is not entitled to free treatment, which it is our aim to extend only to the worthy poor.

"Do you consider the above-mentioned patient as being one entitled to free treatment?..... We will consider this communication as strictly confidential. If not a worthy poor patient, will decline to extend further free treatment, and refer same to you.

"Yours very truly,

"CHICAGO EYE, EAR, NOSE, AND THROAT COLLEGE."

MERCURIC CATAPHORESIS FOR SARCOMA.

To the Editor of the Medical Record.

Sir: In a summary of the scientific work of the Philadelphia County Medical Society at a recent meeting, which appears in the Medical Record for November 20th last, page 745, I am reported as having presented a patient who had been cured of a "large swelling" of the upper jaw by the mercuric-cataphoresis method. This description of the nature of the tumor was a grave injustice to scientific fact, as I stated that there could be no doubt whatever that the tumor was sarcomatous, it having been so diagnosed by a number of reputable physicians, including two of our most prominent surgeons, who advised the immediate extirpation of the superior maxilla in an effort to remove it. It is important that the results in this case should be properly understood, since it proved that a sarcoma of large size in this situation could be destroyed in a few weeks by one or more massive applications of the electro-mercuric process with gold electrodes, the patient being etherized. The cavity that was produced has nearly filled up with healthy tissue.

G. Betton Massey, M.D.

Philadelphia, December 12, 1897.

AMERICAN MEDICAL STUDENTS IN GERMANY.

To the Editor of the Medical Record.

Sir: In the Medical Record of November 6, 1897, in the Berlin letter, page 684, stands the following in regard to foreigners studying medicine in Germany: "It has been ruled that only such persons as have passed the preparatory medical examination in Germany, or one similar thereto in other countries, may be admitted to visit and study at the clinics, etc. As a degree from a German college (gymnasium) is required of all candidates for the *testamen physicum*, and as there exists in America no arrangement corresponding to the German *physicum*, the importance of this new law is very apparent, for it excludes Americans from clinical studies in the German States."

In the *Veröffentlichungen des kaiserlichen Gesundheitsamtes*, Jahrgang xx., Nummer 47, November 18, 1896, Seite 888, appears the following order from the Prussian minister of public instruction, undoubtedly the ruling referred to in the above quotation: "In the interest of a uniform course of medical study, I hereby decree that students may first be admitted by the directors to practise in the university clinics and polyclinics, after they have fully completed the preparatory medical examination within the German empire, or a corresponding examination elsewhere."

In this same publication, Jahrgang xxi., No. 35, September 1, 1897, S. 710, are communications from the departments of public instruction, etc., of Bavaria, Saxony, Würtemberg, Baden, Hessen, Mecklenburg-Schwerin, Saxon-Weimar, and Elsass-Lothringen, all of which are formal acceptances of the above order of the Prussian ministry, and all of which read: "No students shall be admitted to practise [zum praktiziren] or as practitioners [als Practikanten] in the clinics, etc.—the same to go into effect with the beginning of the present semester.

Notice the words "to practise." The custom in the clinics here is this: The student enters his name as a "Practikant," or as an "Auscultant;" the professor takes the list of the names of the Practikanten into the clinic and calls therefrom, each day in turn, a student to the table, there to examine the patient, answer questions, etc., while the others, Practikanten and Auscultanten, see and hear. The second class of students—Auscultanten—is privileged to visit and study at the clinics, but its members are not thus called forward. A foreigner, with his imperfect mastery of the German language, rarely enters his name as a Practikant. Indeed, Dr. Gaffky, director of the Institute of Hygiene of the University of Giessen, to whose kindness I am indebted for the above references and explanation, tells me that never in his experience has he known of a foreigner studying as a Practikant.

In view of the above, I conclude that an American may visit and study at the clinics of the German universities as he has always done, *i.e.*, as an Auscultant; that the new ruling prohibits him only from studying as a Practikant, which he has never done; that it prevents in no way the admittance by the directors of any student to the hospital wards, etc.; and that the rule is not a discrimination against foreigners, especially Americans, but is intended to insure a more uniform course for the German student.

Having had ample opportunity to experience the genial hospitality and the friendliness of the Germans toward an American, I have written the above in the hope of aiding to dispel the idea, apparently gaining ground in America, of discrimination against and exclusion of Americans.

J. Edwin Sweet, A.B.

Institute of Hygiene, University of Giessen, December 6, 1897.

A THEORY AS TO THE PRODUCTION OF RASH IN ANY OF THE EXANTHEMATOUS DISEASES.

To the Editor of the Medical Record.

Sir: During an epidemic of scarlet fever at this point, there came under my notice a number of cases of jaundice, due to a catarrhal obstruction of the common bile duct. The discoloration of the skin was well marked, and it seemed from the number of cases presenting themselves that we had what might be called an epidemic of jaundice.

Seeing so many of these cases developing during the run of scarlet fever, I began to speculate as to the possible connection between the two diseases, but I could arrive at no satisfactory conclusion as to the one having any bearing upon the other. This thought, however, occurred to me, and I hope that it may be the cause of investigation upon the part of some one more favorably situated than I am.

Following up the well-known theory as to the causation of skin pigmentation in jaundice and the distribution of bile pigment in the different tissues through the medium of the blood stream, I evolved the idea that possibly the rash in measles, small-pox, scarlet fever, and other microbic systemic diseases having a localized or general epidermal manifestation, might be caused by the deposit in the skin, during its efforts to eliminate it from the body, of some portion of the secretion of one of the eliminating or digestive organs—these glands, because of the specific organism which produces the disease, either secreting an abnormal by-product or an amount of normal secretion in excess of the demands of the system.

The blood stream, acting in this emergency as it does in the case of catarrh of the bile duct, distributes the altered secretion throughout the economy, that the skin and all the eliminating organs may help to excrete it.

If my theory is correct, the treatment of these diseases resolves itself into the discovery of the organ involved in each of the different manifestations, and directing the treatment to it, either as to counteracting the pernicious action of the specific micro-organism upon its stroma or its secretion, or introducing into the system some substance which will for the time be-

ing reinforce the diseased gland or mitigate or destroy the action of its altered secretion.

It may be possible that the high mortality, the paralysis, nephritis, deafness, loss of sight, and many other pernicious manifestations which follow in the wake of the exanthemata may be due, not to the action of the specific micro-organism, but to the poisonous effect of an alkaloid secreted by some organ, diseased because of the action upon it of the germ which produced the malady. Immunity might be explained under the theory that the abnormal secretion inoculates the system against the further invasion of a given micro-organism.

I hope that some one better able than I am may take up this question and investigate as to the possibility of the theory being correct.

W. V. Gage, M.D.

McCook, Neb., December 3, 1897.

"ONE MORE KICK AT AN ABUSED PROFESSION."

To the Editor of the Medical Record.

Sir: In the Medical Record of November 13th there is an editorial, "One More Kick at an Abused Profession," in which you note the decision of the Illinois court of appeals in the case of Dr. Dixon, who was compelled to give expert testimony without a fee. I find an editorial on the same subject in the *New York Law Journal* of December 3d, in which the opinion of the Illinois court is upheld—that expert witnesses have no right to refuse their expert opinions. The subject is, however, one entirely under the control of the expert witness. Every witness is by the common law obliged to answer that which he knows, when all knowledge is one of facts. If the medical witness is asked a question in medical science the answer to which he absolutely knows, he has no legal right to refuse an answer. But when the expert is given a state of facts, as embraced in a hypothetical question, the witness does not know the answer until he proceeds to labor mentally, and, as the result of such labor, gives his conclusion. The medical witness has as much right to refuse to labor (mentally) for the court as a carpenter has who refuses to construct a stairway for the accommodation of the judge. All that the medical witness has to do is to discriminate between scientific facts which he knows and opinions asked for upon such facts. He must answer the first; he is not bound to answer the second.

R. L. Pritchard.

MIDWIFERY AND THE MIDWIFE.

To the Editor of the Medical Record.

Sir: Allow me to add a word in substantiation of the article of Dr. Van Ramdohr in a recent issue of the Medical Record. It is the physician who practises in the crowded districts who is called in to correct the mistakes of these ignorant and unscrupulous midwives.

One morning in June last I was called in a hurry to see a woman who was in labor. On my way to the house I was told that the woman was the mother of six children, and that her husband was away in Africa. When I arrived at the house, the building was in an uproar; women were standing on the stairs and lamenting the fate of the poor unfortunate woman, who had been in labor more than twenty-four hours. One who was more talkative, and proved to be the midwife in the case, said she could not account for the delay in the birth of the child, as she had never before had a failure in her practice. This impressed me at once that her experience was very limited, and I proceeded to examine the patient. The appearance of the patient was enough to inspire fear as to the result. Her legs and vulva were œdematous; the heart was dilated. One woman said that the patient had convulsions a few hours ago, but that nobody paid any attention to them. I was washing my hands in order to make a vaginal examination, when the midwife, who was fanning the patient, gave a cry, and on going to the patient I found she had expired.

Now this is one of the many cases that come under the notice of the physicians in the tenement districts. Had medical attendance reached this woman in time, one if not both lives would have been saved. As a rule, most of these midwives have too much confidence in themselves. It is nothing strange to meet midwives who have had other occupation previously, and by chance become midwives. If every doctor would report such cases occurring in his practice, enough indignation would arise, and a law regulating this delicate art would be enacted. Until a law regulating the practice of midwifery is enacted, the lives of mothers and babies will not be safe.

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Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 25, 1897:

	Cases.	Deaths.
Tuberculosis	213	90
Typhoid fever	17	7
Scarlet fever	165	8
Measles	289	9
Diphtheria	163	26
Laryngeal diphtheria (croup)	6	0
Chicken-pox	35	0
Small-pox	1	0
Cerebro-spinal meningitis	1	6

Rupture of the Aorta "in a fit of anger" is reported from Paris, and should prove a warning to all who permit their passions unduly to rise, especially if plaques of atheroma are suspected to exist.

Freezing is advocated by Bujwid as a method of concentrating animal serums. The upper layer, upon slow thawing, is a watery fluid without value, while the lower contains the concentrated antitoxin.—*Centralb. f. Bakteriol.*

Lead Poisoning has recently been reported from the use of a patent medicine, which was found on analysis to contain the drug in large amount; and in another instance from too free indulgence in paprika, which had been adulterated with red oxide of lead.

Lengthening of the Diastolic Interval in certain forms of cardiac disease is of grave moment, according to Huchard, and its early discovery may lead to measures intended to prevent dilatation. Digitalis should be withheld.

Criticism has been freely bestowed by the daily press upon a physician of this city who declined to respond to a night call from a grocer who had refused to pay his doctor's bill. Perhaps some time the public will learn that a good way to make sure of timely medical attention when needed is by paying for what it receives as it goes along.

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Original Articles.

IMMUNITY: RECENT THEORIES VIEWED FROM THE CLINICAL STANDPOINT.[1]

BY W. GILMAN THOMPSON, M.D.,

NEW YORK.

THE astonishing results obtained within the past two or three years from sero-therapy and sero-diagnosis must necessarily tend to modify previous theories of immunity from infectious diseases, and it is the purpose of this paper briefly to review the subject from both the theoretical and the clinical standpoints.

To the original broad division of immunity into (*a*) the natural and (*b*) the acquired forms, must now be added (*c*) the artificial type—for of immunity, as of greatness, it may be truly said: "Some are born immune, some achieve immunity, and some have immunity thrust upon them." In seeking a comprehensive explanation which will embrace the greater number of its phenomena, one finds two dominant views in the literature of the day, which have quite supplanted older theories. These are: (1) The influence of the phagocytes, either as devourers of germs or producers of substances which destroy germs or their products (toxins). (2) The influence of antitoxins, either as chemical antagonists, acting by neutralization of toxins, or as physiological antagonists, acting by stimulating the cells of the body to increased resistance.

Other theories there are in abundance, but the present tendency is to forsake them for the newest teachings of the laboratory, which, for the time at least, threaten to divert attention from due consideration of clinical data. This has been the fate of the theories of Chauveau and of Pasteur. Chauveau held that immunity is due to accumulation of waste products, poisons, the result of germ action, which overwhelm the source that developed them, very much as alcohol in time destroys the yeast fungus which produced it. The permanence of retention of such waste products within the system should determine the duration of immunity.

Pasteur, on the other hand, taught that immunity is due to exhaustion of a special pabulum or germ-growing soil within the body—practically a soil sterilization—which soil is not renewed after infectious diseases, in which, as in measles, immunity is acquired after a first attack, but is renewed in time in diseases which, like pneumonia and erysipelas, confer no definite immunity.

It will be observed that neither of these two theories comprehends any vital action of tissues or of cells other than that of the germs themselves, and both are much weakened by such a demonstration as the fact that anthrax bacilli may still live in the serum of animals which have acquired complete immunity against them.

Yet another theory, which has been strongly advocated by Calabrése[2] and others, is that the alkalinity of the blood increases with the degree of immunization, and causes it: and in direct opposition is the theory of Roux, that an excess of nucleinic acid is developed, which either neutralizes the toxins or is bactericidal.

Turning to the two major theories of the influence of the phagocytes and of the serum, so much has been argued both for and against them that they should be examined in detail.

The theory of immunity through phagocytosis, *i.e.*, of the germ-devouring action of certain voracious leucocytes, as elaborated by Metschnikoff and his followers, at first seemed as plausible as it is ingenious. This bacteriologist showed that under certain conditions cholera vibrios injected into the peritoneal cavity are promptly converted into inactive granules by the leucocytes (phagocytes). Bardet[3] adds his testimony that preventive serum has the effect of directly stimulating leucocytes to devour cholera bacteria *in vitro*. Mesnil[4] proved that anthrax bacilli in the peritoneum of a fish (perch) are eaten by phagocytes. The serum of immunized animals, while protective, is not necessarily bactericidal, and tetanus spores, washed free of toxins, when inoculated in animals, are devoured by phagocytes.

This restricted view of the function of leucocytes, as destructive of germs by devouring and digesting them, has not withstood the test of further experimentation, and it has been largely modified and replaced by the theory that the leucocyte acts not as a phagocyte, or devourer, but by developing and secreting substances which are inimical to the germs, and which may affect them even at a distance from the body of the leucocyte.

As opposed to the purely phagocytic theory is the fact that in mouse septicæmia the bacilli are known to multiply within the leucocytes. Sometimes the latter are so overcrowded as to make it impossible for them to have eaten all the contained bacilli, yet other phagocytes among them contain no bacilli (Sternberg[5]). The presence of gonococci within leucocytes led at first to the belief that they had been devoured, but it is now known that the germs die from other causes, and are subsequently taken up by phagocytes which act as scavengers, very much as they devour old products of inflammation, pus cells, granular detritus, inhaled carbon, pigment such as cinnabar used in tattooing, and even such tissues as those of the tadpole's tail at the time of absorption.

From a physiological standpoint substances must be regarded as still outside of the organism until they have entered the blood, lymph, or tissues, even though they are anatomically within the air passages or alimentary canal. It is certainly characteristic of many of the most severe infections in which the germs have been demonstrated that the latter remain for the most part outside of the body, physiologically speaking, although they may be found at times in the blood or viscera. This is true of the typhoid, diphtheria, cholera, pneumonia, dysentery, and many other bacilli: and this fact renders them much more independent of the attacks of phagocytes whose special territory they

[1] A paper read before the Practitioners' Society of New York, December 3, 1897.

[2] La Semaine Méd., October 30, 1895.

[3] Annales de l'Institut Pasteur, June, 1895.

[4] Annales de l'Institut Pasteur, vol. 9, No. 5, and Brit. Med. Jour., June 29, 1895.

[5] "Immunity and Sero-Therapy."

do not invade. The phagocytes may gather to prevent such invasion at any definite point, but neither there nor on the free surfaces are they found in number proportionate to the germs present. Hence it is clearly impossible for them to cause immunity by phagocytosis in such instances, although it may be admitted that exceptionally, where the germs tend to invade the blood or viscera, there may be something of a battle royal between leucocyte and bacillus. Even in such cases, is it not possible that the leucocyte first kills the germ at a distance by means of some secretion, and then devours it as a foreign body? The dead or inactive bacilli have been found in some infections, not within, but near the leucocytes, as in Nuttal's experiments with anthrax bacilli inoculated in the rabbit's ear. Vaughan, McClintock, and others believe that the leucocytes supply a nuclein, soluble only in alkaline fluid, which is a protective agent: and Sternberg is disposed to regard natural immunity as due to a substance in the serum derived from leucocytes and also soluble only in an alkaline medium, infection being combated by both the leucocytes and the alkalinity of the blood.

The phagocyte, when about to lose prestige as a germ destroyer, has been rescued again by the hypothesis that it fulfils the rôle of either a ferment producer or an antitoxin manufacturer, the latter action being in all probability induced by the agency of a ferment derived from the leucocyte and acting upon the proteids of the blood serum. The phagocyte is, after all, but a unicellular organism of a low order of development, and although endowed with some remarkable properties, like its recognition of or attraction toward irritants such as bacilli, and its capability of being "trained" to increasing powers of resistance, it is nevertheless expecting far too much to suppose that it can manufacture offhand a specific antitoxin to neutralize all the specific toxins of some forty infectious diseases. Of all the adaptations by nature of organs or organisms to resist external irritants, there is no analogy to such a phenomenon. To avoid so untenable an assumption, Reid,[1] in a recent very able article upon immunity, holds that the phagocyte secretes an enzyme, a single digestive body, which is capable of digesting and thereby neutralizing all manner of toxins, just as a single ferment, pepsin, digests a variety of proteids—globulins, albumoses, etc. Such a ferment is rapidly formed, and, he says, "it is probable that the digestive substance produced by the cells is normally present in them, but that its secretion is greatly accelerated by the presence of certain foreign bodies in the blood—*e.g.*, bacteria and their toxins." He supposes that the blood holds toxins in all stages of digestion, that the stronger toxins are not necessarily of identical composition with the weaker, and that the weaker toxins may act meanwhile as immunizing agents, thus producing an acquired immunity, which he defines as "an habituation of the cells concerned to the toxin, as a result of which their phagocytes are able to destroy the pathogenic micro-organisms producing it," and "the cells concerned are able to perform their functions in spite of the presence of toxins."[2] He further claims that immunity exists only against those diseases which produce powerful antitoxins, whereas in such diseases as tuberculosis, lacking immunity, the germs destroy the phagocytes. In other words, immunity is in direct proportion to the quickness of production of the original toxins and their stimulating effect.

To consider now the blood-serum or antitoxin theory of immunity, it would appear, in so far as it is applicable, to be capable of much more absolute proof than either of the others. The greatest medical question of the day is to what extent we are to be able to utilize and rely upon it. Is it destined to exclude all other theories of immunity? Is it therefore destined to become of general application to all infections? Is the artificial immunization through serum antitoxins as strong and as enduring as are other forms? Must we confine our views to any one theory?

The poison of any infection must necessarily pass through the blood or lymph in order to reach the body tissues generally: hence it is a distinct gain, both in point of time and substance, to have its action neutralized in the blood serum. The "resistance of tissues" is, after all, a somewhat vague phrase, and any definite knowledge of how to increase this resistance artificially, and thereby produce immunity, is lacking. The phagocytosis theory deals with the germs rather than their toxins. The toxins may have been formed before the phagocytes can act, and, moreover, we possess no reliable means of producing immunity through stimulation of phagocytosis. The theory of exhaustion of the soil in which the germs grow presupposes the complete development of the infection. But serum which is antitoxic, whether so rendered artificially or naturally, is the ideal immunizing agent; for it is independent of tissues, it is universally present in the body, and before either phagocytosis or soil sterilization or exhaustion has time to act it opposes the toxin as fast as formed, so that, as for example, in diphtheria, the antitoxin practically cures the disease and immunizes the patient long before the bacilli have left the throat. The blood serum, which is the chief transmitter of infection, thus becomes its chief antagonist. From the data thus far accumulated, however, it would appear that artificial antitoxin immunity is not so strong or so lasting as natural immunity, thus rendering reinoculation desirable in time of exposure. This is true even of small-pox and vaccinia. No one would think of the revaccination of a patient who had had a typical attack of small-pox, for immunity is practically permanent. W. M. Welch[3] says that "no person during the last quarter of a century has been admitted to the Philadelphia Municipal Hospital twice suffering from the disease."

Yet we know that the immunity against variola produced by vaccinia (which is in all probability due to an antitoxin formed in the blood after inoculation with this latter disease) must, in order to become permanent, be renewed several times after intervals of a half-dozen years. The artificial immunity established by inoculations of tetanus antitoxin, diphtheria antitoxin, antistreptococcus serum, etc., is far from permanent. A protective inoculation of three hundred diphtheria antitoxin units confers immunity in man of but from three to eight weeks (Park[2]). Paterson,[3] of Glasgow, procured artificial immunity in fowls from fowl tuberculosis which persisted for only five months. Powell,[4] in a summary of all the published experiments in India in anticholera inoculations, concludes that doses large enough to occasion decided febrile movement seem to confer immunity, but that smaller doses confer very brief if any protection.

Attractive as is the question of immunity by antitoxins, it yet leaves many facts unexplained. It of course does not account for natural or congenital immunity in distinction from that conferred by a single attack of an infectious disease. During the prevalence of an epidemic, doubtless many persons escape infection merely because the specific germs do not happen to find entrance to the body at a propitious

[1] G. Archibald Reid: Lancet, September 11, 1897, p. 644 *et seq.*

[2] *Loc. cit.*, p. 646.

[1] "The American System of Practical Medicine," vol. i., p. 518.

[2] "The American System of Practical Medicine." Article on "Diphtheria," p. 696, vol. i.

[3] Lancet, October 30, 1897, p. 1,108.

[4] Lancet, 1896, No. 3,803, p. 169.

time for their development. For example, Netter found the pneumococcus present in fifteen per cent. of normal mouths. The gastric juice may be strongly acid when cholera germs are swallowed, thus destroying their virulence; there may be no abrasion of the throat at the time when diphtheria bacilli are present or no tegumentary lesion to admit the virus of syphilis, leprosy, or erysipelas—yet those who thus happily escape through such chances are by no means immune. It is a common experience for persons to pass through several epidemics of yellow fever or influenza without infection and yet eventually to succumb, even when there is no appreciable difference in their general state of health. Thus immunity is often apparent rather than real, and is therefore far less general than is supposed.

The difference shown in regard to the ages of individuals at which the various infections are most easily acquired would seem to point rather to inherent tissue resistance than to inherent protective qualities of the blood serum (antitoxins).

Doubtless all the softer parts of the body are undergoing constant and more or less rapid and complete chemical if not structural renewal. It is easier to conceive of the cellular structures of the body transmitting either natural or acquired resistance to infection from one cell generation to another, than to believe in the permanence of an antitoxin in the blood serum. Of all tissues the blood undergoes most rapid and frequent change. The life of many of the corpuscles cannot exceed a few hours, or one or two days at the most. The red discs are constantly being destroyed to furnish biliary and other pigments, and the leucocytes fluctuate greatly in number, corresponding with as simple a varying condition as the amount and quality of food eaten. The blood serum is the fluid from which all the digestive fluids and many others, amounting to many quarts daily, are replenished, from which all the liquid secretions are derived, and in which all the varying quantities of food derivatives and of waste must sooner or later circulate. The blood, moreover, as a whole, has a remarkable tendency to maintain a uniform composition and to rid itself of accidental ingredients. An antitoxin is certainly not a normal ingredient of the blood, but rather a product of special and temporary chemical, fermentative, or other action. Methods of preparation of antitoxins outside of the body prove this. How, then, are we to conceive of prolonged immunity from a specific infection as produced by an antitoxin? Does the antitoxin perpetuate its own kind by renewal? This is contrary to experimental results. Does it stamp an imprint upon the blood serum as a whole? But this highly complex serum is constantly varying in its ingredients, while yet maintaining an average uniformity in composition. One cannot readily conceive of it as subject to laws of heredity. It must therefore be so often renewed that it is difficult to believe that an antitoxic serum—practically a foreign substance—can long remain in it. There are, however, one or two recent observations which appear to argue for the permanence of an antitoxin once formed in the serum. For example, Vailliard has shown that in the case of a rabbit immunized against tetanus, and then bled until half the volume of its blood is withdrawn, the remaining serum is subsequently found to be just as strongly antitoxic. The agglutinating substance, or "agglutinin" (Gruber), of typhoid-fever serum may persist in the blood for five or six years after the fever, and although this is not, strictly speaking, an antitoxin, its prolonged retention in the serum is a very significant fact.

The final *modus operandi* of antitoxins in the serum is still open to question. The theory that it is by neutralization of the toxins in any chemical sense is scarcely tenable, although the laboratory experiments in the case of diphtheria might favor this view. The exactness with which a guinea-pig can be given a definite lethal dose of toxin and then be saved by a definite dose of antitoxin is demonstrable with almost mathematical accuracy, yet it is difficult to conceive that vaccine virus can cause any chemical neutralization in the extremely minute quantities in which it is employed; and if the relatively small immunizing dose of diphtheria antitoxin—three hundred units—acts by chemical neutralization of toxins as fast as they may be formed in a fresh infection, the dose might be readily exhausted before all danger was passed.

Buchner thinks that the toxin and antitoxin do not neutralize each other, but that both act antagonistically upon the cells of the organism, somewhat perhaps as atropine antagonizes morphine, by counteracting its influence upon the nervous system, and not at all by chemical interaction. He found that tetanus antitoxin and toxin in mixture might prove harmless to one animal, and yet virulently poisonous to another. Obviously this would be impossible if chemical neutralization had been produced. Still another argument against such neutralization is that of the experiments of Roux and Vailliard: the serum of the horse is rendered antitoxic against tetanus if the tetanus toxin be injected, but if the process is conducted too rapidly or if too large doses are injected, the serum loses its antitoxic property wholly and becomes toxic. Reid believes that the cells in this case cannot digest the toxin fast enough to immunize the serum.

Grubner,[1] of Vienna, after experimenting with cholera, typhoid, and colon bacilli, concludes that the immunizing substances of bacteria themselves are not identical with bacterial toxins. In other words, animals may be proof against bacterial infection, but yet not toxin-proof. He regards the polynuclear phagocytes as playing "a comparatively unimportant part in the process" of destruction of bacteria, and thinks that the essential immunizing substances are those which make the bacterial walls adhesive and their sheaths more penetrable to the alexins or germ poisons, which then enter and destroy the germ protoplasm. The agglutinins are themselves exhausted in the process; hence the limitations of immunity. He claims that each bacterium has its own peculiar agglutinin (a complex theory, surely!), which is produced from itself in the body of an actively immune animal, by combination with some substance furnished by that animal. Durham maintains that the agglutinin acts directly on the germ, without reference to its protective sheath. (The recent experiments of Koch with tuberculin T. R. are interesting in this connection, as showing what may be derived from bacteria after destruction of their protective sheaths.)

That the blood serum may contain two different substances—one bactericidal, the other antitoxic—has been repeatedly demonstrated in special cases. Klein, for example, showed that when pure toxins are injected in the horse, the serum increases in antitoxic power, but loses in germicidal effect. If, on the other hand, the bacilli themselves are injected into the serum, the reverse obtains.

According to Buchner, the blood resists infection by development of two distinct kinds of protective substances: (1) alexins, which are germicidal proteids, of general character, without specific action, and universally present in all animals which are either actively or passively immunized. They are destroyed by lower temperature than the second class of substances, known as (2) antitoxins. These are not germicidal, but antagonize the effect of the toxins upon the cells and tissues of the body.

[1] Max Grubner: Lancet, October 9, 1897, p. 910.

To the alexins belongs natural immunity; to the antitoxins belong acquired and artificial immunity.

Any attempt to bring the manifold phenomena of immunity under one comprehensive theory must involve a solution of the two queries:

1. Is natural immunity in man different in kind from that which is acquired by a first attack?

2. Is natural immunity of a wholly different origin from that which is artificially induced?

The first hypothesis may be controverted by known laws of heredity and survival of the fittest. The Japanese rarely have scarlatina. Syphilis and gonorrhœa are mild among them. Negroes are less often than white men affected by enteric fever and yellow fever, yet they are very susceptible to variola and syphilis. The natives of India are often (though not always[1]) immune to enteric fever, yet they are highly susceptible to cholera, the bubonic plague, etc.

Even more remarkable instances of exemption occur among animals of the same species; thus Algerian sheep, like carnivores, are immune to anthrax, while other varieties of sheep are most susceptible to it (Sternberg[2]).

Must it therefore be supposed that in the serum of one man there exists a natural (congenital) antitoxin for one disease, and in that of another man for a different disease; or that the phagocytes of one man possess natural powers not given to those of another? Is it not more reasonable to believe that so-called "natural" immunity is really acquired immunity, but which has been acquired in previous generations that have been attacked by an infection which has proved fatal to the most susceptible, and has left the tissues of the survivors more resistant, and that this increased resistance has been transmitted by heredity? The possibilities of the transmission of hereditary immunity from syphilis and small-pox have long been recognized. H. Batty Shaw[3] has lately reported the observation of the Widal reaction in the blood of an infant whose mother had just recovered from enteric fever, which attacked her while the child was *in utero*.

If this view be correct, then natural immunity is a misnomer, in the sense that the individual or his ancestors never under any circumstances could have had a certain infection, and all immunity becomes originally acquired and transmitted until by intermarriage it may become weakened or lost. In any event there seems no compulsion to the belief that "natural" immunity is of a different nature or character from that which is acquired as a result of actual infective processes.

Is artificial immunity to be differentiated in kind from that which is acquired? If it be due to the substance inoculated acting as a neutralizer or antagonist to the disease toxin, as the acid neutralizes the base (v. Behring, Fraser) or the chemical antidote the poison, then, having done its work, it should be of no further use, and, being in reality a foreign body, it should be eliminated in time as completely as a dose of potassium iodide. But this explanation fails in accounting for any degree of permanence in artificial immunity. There seems to be some doubt, however, as to whether such permanence is really attainable from a single dose or series of doses of an antitoxin, as it may be through actual acquirement of the infection itself. This phase of the subject is as yet too recent to admit of accurate conclusions.

Critical study of the numerous and diverse methods of producing immunizing agents throws but little light upon the problem of the permanence of immunity in man. Briefly, immunizing agents may be produced by any of the methods following:

1. Sterilized filtered cultures of bacilli.

2. Strong cultures of killed bacilli.

3. Attenuated and repeated culture and transplantation.

4. Exposure of germs to drying in the air (Pasteur's first inoculations against chicken cholera).

5. Growing bacilli in some more or less devitalizing medium—as the solution of the thymus of the calf, or chemical agents such as sodium hyposulphite and alcohol (Sternberg).

6. Exposure to compressed air (Chauveau) or sunlight (Arloing).

7. By heat (anthrax bacilli).

8. Cultivation in non-susceptible animals—as tetanus and diphtheria in the horse (v. Behring and others), anthrax in the frog or rat.

9. Successive inoculations with dried infectious material of increasing strength (Pasteur's antirabic inoculations with dried infected spinal cords.)

10. By successive inoculations with small but gradually increasing doses of toxins—as in tetanus (Tizzoni and Cantani).

11. By single or multiple antitoxin inoculations (diphtheria, tetanus, Marmorek's antistreptococcus serum).

On the other hand, immunity, either natural, acquired, or artificial, may be lessened in a variety of ways. Thus it has been shown that either uric acid or sugar, present in excess in the blood, lessens resisting power against infection. White mice fed on phloridzin acquire an artificial diabetes, and when in that condition Leo succeeded in inoculating previously immune animals with glanders.

v. Behring has shown that white rats, ordinarily immune like other carnivores to anthrax, become susceptible upon a vegetable diet or a diet rich in phosphate of calcium. Arloing proved that a variety of chemical substances, inimical to the germs themselves, if inoculated with them, lessen immunity by weakening the tissues of the host.

Roger has demonstrated experimentally that in some cases inoculation with one infection favors susceptibility to inoculation with another to which the subject was previously immune. He also demonstrated with Aberrin that exhaustion and bruises greatly increase the susceptibility in guinea-pigs to the anthrax bacillus. Pasteur and Wagner, by refrigerating fowls and thus lowering their vitality, were enabled to counteract their natural immunity to anthrax. The same occurs in sheep after extensive venesection.

In summary it may be said that all the artificial immunizing agents fall under one or other of two classes: (1) They may be of the nature of a ferment, stored like an enzyme in the body of the leucocyte or that of the germ, or developed free in a culture medium. In this condition they may be supposed to act upon the blood serum almost indefinitely after inoculation, and like the digestive ferments, pepsin, trypsin, etc., being themselves not destroyed at once, but serving as agents for the manufacture of antitoxins out of the serum. (2) They may be finished products, true antitoxins, incapable of self-propagation and therefore incapable of maintaining indefinite immunity after inoculation, as far as their own substance is concerned. If, therefore, it can be shown that they do produce lasting immunity after inoculation, it must be through stimulation of leucocytes or of the body cells and tissues to greater resisting power. The latter explanation would transfer the ultimate cause of such immunity from the blood itself to the tissues.

There can be no question of the ability of the general body tissues, other than the blood, to acquire increasing and permanent toleration to external irritation of many kinds. In fact, this property constitutes one of the fundamental factors of evolution and of the

[1] Freyer: British Med. Jour., August 7, 1897, p. 329.
[2] *Loc. cit.*, p. 3.
[3] Lancet, August 28, 1897, p. 539.

adaptation of different races of man to environment. As familiar examples may be mentioned the acquired but permanent resistance of the skin to external applications of heat, cold, friction, pressure, etc.; the tolerance of the digestive organs in many savage tribes to food which, from its coarseness, monotony, or even commencing decomposition, would be promptly resented by more delicate organisms; the tolerance of the respiratory and circulatory systems to exceptionally high altitudes, as well as to the lack of oxygen in cases of extreme anæmia, and of loss of respiratory surface in advanced chronic tuberculosis. There is some analogy between the toleration of the tissues for drugs and poisons and for certain toxins. In both cases the young are usually most susceptible to the poison, and in both cases in adults increasing doses favor toleration. Yet such examples as the tolerance for opium in diabetes, for potassium iodide in syphilis, for alcohol in septic conditions, are not attributable either to the leucocytes or to the blood serum.

Among the factors concerned in lessening immunity to infection are many which are generally spoken of as "lowering vitality," and which are clinically described as "predisposing causes." Certain infections, like cholera and the bubonic plague, are well known to follow famine. Malnutrition, want of exercise, lack of fresh air and sunlight, alcoholism, prolonged exposure to cold and wet, the inhalation of dust and irritants, recent attacks of other infectious diseases, chronic maladies of different kinds, are among the many agencies which reduce vitality and lessen the resistance to the bacilli of tuberculosis, pneumonia, and other infections. Yet in none of these conditions is it customary to call the leucocytes to account, nor yet the blood serum, but rather the general tissues of the body. Cheyne has well shown how the alimentary canal during life may harbor without detriment enough saprophytic bacteria to decompose promptly the entire body as soon as death ensues and tissue resistance ceases.

Among the whole list of acute infections it is difficult to name one in which a second attack may not occur, however rare such examples may be; and between such extremes as measles and recurring erysipelas every grade of persistence of immunity is to be found.

The symptoms of any infection are finally manifested in the general tissues, in the nervous system, the mucous membranes, the serous membranes, etc., and to these tissues, from their greater variety and relative permanence in structure, must belong the major share of resistance to infection and of permanence in immunity.

From the foregoing arguments the following conclusions may be formulated:

1. The phagocytic action of the leucocytes in combating infection is of but little importance, and is mainly concerned in the removal of waste products rather than the devouring of living bacteria.

2. The leucocytes probably secrete substances which are both inimical to living bacteria and antagonistic to their toxins. The antagonism may be through digestion of the toxins and through counteracting the irritant effect of the toxins upon the general tissues and cells of the body.

3. The antitoxins of the serum, whether artificially injected or developed within the body, do not act by chemical neutralization of the toxins, but through stimulation to greater resistance of either the leucocytes or the tissues, or both.

4. The blood itself, neither through its leucocytes nor through its serum, is capable of producing all the phenomena of permanent immunity. To a limited extent only can it be relied upon for the prohibition of toxic symptoms.

5. It remains for the tissues to offer the final combat against the toxins, and to develop a more or less permanent resistance to them, which is transmitted to successive cell generations as more or less permanent immunity. To this effort they may be incited by either toxins or antitoxins, in addition to the exercise of the inherent property of living protoplasm to resent irritation of any sort.

6. It is probable that natural immunity does not differ in kind from acquired immunity, and that it is really originally acquired immunity which has been perpetuated for an unusually long period through succeeding generations.

VAGINAL CŒLIOTOMY—CONSIDERED AS AN APPROACH FOR THE REMOVAL OF MULTIPLE UTERINE MYOMATA.[1]

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The removal of an organ not irreparably diseased, because at first no physiological reason can be adduced for its retention, is not good surgery. Experience has now convinced the profession of the necessity of retaining every portion of the economy not inimical to life and comfort. This postulate should be constantly before the surgeon's mind, encouraging him to develop a faculty of quick perception and faultless decision on the field, to meet exigencies as they arise. It is now an accepted rule that the uterus should not be extirpated without grave cause, but the lines are not always drawn distinctly, and the operator is often perplexed whether to sacrifice this organ, leaving his patient mutilated, perhaps destroying her mental and conjugal happiness; or to preserve it, risking the danger or at least annoyance of another operation, with the probable imputation of bungling work.

The removal by vaginal section of solitary myomata has become a recognized operative procedure, but until recently the uterus subject to multiple tumors was doomed to ablation. For several years we have made it a rule to attempt a conservative operation upon every case of multiple uterine fibroids, excepting those associated with an organ entirely disorganized, and this paper will be limited in its scope to a study of fourteen cases, which we have operated upon with conservation of the uterus, and the deductions therefrom.

Multiple myomata may remain stationary in growth, but in our experience they rarely do so. Whatever the etiology of myomata may be, the fact of multiple tumors has impressed us that the causative factor is more acute and the development of the individual growths more rapid.

If any one will take two series of cases, one of the solitary and the other of multiple tumors, and observe them carefully for several years as to their growth, he will become convinced of the truth of this statement. Even several mural tumors of small size cause distinct and annoying symptoms, which we believe to be caused by the mechanical irritation of the muscular substance of the uterus and the vascular excitement incident to their growth, which results in the enlargement of the organ. The nearer they approach the cavity of the uterus, the more accentuated the symptoms. Therefore we find these patients giving the history of dragging pains; excessive, painful, and irregular menstruation, alternating with leucorrhœal discharges: re-

[1] Read before the New Jersey Surgical Society, September 7, 1897.

flex phenomena, and later pressure symptoms with physical deterioration. It will probably be said that this picture is rather darkly drawn, but then we ask: Why do some authorities regard uterine myomata as almost malignant, while again others look upon them as of no importance, condemning operation as an unnecessary intervention? We believe that the solution lies in the very problem already stated: that solitary myo-

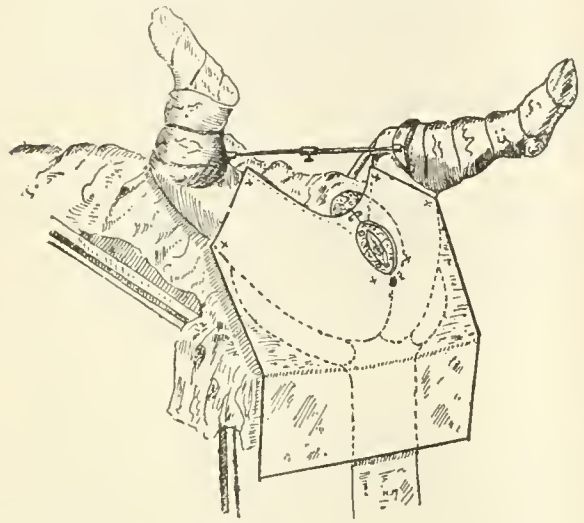

Fig. 1.

mata are generally of slow growth and more benignant, while multiple tumors are of more rapid growth and not so innocent.

It is well known that fatty or brown degeneration of the heart muscle is almost always present in patients who have large myomata within the pelvic cavity, even when hemorrhage is not a prominent phenomenon. One of the writers once heard an eminent and successful operator declare that he had never had a recovery in a case in which a fibroid weighed over fifteen pounds.

Sterility generally accompanies multiple fibroids, chiefly on account of the severe metritis, and, when pregnancy occurred in our cases, we have found abortion to be the rule. One of the women operated upon carried to term, but dystocia gave considerable trouble. Advising young women with multiple tumors to wait for the menopause is, for the reasons already mentioned, pernicious advice, because the menopause is always delayed, often many years beyond the usual limit. As to electrical treatment of multiple myomata, one of the writers gave each of our patients a careful trial of this method, without any other result than ameliorating somewhat the endometritis in three of them.

While we hesitate to advise operation when the development requires ventral section, we do advise the early conservative removal of even very small multiple tumors in every case, when observation of several months shows any growth, particularly if any tendency to extend into the ligaments is manifested, because the sooner it is attempted, the easier the operation and the better the result.

Coincident suppurative endometritis leads us to select hysterectomy, and bilateral suppurative disease of the appendages calls for total extirpation. The most difficult question to answer is: What constitutes the limit of size of fibroid tumors which can be removed by conservative vaginal section? Much depends on the localization of the growths, the experience and skill of the operator. Every case should be carefully examined under full anæsthesia several days before operation, because the operator will have more time to reflect upon and mature his plan of operation; frequently will he find cases very appropriate for vaginal section when he has decided for hysterectomy, and often again the reverse. In all patients with marked development we demand consent to extirpate the uterus in case we should find it necessary.

Technique.—The preparatory treatment is the same as for hysterectomy. The patient is anæsthetized and placed upon the table in the lithotomy position. A most annoying spot to the operator is the anus; no matter how thoroughly the field has been cleaned, frequently some flatus escapes, bringing down a little mucus, which may very readily infect a pendent instrument, or the hand; therefore we take a good-sized piece of sterilized rubber dam, with an aperture corresponding to the size of the vulvar commissure, and stitch it to the fourchette and thighs, as shown in Fig. 1. The perineum can then be pushed up or back, or an assistant may insert his finger into the rectum, without the least danger of infecting the field. A Simon or Fritsch speculum retracts the perineum; the uterus is thoroughly curetted and washed out, but not packed, because the uterine cavity may be opened. The gauze would then interfere with suturing the wall.

Erosions are burned with the Paquelin cautery. The vagina is thoroughly flushed out with sterilized water and swabbed dry. Two lateral retractors are inserted, widely separating the labia. An incision is made anterior or posterior to the uterus, or both incisions may be required, according to the location of the tumors. Unless the tumors be limited to the anterior aspect of the uterus, it is advisable first to incise the fornix in the post-cervical crescentic fold, open Douglas' pouch, and explore. If the anterior fornix requires opening, we employ the sagitto-coronal incision, as shown in Fig. 2.

With reasonable care the ureters are in no danger of being injured, and the amount of space gained compensates amply for the additional time and trouble. A bloody field protracts the operation; therefore bleeding points should be tied with fine catgut, as soon as they are severed.

The peritoneal apertures should be close to the uterus, and extended well on to the broad ligaments;

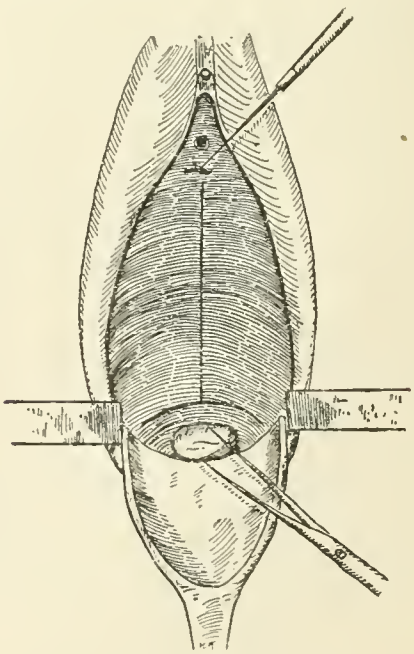

Fig. 2.

a vesical retractor keeps the bladder out of harm's way. Every portion of the uterus is now accessible.

A plentiful supply must be at hand of fine volsella; long, sharp-pointed and blunt-pointed tenotomes; delicate clamps with long handles; large and small Hagedorn needles, each threaded with a twelve-inch strand of medium fine chromicized catgut; curved and straight

iris scissors with long handles; together with several patterns of serviceable needle-holders. Two rectangular retractors with long narrow blades are often found useful, in order to expose satisfactorily the uterine surface during enucleation or suturing.

A stout volsellum is attached to the cervix and given to the first assistant. His function is to hold the uterus and nothing else. If there be intraligamentary development, a provisional ligature is placed upon the corresponding uterine artery. A Hegar uterine dilator is introduced into the uterus and the organ carefully palpated between the finger and the dilator, to determine the number and location of all the myomata. An incision is then made over the most prominent tumor and the capsule stripped back; if larger than a hazelnut, the tumor is grasped with a small volsellum and morcellated; if not, it is simply twisted from its attachments, and the bed is sutured with interrupted buried sutures, drawn tight. When there are other growths juxtaposed to the one removed, the bed is not sutured until the entire nest is extirpated. Blunt dissection must be employed wherever possible.

Whenever the uterine cavity is opened, the sutures shall be so placed that when the sides of the wound are apposed the strands are not exposed to infection. The uterus is sometimes decidedly mutilated after a conglomerate mass has been removed, and at times some ingenuity is required to close the crater. Spaces left in the parametrium should be drained with gauze strips brought out into the vagina. When a case is complicated with adhesions, they are carefully separated; any other morbid process must receive appropriate treatment.

The wound or wounds are then swabbed dry, sutured, or left open, according to the requirements of the case. The vagina is packed with sterilized gauze, which is changed every second day. Catheterization and the dietary usual to cœliotomies are prescribed. If everything does well, the patient is allowed to sit up on the eighteenth day. It looks very well to have the patient up sooner; but there is no good reason why after a cœliotomy the result should be jeopardized by allowing the patient to get up at an earlier date than we would if the same patient had had simply a plastic operation performed.

Prognosis.—The operations were all tedious, but the patients left the table with very little, often no shock; none died. All except one convalesced without unusual incident. There are no unsightly scars, neither will there be ventral hernias to worry about. We believe that these facts appeal in favor of vaginal cœliotomy in every case when the development is not too great to preclude extirpation by the anterior or posterior incisions of the fornix, or when the uterus is not so disorganized as to require extirpation. In one of our series of fourteen cases we found a small tumor in the posterior wall of the corpus, two years post operationem; the other thirteen have not shown anything suspicious up to the present time.

The most distorted uteri have regained a fair degree of symmetry. Pregnancy has occurred twice. Case III. was delivered at term in July of the present year, and Case IV. aborted by criminal induction at the second month of gestation.

Report of Cases.—Case I.—R. N——, widow; one pregnancy sixteen years before; complains of severe backache and menorrhagia. She is much debilitated. She began menstruating at fifteen years of age, her periods never lasting more than three days until five years ago; the flow has gradually become very profuse. The duration is now nine days. She has also occasional floodings between the menstrual periods. Digital examination determines a mobile, large, painful uterus, with a hard, irregular bulging of the corpus, and filling the lower portion of the Douglas pouch. A sound can be introduced four and a half inches.

Four months of electrical treatment by the Apostoli method, without benefit. Operation, November 21, 1895.

Posterior vaginal section; enucleation; mass is found to be composed of four myomata, one as large as a hen's egg, and the three others about the size of walnuts. Cavum uteri opened to about one centimetre. Wound closed with nine interrupted catgut sutures.

Drainage of the Douglas pouch. Convalescence uneventful.

Examined on December 28, 1895. Uterus mobile; cavity four inches deep.

Examined on April 3, 1897. Uterus normal, no development of tumors, menses regular and four days in duration, no backache, no dysmenorrhœa.

Case II.—M. H——, aged thirty-eight years, IV.-para. Menstruation began at sixteen years of age; lately more profuse. She married at the age of eighteen. Last child eleven years old. She noticed three years ago that defecation became painful; is now getting worse, and desires relief. Bimanual examination shows a pedunculated subserous fibroid growing from the left cornu and a mural tumor in the posterior wall of the corpus, about the size of an orange.

Operation, December 5, 1895. Sagittal incision of posterior wall after preliminary vaginal section. Fibroid enucleated, cavity opened; eight sutures. The subserous tumor was then pushed down, grasped with colpotomy forceps, the pedicle ligated, and the fibroid cut away. A strip of gauze was left in the Douglas pouch for drainage.

Examined April 5, 1897. Uterus slightly enlarged, otherwise normal. No rectal difficulty.

Case III.—B. S——, aged thirty years; married eight years; sterile. Applied for relief for severe dysmenorrhœa of nine years' standing, also for seven months of continuous stillicidium bleeding. Bimanual examination discovered a distorted and enlarged uterus, the organ being studded with elevations on its fundus, anterior and posterior walls. The uterus was curetted, iodined, and then submitted to electrical treatment for six months. For several months some improvement occurred, but by the sixth month it became evident that something more had to be done.

Operation, December 22, 1895. Anterior and posterior vaginal section. Eleven tumors, varying from a pea to a walnut in size, enucleated, the uterine cavity being opened in two places. The wounds were sutured and the Douglas pouch was drained.

Convalescence uneventful.

On June 19, 1897, the patient was delivered at term. The fœtus weighed four thousand and sixty-one grams.

Case IV.—M. J——, aged twenty-nine years; once pregnant, seven years ago. Gives a history of metrorrhagia, menorrhagia, discharges, and dyspareunia during the past four years. Physical investigation reveals a uterus somewhat large and fixed, a painful mass to its left and rear intimately incorporated with it and adherent to the surrounding structures. Also on the anterior wall of the body a lump the size of a walnut.

Operation, January 5, 1896. Posterior vaginal section. After thorough separation of adhesions, the mass was found to consist of prolapsed adherent ovary and hæmato-salpinx. A myoma as large as a hen's egg was growing from the left side of the uterine body and projecting into the ligament. The anterior fornix was next opened, and the left uterine artery ligated; the tumor on the anterior wall was removed and its bed sutured. With a full-curved Dechamp a ligature was passed around the ovarian artery and tied. The cervix was then pulled forward again, the tumor removed by

morcellation, its bed being partially closed by suture. Lastly the appendage was delivered into the anterior incision and extirpated. Drainage by the Douglas.

Examined on February 16, 1896. Uterus slightly drawn to the left, a little large but painless. Eleven months after operation she conceived: submitted to criminal abortion at the second month, which culminated in septic endometritis and salpingitis with pelvic peritonitis. One of the writers was then consulted. The uterus was at once curetted, and the cul-de-sac opened up and drained. April 9, 1897, the patient was examined and found in good condition.

Case V.—K. L——, aged thirty-five years, single. Complains of menorrhagia and pelvic pains. Physical examination: Subserous sessile fibroid the size of an egg, involving fundus and upper portion of anterior wall of corpus; several smaller ones in posterior wall, also a cervical polyp.

Operation, January 21, 1896. The polyp removed by torsion; anterior and posterior vaginal section. Large tumor morcellated, bed closed by sutures passed from side to side. Four small growths removed from posterior wall. Drainage by Douglas.

Examined June 10, 1897. Uterus normal.

Case VI.—L. S——, aged forty-one years; dipara; last child fourteen years old. Subjective history of menorrhagia and dysuria. Objective symptoms: uniformly enlarged uterus: lump, size of filbert, growing from corpus near right cornu. The sound indicates a cavity four and three-fourths inches in depth, with a sessile protrusion from the posterior wall.

Operation, January 30, 1896. Posterior vaginal section. Sectio Cæsarea posterior nonparturientis, and the removal by morcellation of a soft myoma larger than a goose egg; then removal of the small subserous tumor by a separate incision. Suture and drainage.

Examined November 7, 1896. Catarrhal endometritis.

Case VII.—B. R——, aged thirty-eight years, tripara; last child would be twelve years old. History: Has had salpingo-oöphorectomy on the left side performed nine years before in one of our local hospitals, followed by a fistulous opening in the lower angle of the wound. The same closed two years later. She felt quite well for several years; then the "old pains" returned, and are now very severe. Physical examination: Uterus fixed, enlarged, bulging irregularly on the left side of the fundal and corpal divisions into the pelvic space and ligament. Sound detects a smooth sessile encroachment on the cavity from left cornual region of the uterus.

Operation, February 4, 1896. Anterior and posterior vaginal section. The extensively adherent omentum loosened. Incision over the uterine swelling; two juxtaposed tumors, each about the size of a butternut, removed. Opening into the uterine cavity, two centimetres in extent. Wound closed; drainage by anterior and posterior vaginal incisions.

Examined September 13, 1897. Uterus mobile: slight sinistro-flexion: no pains.

Case VIII.—L. D——, aged thirty-nine years, primipara. Obstinate severe menorrhagia and pain in left iliac region, aggravated during defecation and menstruation. Bimanually the fundus and anterior wall appear nodulated: a painful movable mass behind the broad ligament.

Operation, February 19, 1896. Anterior vaginal section. Three tumors about the size of a hazelnut removed from the fundus, a very small one enucleated from the anterior surface of the corpus, followed by suture. The ovary was microcystic, the tube distended with clear fluid; they were removed. Closure of vagina without drainage.

Examined September 6, 1897. Uterus and surroundings in good condition.

Case IX.—G——, aged thirty-one years, IVpara. "Desires relief for too frequently recurring and profuse menstruation of three years' duration." Examination reveals a small pediculated subserous fibroid springing from the fundus. Another tumor, as large as a butternut, was growing in the right side of the uterus, near the cervix, and invading the broad ligament. Four months of galvanic treatment without material benefit.

Operation, March 24, 1896. Anterior and posterior vaginal section. Right uterine artery ligated. Morcellation and removal of a telangiectatic myoma; operation tedious on account of hemorrhage. Troublesome oozing continued after removal of the tumor, which subsided after ligature of the ovarian artery. Finally, removal of the subserous fibroid. Tamponade of the irregular cavity in the broad ligament from the anterior incision; gauze removed on the second day after operation.

Examined August 21, 1897. Uterus subjectively and objectively in very satisfactory condition.

Case X.—M. G——, aged forty-two years. "Has never been well since the delivery of her only child, twenty-three years ago. Metroperitonitis and phlebitis supervened on the seventh day *après l'accouchement*, leaving her in delicate health and sterile ever since. But she notices that for two years her pains have steadily increased, and that menstruation is decidedly copious, which weakens her very much." Mrs. G—— presents a very anæmic appearance. On examination the uterus is found enlarged, fixed, retroflexed, and nodular.

Tonics, hydrastis, and electrization for six months. Considerable general, but no local improvement.

Operation, April 5, 1896. Anterior and posterior vaginal section. With much difficulty the uterus and appendages are freed. Four small tumors are enucleated from the posterior wall, two from the anterior wall, and one from the fundus. Both tubes occluded and distorted at their fimbriated ends, therefore resected. Lastly, cervico-corporal vaginal fixation and drainage of the Douglas.

Examined September 3, 1897. The patient has improved her weight from one hundred and nine to one hundred and thirty-one pounds. Uterus anteverted, slightly adherent, but not painful on digital elevation.

Case XI.—E. S——, aged thirty-one years; single. Severe dysmenorrhœa and menorrhagia during the past four years. Digital examination shows a mobile uterus with an irregular enlargement of the fundus: the sound indicates a sessile bulging of the fundus into the uterine cavity. Four months of galvanism did not inhibit their growth.

Operation, May 26, 1896. Anterior and posterior vaginal section; sagittal incision of fundus. Removal of six small closely related fibroids. Uterine cavity opened. Suture of the crater-like wound. A strip of gauze left in the posterior vaginal wound for drainage.

Examined September 30, 1897. Uterus normal in size, consistence, and mobility.

Case XII.—E. H——, aged forty-three years: has had three pregnancies. The first was carried to term; the following two aborted at the second month. Uterus enlarged and nodulated. Galvanization for six months without change in condition.

Operation, May 26, 1896. Anterior and posterior vaginal cœliotomy. Eight small tumors enucleated. The day after the operation the temperature rose to 101.5° F. Urinary examination showed albumin and casts. The patient was cupped and purged, bringing the temperature to the normal in three days. The albuminuria disappeared after a week.

Examination, November 4, 1897. Uterus normal.

Case XIII.—V. T——, aged thirty-seven years.

Married fourteen years, but sterile. Referred for operation because of a rebellious dysmenorrhœa and menorrhagia. Examination reveals an enlarged immobile uterus of irregular contour. The sound detects several sessile irregularities.

Operation, October 9, 1896. Anterior and posterior vaginal section. Adhesions of the omentum, intestines, and appendages loosened. Two small myomata removed from the surface of the anterior wall of the corpus, one about the size of a walnut from the middle of the posterior wall just below the cornu. The uterine cavity is opened in both instances. Suture of the wounds. The occluded fimbriæ are separated; the probe shows them otherwise healthy. The right ovary is microcystic, therefore resected. Douglasial drainage.

Examination, August 12, 1897. Uterus normal in position, function, mobility, and consistence.

Case XIV.—M. J——, aged forty-five years, dipara. She consulted one of the writers in April, 1891, for pelvic distress. At that time the uterus was found to contain a very small tumor on the anterior wall of the body near the cervix; another on the posterior wall, which was soft, and about as large as a lemon. Examination by the sound negative. The patient was seen from time to time; the consequent examinations showed that the growths were increasing slowly in size. On December 11, 1890, she summoned the physician for fever and great pelvic distress. By examination the tumor in the posterior wall was found as large as a man's fist, very sensitive and of stony hardness.

Immediate operation was advised and accepted. Anterior and posterior vaginal section. The tumor on the anterior wall was first removed, its bed sutured, and the vagina closed. The belly was closed with gauze above the posterior growth, the capsule incised, and a gangrenous mural fibroid enucleated. The uterine sutures were placed at half-inch intervals. The abdominal packing was removed. The Douglas pouch was drained with gauze. Recovery uneventful.

Examined September 5, 1897. Uterus and surroundings in good condition.

Remarks.—The comparison of this series of cases submitted to conservative operation with those which were submitted to mutilating procedures gives us much satisfaction. True it is that convalescence is not so rapid or so brilliant as after hysterectomy, and that local or mechanical treatment must often be patiently employed for months afterward. But it is also true that we do not see the patients tormented by doubts as to their sexual fitness, with melancholia and other psychoses. We do not wish to be understood, however, as claiming an absolute field for vaginal cœliotomy. Large tumors will always be removed by ventral section, for very obvious reasons.

The surgeon will be required to exercise careful judgment in selecting the case for vaginal section, and, as we said before, the indications widen with experience and improvement of operative dexterity. We are certain that time will give vaginal section a permanent place among the methods of operative procedure for uterine myomata, by reason of the undoubted lesser danger of peritoneal inflammation, because the principle of drainage can be applied without unpleasant sequelæ, and also because the main arteries can readily be ligated at any moment, if emergency requires it. Our experience is that women dislike having the abdomen incised, and it is much easier to persuade them to accept vaginal cœliotomy. In conclusion we desire to thank our registrar, Dr. Hugh F. Cook, for kindly compiling the report of cases.

The best way to silence a patient who talks too much is to put the thermometer in her mouth.

LOCOMOTOR ATAXIA IN ITS MODERN ASPECT.*

By F. W. LANGDON, M.D.,

CINCINNATI.

No disease of the nervous system illustrates more clearly the contrast between the old and the new in neurological medicine than that which forms the subject of the present paper.

In tracing the varied conceptions of its essential nature which have prevailed during the half-century of its existence as a clinical entity, one reviews in outline the evolution of our knowledge of neuro-anatomy, physiology, and pathology, which has culminated in the recognition of "the neuron"[1] as the anatomical, physiological, and pathological unit of the nervous system, and has within the last semidecade revolutionized our ideas of nervous processes and diseases in general.

The various names of the disease are suggestive of the varying ideas of its pathological basis. Todd[2] (1847), who is credited by Gowers[3] with being the actual discoverer of the disease, appears to have given it no name. His reference to it is hardly more than a statement of the probable connection between muscular inco-ordination without paralysis, and disease of the posterior columns of the cord. Romberg[4] (1815) under the name of tabes dorsalis described the disease, without clearly separating it from motor paralysis of the cord. Duchenne,[5] of Bologne, in 1857, under the term progressive locomotor ataxy, reported cases to the Medical Society of Paris, which were published in the following year. His classic description obtained such wide circulation through the lectures of Trousseau[6] as to give to the malady the name of "Duchenne's disease." Duchenne suggested (1858) that the disease was "necessarily dependent on some structural or functional lesion of the cerebellum,"[6] and noted further that no anatomical lesion in the encephalon and cord was appreciable to the naked eye. This would suggest that the autopsy was made in a case which had not yet reached the sclerotic stage of the disease, and is significant in the light of our present pathology. Axenfeld[7] (1863), who made a microscopical examination of one of the earlier cases, states: "On the whole all these alterations clearly point to atrophy of the nervous tissue." The name "posterior spinal sclerosis" we owe to Charcot," 1879–80, whose genius unravelled the then tangled skein of cord diseases and thus brought order out of chaos. He placed the affection on a firm basis as a member of the group of "system" diseases. That Charcot even at that day was not fully satisfied that the "inflammation" or sclerosis was the primary lesion is shown by the following passage from his "Lectures":[8] "Sclerosis or gray induration of the nerve centres corresponds, you have not forgotten, to one of the modes of primary chronic inflammation. One of its most salient features is the hyperplasia with fibrillary metamorphosis of the neuroglia, taking place at the expense of the nerve elements, or *proceeding at least on parallel lines with the destruction of those elements*" (italics by writer). Certain later writers,[21] recognizing the difficulty presented in attempting to account for a primary cicatricial process affecting only certain tracts of the cord, advanced the theory, based on microscopic sections, of a meningitis of the posterior roots, here again evidently mistaking an effect for a cause, the pathological anatomy for the pathology, a result for a process, the ashes for the fire!

In the "Rückenmarksschwindsucht"[9] of Mobius and modern German authors we have another designation with a pathological significance.

* Read before the Mississippi Valley Medical Association, Louisville, Ky., October 6, 1897.

Finally, if a name is needed to indicate our present-day knowledge of the pathology of the disease, it should be called sensory-neuron degeneration.

The literature of the subject is voluminous, comprising according to Möbius[9] some two thousand essays. Among these only a brief reference is permissible to some of the more recent publications which have made possible our present knowledge of the pathology of the disease.

The description by Waldeyer[1] of "the neuron" as the nervous unit (1891) was followed by the demonstration by Cajal[10] of the individuality of the neuron, thus disposing of the older conceptions of the central nervous system, which up to this time was considered

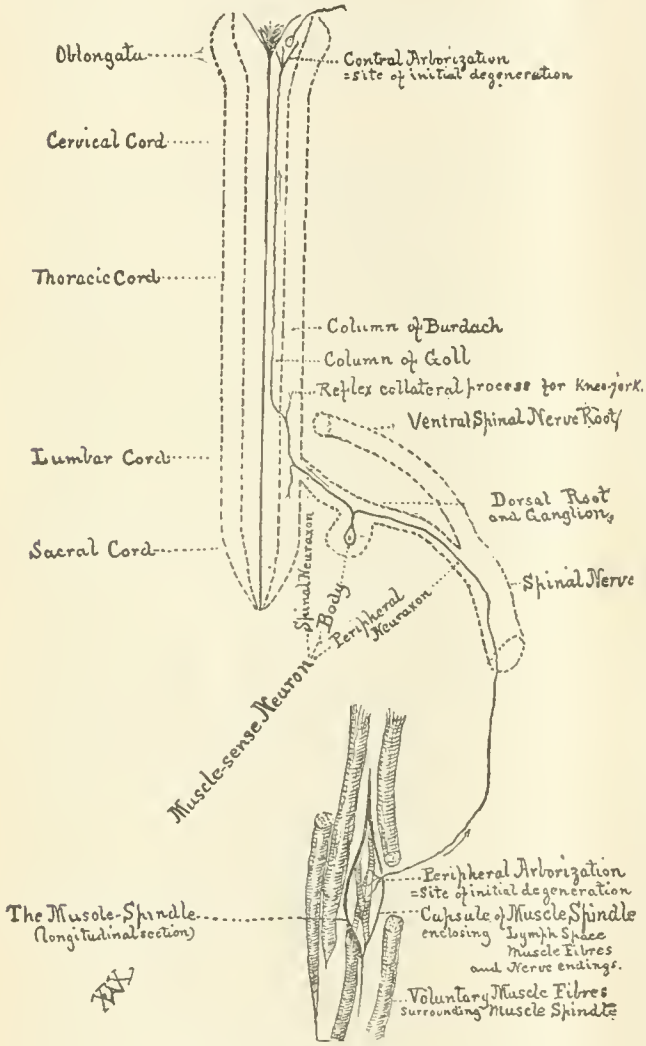

Fig. 1.—Scheme of Structures Involved in Lesions Causing Locomotor Ataxia.

to be a continuous network, or a homogeneous molecular mass pervaded by a network of fibres and fibrillæ.

Both the preceding were rendered possible by ingenious methods of staining (chrome-silver method) devised by Golgi.[11]

Summaries, in English, of the leading facts contained in these essays have been contributed by Schafer,[12] Andriezen,[13] Gowers,[14] Dercum,[15] and the writer.[16] Marinecso[17] has published (1896) a magnificent work on tabes, based on investigations carried out in the Charcot Laboratory at La Salpêtrière.

Last, and perhaps most important of all, with direct reference to the present subject, are recent papers by Sherrington[18] (1895) and by Batten[19] (1897) on the "muscle spindle" and its nerves, normal and pathological.

As is usually the case, a better anatomical and physiological knowledge has led to corresponding advances in the domains of pathology and treatment. The "scleroses," with which a former generation of students were mystified, have all, with perhaps a single exception,* been set in the background as primary pathological processes. In their place we have the "degenerations" of malnutritional, toxic, or hereditary origin; the "scleroses" being simply a result, not a cause, of the degenerations.

This is emphatically the case with the disease now under consideration, "posterior spinal sclerosis," as it was called in bygone days. We may all remember the vigor with which it was pictured to our imaginations up to a few years ago, a picture which even now holds a time-honored place in many of the current text-books—the exudation of plastic lymph, the round-celled infiltration of the neuroglia, the proliferation of connective-tissue elements, the organization of the cicatricial tissue, its contraction around the delicate nerve fibres, choking the very life out of the nervous tissue; the sad clinical picture of abolition of function after function, and finally the hopeless prognosis coupled with the despairing suggestion to give some iodide of potassium, because the patient had probably needed it in former years.

Fortunately for the unfortunate subject of this malady, this pessimistic pathology, therapy, and prognosis no longer apply in all their hopeless features.

With respect to the later pathology of locomotor ataxia, we find no less an authority than Möbius[9] saying that "tabes is parenchymatous atrophy, not syphilitic neoplastic growth;" and Marinesco,[17] working in the Charcot laboratory at Salpêtrière, says: "The type of direct parenchymatous degeneration of the sensory neuron, terminating in sclerosis, is tabes." The sclerosis, therefore, when it exists, is a sequel of preceding death of nerve fibres; there is even some reason to believe it may never occur, provided the diagnosis is made early and the nutritional aspects of the treatment are recognized.

It is just here that the newer pathology of the disease holds out hope to the tabetic. There is every reason to believe that, while the peripheral sensory neuron, as a whole, is lowered in its nutritional integrity, the actual destructive changes (parenchymatous degeneration) always begin at the endings (arborizations) of the axis cylinders (neuraxons), these being farthest removed from their trophic centres (the neuron-bodies in the spinal root ganglia). Hence the disease is primarily and simultaneously manifested at two places, namely: (1) in those arborizations conveying sensory impressions from the voluntary muscles; (2) in the terminal arborizations, in the oblongata, at the upper extremities of Goll's and Burdach's columns (see diagram, Fig. 1). The destructive changes may remain limited to these regions for a variable time, during which the typical symptoms of tabes are present.

In a preceding article[20] the writer has touched upon this aspect of the problem, and has taught it in his clinical lectures during the past three years.

To Dr., now Sir William Gowers his acknowledgments are due for first directing his attention to this conception of the pathology of tabes, among many other kindnesses received while a student in his wards at the National Hospital, Queen Square, London.

It will be seen at a glance that we have in this conception of the disease the explanation of those otherwise mysterious cases, with typical symptoms of tabes but no post-mortem findings of sclerosis in the cord. Had the oblongata and peripheral nerves been examined by appropriate methods in these cases, the lesions would doubtless have been apparent enough in those situations, not as sclerosis, but as degeneration.

* Disseminated sclerosis.

It may be said that the evidences for the peripheral beginning of tabes have been heretofore chiefly clinical and pathological. Recently, however, anatomical and experimental proof has been forthcoming in the work done by Sherrington[18] and by Batten[19] on the muscle spindle.

The muscle spindle (Figs. 1 and 2) may be described as an organ of sensation within an organ of motion. These bodies, whose existence has been known but generally misinterpreted for fifty years, have recently been proven by experimental and pathological evidence[19] to subserve a sensory function. They are probably the true organs of the muscular sense, including posture and weight senses.

They are spindle-shaped bodies with an outer laminated sheath or capsule, inclosing a lymph space in which lie a number (two to six) of small striated muscle fibres. In diameter these measure about one-third the average of the surrounding voluntary-muscle fibres. These spindle or "intrafusal" fibres are also peculiar in that they divide within the sheath into a number of parts, which, traversing the interior of the spindle longitudinally, finally reunite to re-form larger fibres and pass to its distal end; some are said to pass outside the sheath at either end. Throughout all this subdividing and reuniting they preserve their distinctiveness of structure so as to be easily recognizable from the ordinary voluntary-muscle fibres, from which they are separated, moreover, by the distinct laminated fusiform sheath or capsule of the muscle spindle.

It follows necessarily from this subdivision and reunion of the intrafusal fibres that the number of individual fibres or fibrillæ visible on a transverse section (Fig. 2) varies according to the situation of the section with reference to the poles of the spindle.

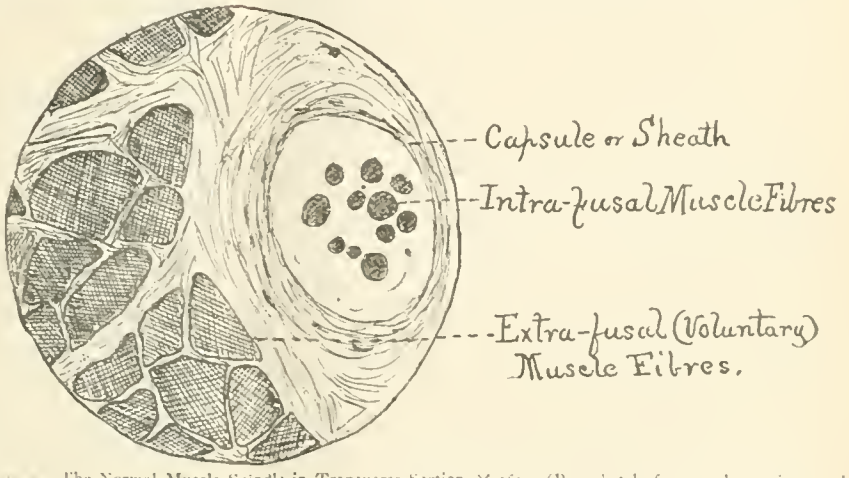

Fig. 2.—The Normal Muscle Spindle in Transverse Section, × 160. (Pen sketch from a photo-micrograph by Batten. *Brain*, 1897, p. 156.)

In addition to a distinct artery and vein, each spindle possesses a separate nerve supply; these nerves, moreover, are afferent in direction, having been proven by Sherrington to pass to the cord *via* the dorsal roots. Hence they are doubtless sensory in function. Such muscle spindles have been found in nearly all the muscles of the body, excepting the eye muscles, the intrinsic tongue muscles, and the diaphragm.

Batten, from whose very interesting and important paper[19] this summary is mainly taken, has demonstrated:

1. In tabes a degenerative change affecting the nerve endings and contiguous parts of the intrafusal muscle fibres. The nerve fibre itself (outside the muscle fibre) and the spindle in general were intact.

2. In poliomyelitis the muscle spindle and its nerve endings and nerves remained normal, while the voluntary muscle outside the spindle had undergone complete atrophy.

3. In myopathy and progressive muscular atrophy the muscle spindle and its contained nerves were likewise normal.

It is quite clear, therefore, that the pathology of locomotor ataxia bears a most intimate relation to lesions of the nerve endings within the muscle spindles; and, while it has been strongly suspected of late, on the basis of general neuro-pathology, that tabes is a peripheral disease in its primary manifestations, these investigations would seem to establish the fact beyond a reasonable doubt.

The evidence for the simultaneous degeneration at the upper end of the sensory neuron in the oblongata is less conclusive, resting mainly on the tendency of toxic degenerations to begin at the points farthest from the source of nutrition for the fibre, *i.e.*, the neuron body. In other words, when the whole neuron is impaired in its nutrition the extremities die first. This is well seen in the ordinary neuroses of toxic origin due to lead, alcohol, etc.

That the consecutive sclerosis is mainly limited in most cases to Goll's columns in the cervical and thoracic regions, and to Burdach's columns in the lumbar region, is readily explained by the course of the spinal neuraxons for the lower extremities, these passing down the cervical and thoracic cord in Goll's column and crossing in the lumbar cord to Burdach's column and posterior root zone (see diagram, Fig. 1). Since the degeneration probably proceeds downward in these fibres (toward the neuron body in the spinal ganglion), the sclerosis naturally follows the disappearing fibres down the thoracic cord and eventually appears in Burdach's columns in the lumbar cord.

In "high up" tabes and in advanced cases in which the arms are affected, the columns of Burdach in the cervical cord are likewise involved. The scattered points of degeneration in other tracts are due to involvement of collateral processes of the neuraxons (reflex collaterals). Thus variations in the severity and extent of the degenerative process give rise to the varieties of "pattern" of the diseased areas, as seen in transverse sections of the cord at various levels.

Viewed in the light of our present knowledge, therefore, locomotor ataxia is a periphero-central degeneration of sensory-neuron endings.

The pathology in its modern aspects, as it appears to the writer, may be briefly stated as follows: As a result of a predisposition, hereditary or acquired, and the action of a toxin or toxins (left by a preceding syphilis usually though not invariably), the nutrition of the nervous system as a whole is lowered. In certain groups of sensory neurons (muscle sense, iris reflex, optic nerve) the impairment is greater or the resistance of the tissue is less, and in these groups degenerative changes occur, beginning at the extreme ends of the processes (muscle spindles, oblongata, cervical cord). The muscle sense being biologically a late acquirement, the organs which subserve it are naturally less stable, less resistant to adverse influences than tactile or motor structures.

Other structures, not strictly sensory, are occasionally affected (ophthalmoplegia, ptosis, etc.), but it is notable that even these are in close functional connection with highly specialized sensory organs.

The tactile neurons also are eventually affected in a large proportion of cases. As suggested to me by my friend, Dr. Orpheus Evarts, the order of involvement

of the nervous functions bears a striking resemblance to that observed in ordinary senility; the more delicate and "special" sensory structures and co-ordinating mechanisms going first, the tactile and motor last.

Failing nutrition in the neuron bodies is first manifested by failure in function, later in structure, at the extreme terminals of their processes (fibres); hence the "lightning pains," lost knee jerk, ataxic gait, anæsthesias, etc., at one end of the tract; and the myosis, optic atrophy, ophthalmoplegias, ptosis, etc., at the other end—these being all evidences of primary degeneration of various neuron endings similar in all essential respects to that of an ordinary multiple neuritis, the main difference being that of function in the neurons affected. The visceral crises are also probably to be ascribed to similar nerve changes.

The initial destructive changes not only begin at the nerve endings, but may remain limited to them for a long time; hence the periods in which the disease is stationary, which render the term "progressive" locomotor ataxia a misnomer.

Sclerosis occurs as a comparatively late secondary process, filling in the spaces vacated by the degenerated fibres; hence the more limited the degeneration the less the sclerosis. Nothing can more forcibly emphasize the importance of nutritional treatment than this single fact.

The disease locomotor ataxia is to be carefully distinguished from the symptom locomotor ataxia due to other causes, as, for instance, that due to lead poisoning (saturnine tabes) and to syphilitic exudative lesions affecting the posterior columns or roots (pseudotabes). The distinction is not difficult, the history, course, and collateral symptoms being borne in mind, but is extremely important from the standpoint of treatment.

If our conception of the pathology of tabes has thus been revolutionized, this is no less true of its therapy. The mere fact that we have not primarily a sclerosis to deal with renders the indications for treatment more clear and the prognosis less gloomy. It is conceivable that early diagnosis and efficient treatment while the destructive changes are limited may bring about an arrest of the disease, and even a certain amount of restoration of lost function by (1) limiting the degenerative process to a small number of neurons; (2) by possible reproduction of certain nerve endings, as in ordinary multiple neuritis from alcohol, lead, etc.; (3) by promoting an increase of functional power in endings still competent, but lowered in vitality and function.

Möbius[9] says: "In so far as the peripheral nerve fibres are primarily affected in tabes, the tabetic symptoms are curable."

The prognosis of locomotor ataxia is not by any means so hopeless as is generally taught. Most cases not bedridden are susceptible of distinct improvement. In many cases this improvement is so great as to constitute a practical cure so far as the patient's comfort and general usefulness are concerned. The cases with bladder complications are the most difficult to benefit, but even these are rarely hopeless.

In a former paper[22] upon this subject the writer has inadvertently misquoted Möbius in referring to him as "pessimistic in prognosis" as regards tabes. A more careful reading renders correction and apology necessary, as the following passage from his article[9] shows: "In any case the physician does well not to express himself too pessimistically. The patient has a right to encouragement, and the physician may point out the fact that the disease may improve or remain stationary, and should bear in mind that this may occur occasionally when the prospect appears exceedingly gloomy."

The earlier the diagnosis the better the prospects for the patient; hence every case of so-called rheumatism, not distinctly articular, should be rigidly investigated for signs of beginning tabes.

In the modern treatment of tabes, the old idea of giving "alteratives," mercury and potassium iodide, for their (doubtful) absorbent effect on cicatricial tissue, is giving way to measures addressed to the nutrition of the neuron.

There being no syphilitic exudation in true tabes, antisyphilitic treatment is uncalled for. Diet, hygiene, rest, are the main factors in the successful management of the disease. Digestion, assimilation, elimination, must be promoted. Climate, medicines, and electro-therapy are of distinct value.

Distressing symptoms, the "lightning pains," "ataxia," etc., are to be alleviated without impairing the general nutrition. Opiates would better be avoided.

Rest in bed is a valuable measure when obtainable. The patient should sleep much and work little. When complete rest is not practicable, a few extra hours daily in the horizontal position is advisable.

The diet should be liberal—meats, fats, milk, water in abundance, and fruits, with a minimum allowance of starchy and saccharine foods. Alcohol is to be prohibited.

The patient should wear warm clothing, and if possible spend his winters in a warm climate. Measures addressed to the elimination of auto-toxins generally by the skin, kidneys, and bowels, should be instituted.

Drugs of more or less use in the treatment are those of nutritional value, mainly phosphorus, iron, cod-liver oil, with tonics such as strychnine.

For the lightning pains aluminium chloride (dose, two to four grains in water) is a drug of considerable value. Dr. Gowers originated its use for this purpose.

Electricity is of distinct value in a large proportion of cases. Ordinary faradism is useless, galvanism better. The writer's experience has led him to value highly that form of electricity known as the "sinusoidal" current.[17] It is a current of "high potential" (voltage), rapid alternation (480 to 1,920 per second), and comparatively small "quantity" (amperage). Its application is simple and controllable, as well as pleasant to the patient. It is administered by means of a "foot plate" and a neck electrode for from five to fifteen minutes every alternate day for six weeks. Under its use, with simple hygiene and often without drugs, the lightning pains cease, the ataxia of gait and station disappears, and the well being of the patient is promoted. These effects would seem to indicate an actual improvement in the nutrition of the peripheral sensory neuron, with capacity for better function in some, possibly restoration of damaged nerve endings in others. This six weeks' course of treatment may be repeated once or twice yearly as indicated, with advantage to the patient.

Patients treated by the foregoing methods have been under observation for nearly two years without relapse of pains or ataxia, and with full capacity for ordinary business affairs. All cases are improved, some more than others, depending on the stage and extent of the disease. Many additions to cases formerly cited[20] might be made, but space and time forbid.

In conclusion, it may be stated that, by reason of clearer conceptions of its pathology, leading to a more rational therapy, locomotor ataxia becomes a more hopeful disease to treat.

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ANGINA PECTORIS.[1]

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While heart disease generally, of whatever kind, is remarkable for the almost entire freedom from pain—so that when patients come complaining of pain in the cardiac region it is a presumption against the existence of any serious organic affection of the heart rather than an indication of any such change—there is one form of pain in and around the heart, angina pectoris, which is very definite and constant in its significance of disease and of danger.

In a characteristic attack of angina there is intense pain in some part of the cardiac region—in the left breast or behind the sternum, or across the chest, at its upper part usually, but occasionally lower down, with radiation down the left arm. Accompanying the pain are a sense of utter powerlessness, and extreme fear and dread. The patient stands still, not daring to move or breathe, and feels as if he were in the act of dying. He will say afterward that if the pain had lasted another minute he must have died. In no other condition is the physical agony of dying realized in anything like the same degree. The two elements of pain and sense of dying coexist in a true paroxysm of angina, and are almost equally characteristic.

[1] Read before the Saginaw County Medical Society.

The pain differs in character and situation and in intensity in different cases. Some sufferers will say that it is indescribable; nothing in their previous experience suggests even a comparison. Others speak of the pain as a severe cramp in the heart, or as if the heart were gripped by an iron claw; while pain of a shooting neuralgic character, sometimes intermittent, sometimes persistent, seems to radiate from the chest to the left shoulder, the inner side of the arm, the forearm, and the third and fourth fingers. Occasionally there is a sensation as of the wrist being grasped so tightly as to cause pain. With the pain in the heart there may be pain down both arms or shooting up into the left side of the neck, very rarely in the right arm only. Occasionally the pain may be felt first in the arm and seem to travel up to the chest, or may come in the inner side of the arm as a kind of warning of an attack. Another description of the pain is that it feels as if the sternum were being crushed back to the spine, or, again, as if the whole chest were being held in a vice. In other cases the pain is compared to a bar of iron across the upper part of the chest; in others, again, to a ton weight upon the lower part of the chest. The ramifications of the cardiac plexus and its communications with other nerves make the radiation of pain in all the various directions enumerated comprehensible, and the nerve of Wrisberg has been specially instanced as explaining the pain in the left arm; but no explanation can be given why in one case the pain is felt in one part of the cardiac region, and has some particular character, and takes a given direction down one arm or both, or through to the back, while in another case the seat, character, and extension of the pain are quite different. It is not a pressure effect on the plexus outside the heart, neither heart nor aorta being necessarily enlarged, and extreme dilatation of the arch of the aorta being common without confirmed pain; and there can be no stretching or mechanical irritation of the ramifications beneath the endocardium at all comparable to that which takes place in acute dilatation of the heart. It seems probable then that the pain is really central, and that the radiation of irritation giving rise to its extension takes place in the spinal cord.

An interesting point is that at the end of a paroxysm there is usually flatulent eructation from the stomach. The attacks are therefore very commonly attributed to flatulence, and distention of the stomach by food or gases may undoubtedly be, and often actually is, an exciting cause; but more frequently the sensation as of wind on the stomach is only a part of the general commotion, and is due to communicated or sympathetic irritation of the gastric distribution of the vagus, the cardiac branches of which are primarily implicated. The escape of gas from the stomach is often a signal that the paroxysm is over rather than the means of bringing it to an end. Occasionally there is a great necessity to pass urine, although the bladder at the time may be empty.

The duration of the attacks is very varied: sometimes it can be reckoned in seconds. Most frequently, perhaps, a paroxysm will last a few minutes, but sometimes a patient will sit in the same position almost through an entire night, not venturing to make the slightest movement and scarcely seeming to breathe, while the perspiration rolls off his forehead and comes through his clothes. It is generally the attack that comes on in the night, without provocation by exertion or exposure, that is protracted. When it is started by exertion it generally ceases soon after the exertion is left off.

While it would not be justifiable to say that a patient was the subject of angina pectoris unless he had had one or more paroxysms of intense radiating pain, associated with a sense of immediately impending

death, it must be admitted that attacks of true angina occur which fall short of the typical development. For example, when a patient has been taught prudence by one or more bad attacks, he may, by standing still on the first warning, or by taking remedies, cut short the paroxysm, which will then have been represented only by the initial pain in the breast or arm without the mortal dread. It is possible, therefore, that before any characteristic attack has occurred, pains of a similar kind and intensity, disregarded by the patient or relieved by rubbing the chest or arm, may have the same significance as a fully developed paroxysm.

Again a patient who has had attacks of true angina may cease to suffer pain, but may have attacks of what he calls faintness, in one of which he ultimately dies. These, which have lost their title to the name angina, have an equally serious significance.

The aspect of the patient is one of extreme anxiety or alarm. He is usually pale and often livid round the mouth, but it is said that sometimes the color does not change. A cold perspiration usually bursts out on the forehead, and may be so copious as to drip off the face. The pulse is usually irregular, small, and weak. In some cases it has been reported to be very small from contraction or spasm of the arteries. In others, again, it has scarcely been affected at all.

Great importance attaches to the exciting cause of the paroxysms. In the first instance they are almost always brought on by exertion. The patient while walking perhaps faster than usual is more or less suddenly arrested by pain in the chest, with a feeling as if the heart were about to stop and he to fall down dead. When he stands still the pain gradually passes off, and he is able to resume his walk, but only feebly and gently. For a while the attacks occur only when provoked by exertion, but more and more easily as time goes on, and they tend to become more severe. They are more readily induced when a walk is taken, or any extra exertion, such as stooping, pulling open a drawer, pushing up a window, is made soon after a meal, especially after breakfast. External cold, again, predisposes to an attack, and exercise, which can be taken with impunity in mild weather, brings on a paroxysm if the air is cold and damp. Attacks can be brought on by indigestion or constipation, apparently either through reflex disturbance of the heart or as a result of pressure from the distended stomach or colon, carrying the diaphragm upward and obstructing mechanically the action of the heart and the expansion of the lungs.

They are also liable to occur during the night, and may be induced in various ways. The contact of cold sheets may have this effect by causing the contraction of the peripheral arterioles, and thus throwing increased work on the heart; or the upward pressure of the abdominal viscera, on assuming the horizontal position, may embarrass the heart. Not infrequently an attack comes on after sleep when the force of the circulation has run down.

It is clear that the great exciting cause is a demand for increased effort on the part of the heart to which it is not equal, or, what is equivalent to this, interference with the movement of the heart by a dilated stomach and colon.

The conditions of the heart associated with angina are varied, but perhaps the most remarkable and significant point in the relation between heart disease and angina is that angina does not attend the chain of events through which stenosis or incompetence of the mitral valve proves fatal, and is not among the symptoms which arise out of the valve lesion and its effects upon the heart. Instances have been recorded in which, after attacks of angina have occurred at intervals for many months, mitral regurgitation has supervened with dilatation of the left ventricle, and concurrently with the establishment of so-called mitral symptoms—pressure in the pulmonary circulation, dilatation of the right side of the heart, and dropsy—the angina has ceased. In these particular circumstances the giving way of the mitral valve may be an advantage to the sufferer from aortic disease.

Aortic stenosis may be attended by true angina, as may also, but less frequently, aortic incompetence and a combination of the two conditions of the aortic valve. In association with aortic valvular disease angina may be met with in early adult life, and may continue for many years without proving fatal. The sense of impending death is, however, not fully pronounced in many aortic cases.

Injury to the root of the aorta has been known to give rise to angina, as in injuries to the chest.

In aortitis there is usually angina; the attacks are at first slight, increasing in intensity and duration, and coming on more frequently as the disease advances. The heart rapidly becomes weaker without notable enlargement, the impulse is more feeble, the sounds are weak and short. Both the angina and the weakness of the heart point to interference with the coronary circulation, and post-mortems have found the orifices of the coronary arteries small and contracted by the swelling of the walls of the aorta.

Angina, again, has sometimes been an incident of diabetes, possibly from high arterial tension, which is commonly present in this disease late in life. Occasionally, however, a series of severe anginoid attacks, occurring at short intervals, has been followed by rapid failure and dropsy, suggesting that the angina was symptomatic of myocarditis.

In a very large proportion of the cases in which angina has proved fatal, the heart has been found, when examined after death, to be in a more or less advanced stage of fatty degeneration, and in most of these again there has been disease of the coronary arteries, very commonly so far advanced as to have reached the stage of ossification or calcification. Sometimes these vessels can be dissected out from the auricular grooves as rigid calcareous tubes. The fatty change in the walls of the heart may be so far advanced that the fingers sink into its substance on very slight pressure, and that scarcely a trace of muscular fibres can be found on microscopic examination. On the other hand, the degeneration may be comparatively slight, being evident to the naked eye only as yellow patches in the ventricular walls. The microscope, however, will show fat granules in those parts of the heart which to the eye and touch seem normal.

The condition of the heart during an attack has generally been supposed to be one of spasm, but there are great difficulties in accepting this view, and probably ideas as to what is meant by spasm of the heart in the anginal paroxysm by those who have employed the term have been diverse and very often vague. If by spasm of the heart is understood tonic contraction or an unrelaxing systole, this is certainly not the condition present. The heart has never been found in this state after death, and in most cases is absolutely incapable of such contraction from the state of its walls. No pulse would be possible were the heart in a spasm of this kind, and the pulse, though small and often irregular, can usually be felt. It has, indeed, in some cases been apparently unaffected by the paroxysm.

But by spasm may be meant an irregular and partial contraction like cramp in voluntary muscles, such as is induced by faradic currents in muscle. It has been suggested that the state of the heart in angina pectoris might be like hour-glass contraction of the uterus. Views of this kind cannot be proved to be wrong, but objections might be raised, and, for my part, I have to admit that I have no clear and definite idea of the state of the heart during the paroxysm.

The central fact and essential significance of angina is that stress is put upon the heart, to which, for the moment, it is unequal.

One of the main causes of such stress is persistent resistance in the peripheral circulation, or, in other words, habitual high arterial tension. In many attacks of angina there is an aggravation of habitual high tension by a general contraction of the arterioles. But the habitual state of the arterial circulation may possibly be one of relaxed arterioles and capillaries and low tension, so that the heart has no abnormal resistance to overcome. Here sudden general arterial spasm would put the heart to greater stress than if the habitual tension were high, since the contrast between the work demanded would be greater.

When the paroxysms of angina can be distinctly traced to arterio-capillary resistance, or when in the case of a patient subject to angina the usual condition of the circulation is one of high tension, the term "angina vasomotoria" may perhaps be appropriately employed. It is easy to imagine that stretching of the muscular fibres of the heart in the endeavor to overcome the resistance in the arteries might cause pain. But even when the vasomotor element is most potent, another factor must enter into the causation. Nothing is more common than high arterial tension, and it is met with in an extreme degree and produces fatal results without angina by ruining heart or arteries, or both, in hundreds of cases for one case in which angina is present. Acute dilatation of one or both ventricles again, in which stretching of the muscular fibres is obvious, frequently occurs without angina. The importance, and even dominance, of this second factor becomes clear when the cases of fatty degeneration are borne in mind, when the fibres must be incapable of producing anything like actual mechanical tension.

It has been assumed that the other element is neuralgic, and in a sense this is true, but not in the sense of a predisposing neurotic tendency. It must be remembered that angina is much more common in the male, which is the less neurotic sex.

Mechanical stretching and neuralgic predisposition being put out of the question, there remains the fact that the existence of the patient is threatened at the moment of the attack by arrest of the heart's action, and, were it not for the warning given by the pain and for the cessation of exertion enforced by it, the subject of the particular condition of the heart would die. We must, it seems to me, assume that angina is one of the defensive arrangements by which the adjustment of internal reactions to external conditions is secured.

The prognosis of angina is beset with uncertainty. We can never tell when the next attack will come on, or whether it may not be the last. While the attacks come on only when provoked by exertion or excitement, or by flatulent indigestion, the hope may be entertained that by care in avoiding all known occasions they may be postponed indefinitely. The patient, for example, must not take exercise immediately after eating, must never hurry or walk against a wind, and even on level ground must adapt his pace to his condition, and if compelled to go up hill must do so very gently and circumspectly. Angina in connection with aortic valvular disease may run a very protracted course. It is when the pulse is soft and the heart is normal in dimensions, with imperceptible impulse and weak sounds—when, in fact, the results of careful examination are negative—that the greatest uncertainty and danger exist. The occurrence of unprovoked attacks and of nocturnal angina will emphasize this conclusion.

The hygiene and general treatment of angina will be such as we use in the treatment of dilatation and degeneration, which, indeed, mostly underlie the angina, and the special precautions against the provocation of attacks have been indicated.

The great means of cutting short the attacks is that placed in our hands by Dr. Lauder Brunton, namely, nitrite of amyl or nitroglycerin; and a patient subject to angina should never be without one or the other of these remedies. The advantage of the former agent is the rapidity of its action. The best way is to employ the capsules, each of which contains from three to five minims of the drug. One of them is broken within the folds of a handkerchief, and the vapor is inhaled as freely as possible. In from fifteen to twenty seconds the face flushes, a sense of fulness in the head is experienced, the pulse at the wrist loses its tension, and the pain ceases.

Although the physiological action of nitroglycerin is less rapid than that of nitrite of amyl, it is yet commonly quick enough to cut short an attack if taken at the very commencement. But for this purpose it would better be given in solution, as pills or tablets, unless broken up by mastication, are too slow in their effects. The proportion most commonly used is an alcoholic solution of the strength of one per cent. The dose necessary to give relief varies very widely in different patients; sometimes several doses must be given in succession at short intervals before the pain can be entirely got rid of. In beginning the treatment it is generally best to prescribe one minim of the alcoholic solution and gradually increase the dose if necessary.

The great use of nitroglycerin, however, is in preventing the recurrence of seizures. In many cases if taken in one-minim doses three or four times a day, the patient is freed from his attacks, and may be able after a time to leave off taking it, and remain apparently well.

These two remedies are, no doubt, greatly abused, and many persons, feeling secure of obtaining relief, neglect the important precautions by which the real disease, of which angina is only a symptom, may be held in check; and so, if they escape suffering, hasten on a fatal termination.

Progress of Medical Science.

A New Symptom of Phrenic Neuralgia.—Dr. André Gousset (*Lyon Médicale*, August 29, 1897) says that a painful point, always present and well marked, exists in the median line of the sternum at the right of the fourth or fifth chondro-sternal articulation. This painful point should not be confounded with the diffuse retrospinal pain noted by Peter in chronic affections of the aorta. According to Dr. Gousset, these phrenalgias are frequent in the course of pulmonary tuberculosis in all its different stages.

Is Pleurisy of Tuberculous Origin?—That the above question would have been ridiculed a few years ago goes without saying. At the present day such results as are shown by Dr. George Sears (*Boston Medical and Surgical Journal*, August 5, 1897) in the use of tuberculin injections as a test are not only received with respectful attention, but such a publication as *The Lancet* (October 23, 1897), in commenting upon the subject, says that it would now seem to be proved that acute pleurisy is almost invariably of tuberculous nature. Mayor's conclusion "that the majority of cases of simple idiopathic pleurisy or pleurisy from exposure to cold conceal or reveal a tuberculous process," is quoted and is said to have been confirmed by Dr. Alfred G. Barrs, who read a paper on the subject at the Leeds Medico-Chirurgical Society in 1890. Reaction would seem to occur from the tuberculin injections in almost all instances, and point to tuberculous

processes in the future which should be guarded against by timely measures, hygiene, change of climate, and all measures of a prophylactic nature.

Bednar's Aphtha.—In an article devoted to this affection, which Dr. Alvarez, of Madrid, read at the Moscow congress, the following conclusions were drawn: 1. The aphtha of Bednar is of lymphatic nature: it is a primordial manifestation of scrofulism, or, more properly, of lymphatism. 2. The essential cause is the anatomo-physiologic condition of the epithelium and of the origin of the lymphatics of the mucous membrane, constant conditions of lymphatism. 3. Post-partum hyperæmia and epithelial exfoliation constitute a predisposing and local cause. 4. Repeated compression of the mucous membrane by the tongue and decubitus during the act of deglutition serve as occasional local causes, and influence the location and symmetry. 5. The lesion offers a port of entry which facilitates various infections. 6. The palatine vault should be constantly examined and watched in the newborn during the early weeks, since quite frequently these lesions exist without producing symptoms or apparent discomfort. 7. The aphthæ should be treated at once, and they cicatrize quickly under daily applications of nitrate-of-silver solution, 1 in 50. 8. Their scientific significance is that from the very beginning they call for treatment of the lymphatism.—*Abeille Médicale.*

Comparative Indications for Classic Cæsarean Section and Porro's Modification.—Carstens (*Journal of the American Medical Association*, December 4, 1897, p. 1,136) concludes a paper upon this subject with the following general rules: 1. Cases operated upon at private houses, with poor facilities and by inexperienced abdominal surgeons, should be subjected to the Porro operation, the extraperitoneal clamp method being used. 2. Cases of deformed pelvis, perhaps requiring a similar operation in the future, should be subject to the Porro operation, even if operated upon in a well-equipped hospital, unless the patient decides otherwise. 3. Cases requiring abdominal section on account of removal of tumors only should be subjected to classic Cæsarean section if the operation can be performed in a hospital, or in a private house where all proper facilities can be obtained. 4. Classic Cæsarean section should also be performed if the patient desires it, no matter what the future may bring forth.

Cystitis and Bacillus Coli Commune.—Thorkild Roveing ("Klinische und experimentelle Untersuchung über die infektiösen Krankheiten der Harn-Organe," Berlin, 1898) reports an interesting series of clinical histories of cystitis and allied disorders, as well as the results of some experiments on animals, and comes to the conclusion that the much maligned bacillus coli commune is not the cause of cystitis. This organism, although often present in infectious urinary diseases of all types, he considers an incidental growth, and not able to cause anything but the milder forms of bacteriuria, or in rare cases pyelitis or pyelo-nephritis. While he does not utterly deny the possibility of an unusually virulent form of bacillus coli producing cystitis, the author thinks that in the great majority of the cases of this disease the inflammation is the result of the presence of pyogenic urea, decomposing organisms, staphylococci, streptococci, proteus Hauser, coccobacillus septicus, etc. The author attributes the undue importance given to the bacillus coli by other writers to its extreme rapidity of proliferation, whereby its disproportionately greater numbers tend to mask the presence of the above slower growing forms, or to its power of checking the growth and actually exterminating certain pyogenic species, and lastly to the laxness with which any case of frequent and painful micturition with urine containing pus cells and bacteria is diagnosticated as cystitis. He insists that in every case, after the urethra is flushed, the urine which is to undergo bacteriological examination must be drawn direct from the bladder through a catheter, and that to differentiate cystitis from pyelitis or pyelo-nephritis it is absolutely essential to inspect the walls of the bladder through the cystoscope. Although the presence of the colon bacillus may sometimes be accounted for by direct infection through catheterization, the author thinks that the bacillus more often makes its way from its usual habitat through the blood to the pelvis of the kidney, less frequently to the vesical mucous membrane, and thence passes to the bladder.

The Specific Action of Quinine in Malaria.—Dr. E. C. Register writes in the *Charlotte Medical Journal* that malarial fever without complications will subside after the plasmodia of malaria disappear from the blood; that we have in quinine the means completely to eradicate malarial poison from the body; that malarial fever occurring in a previously healthy subject, and in the central United States, if at once recognized and properly treated, never ends in death; that it is speedily curable, never continues, provided the nature of the disease be recognized and appropriate treatment employed. He says that the crescentic and ring-shaped bodies are the forms of the parasite which are responsible for the continued types of this fever, and he finds that the reason quinine does not always affect these irregular forms of the poison is on account of defects in its administration. He contends that the drug is very imperfectly absorbed when given by the stomach, and when the patient has a temperature of over 102° F. In cases of continued malarial fever, if distinct and well-marked intermissions of the fever are produced artificially by the use of one of the synthetic antipyretics, the crescentic and ring-shaped bodies will disappear after the administration of quinine as quickly as the spherical bodies that are found in an ordinary case of intermittent fever. In reference to the belief that the forms of the parasite that inhabit the blood cells are not acted on by quinine, the writer thinks that most authors believe that the endoglobular or intracorpuscular forms are not on this account the cause of an uncontrollable fever, and that their proximity to the blood cell does not in any way protect them from the action of quinine.

Operation for the Prevention of Conception.—A woman who was still young had fallen into a state of grave anæmia after seven successive confinements, and Dr. Kehrer, professor of obstetrics and gynæcology at Heidelberg, performed the following operation, according to *La Semaine Médicale*, in order to prevent further pregnancies: By a median vaginal incision he penetrated the peritoneal cavity; then drawing the tubes into view he placed around them two catgut ligatures. This done, he performed vaginal hysteropexy immediately above the internal orifice of the uterus, introducing into the vesico-uterine cavity a strip of gauze and suturing the wound into the vagina so as to leave a small opening for the passage of the drainage. Apart from a little fever and slight suprapubic pain there were no sequelæ. This process of artificial sterilization possesses the advantages over castration of being a less serious operation, and of not bringing in its train the nervous troubles that double ovariotomy does. Dr. Kehrer thinks this could be done in certain grave affections (anæmia, pulmonary and cardiac lesions) which render pregnancy dangerous. He acknowledges that from a moral point of view the legitimacy of this operation could be questioned, and believes it ought not to be performed without the written consent of the parties concerned and a statement of the motives for such intervention.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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THE PROGRESS OF MEDICAL EDUCATION IN THE UNITED STATES.

A RETROSPECTIVE survey of the progress made and of the reforms instituted in medical education in the United States is instructive. In many respects there is cause for much congratulation, while for other reasons the situation gives rise to feelings of alarm. It is pleasing to note and it augurs well for the future that a decided advance has been made in the direction of a more thorough medical training, yet at the same time it is discouraging to observe that, despite these progressive steps, competition does not abate, but rather daily becomes more acute. Dr. William T. Slayton has just issued his small annual volume on "Medical Education and Registration in the United States and Canada." From a study of this book, which fairly bristles with facts, a sufficiently comprehensive opinion may be formed in regard to the present state of medical education in this country. According to this work there is now a grand total of one hundred and fifty-four medical schools. Of this number one hundred and seventeen require attendance on four annual courses of lectures, and twenty-seven require attendance on sessions of eight months, and ten on nine months each year. Twenty-nine States and the District of Columbia require an examination for license to practise medicine; eighteen of these require both a diploma from a recognized college and an examination. Fifteen States require a diploma from a college recognized by them or an examination. Five States—viz., Vermont, Michigan, Kansas, Wyoming, and Nevada—have practically no laws governing the practice of medicine; Alaska the same. In order to gain a clear comprehension of the existing state of affairs, a comparison of the number of students at two periods, with a lapse of years intervening sufficient to eliminate all minor variations, will be more to the point than merely regarding the multiplication of schools. Many of these mushroom institutions are not worthy of notice, containing perhaps a dozen students, and brought into existence only for the purpose of profit or from other motives of self-interest. The number of students is as reliable an index as can be given. For instance, taking the decade between 1883–84 and 1893–94, it will be found that the students in regular schools in 1883–84 numbered 10,600; in 1893–94 they had increased to 17,601. Students in homœopathic schools in 1883–84 were 1,267; in 1893–94, 1,666. The number of eclectic students was stationary at the two periods. The increase during the period from 1893–94 to the present time has been at about the same ratio.

These figures reveal more plainly than words the existing condition of affairs, which must too in the nature of things continue until that time when all the States fall into line and resolve to adopt a four-years course of not less than eight months.

To make yet another comparison, the total number of medical schools in Austria and Germany, with a population exceeding that of this country, is twenty-nine. Great Britain, with more than half the population, has seventeen; while Russia, with one hundred million inhabitants, has nine. Of course we do not argue that America, with her immense territory and scattered population, does not need greater facilities for the study of medicine than do thickly inhabited countries, as Germany and Great Britain; but we do contend that when a city of the size of St. Louis has as many schools as Russia the craze for multiplying these schools is being carried to absurd and harmful lengths. However, that the number of schools and their yearly supply of graduates of medicine are far beyond the demand is perfectly well known to all. The MEDICAL RECORD and other medical journals have fully discussed and insisted upon that point for a considerable time. The real question at issue is by what means to remedy or at least to lessen the bad effects of the system as quickly as possible. The first and most important steps toward this desirable consummation have been already taken, and when a four-years course comes into practice throughout the country the difficult problem of checking excessive competition will at any rate be much nearer its solution. Why should France, Germany, Great Britain, and other European nations consider that a course of from five to seven years is not too long to acquire a good knowledge of medical work, while in many parts of America two or three years' training is esteemed ample for the manufacture of a full-fledged doctor? Such methods are unfair both to the public and to the medical profession, and the result is that in numerous instances the short-time graduate has either to learn most of the practical part of his duties by hard experience, to starve, or to utilize his abilities in some more lucrative path of life. Taking into consideration the fact that the theory and practice of medicine have become so extended within recent years, it must be readily conceded that four years is barely sufficient time in which to gain a satisfactory insight into their various departments. For a person, however gifted, to hope to receive an adequate medical training in two or three years is vain.

In those States in which the facilities for securing a medical education are abundant, and where the time and money to be expended are within the reach of every one, there is always the danger that an undue proportion will forsake trade in order to join the profession. This is especially the case when times are bad. Many persons seem to be possessed of the idea that the practice of medicine as a means of livelihood

should be regarded as a something to fall back upon when other resources fail. Accordingly when trade is depressed and money is scarce, there is a rush to enter its ranks. That this view of the matter is altogether an erroneous one is too self-evident to need any demonstrative proof. Again, although the question of a universal four-years course is a most important one, it must not be forgotten that examination takes almost as conspicuous a place. It is desirable that every one entering on medical studies should possess a general education. With the exception of a few unimportant schools, the entrance examinations would appear to afford the necessary test. Then comes the much more vital point of how to gauge in the fairest possible manner the extent of the medical knowledge of those who have undergone their full term of study. For various reasons the conducting of the final examinations by professors in the school in which the student has been taught is open to many and grave objections, more especially when these professors are themselves teachers in that school. As has been pointed out in the Medical Record on more than one occasion, the most obviously fair regulation is that of independent examination by an unbiassed State board. If this plan were carried into execution, medical education in America generally would rest on a firmer basis than in Great Britain, in which country the standard, although nowhere so low as in parts of the United States, still varies very considerably in the different schools. The General Medical Council of England has arrived at the conclusion that competition must be checked, and has lately brought into force two drastic measures calculated to attain this object; one is the lengthening of the course to five years, and more recently the abolishing of the unqualified assistant. The medical profession of America is quite as conscious of the disastrous results of competition as are its fellow-practitioners on the other side, and should use every legitimate means to sweep away the evils of the present system.

COLDS AND COUGHS.

The time of the year has arrived when colds prevail. In the changeable weather that ushers in winter, a chill is easily taken, and especially in the case of children. It is a moot point as to whether the fall or the spring is more productive of affections of the respiratory tract; perhaps the early spring is more to be dreaded on this account, but it is certain that in either season all reasonable precautions should be taken. Catarrh, the word used to express a cold in a general way, is derived from the Greek κατά ῥέω, signifying "to flow down," and this term accurately defines the unpleasant manifestations which are symptomatic of a cold. A well-known novelist humorously describes in the following words the condition of a person suffering from a cold in the head: "You are no longer human, nay, scarce animal; a thing laid on the shelf, a piece of useless lumber, or just redeemed the neuter gender by suffering." An ordinary cold in the head is too often regarded as so slight an ailment as hardly to be worthy of consideration, and its possible sequels are not considered in the serious light they should be. Because in a healthy subject a cold gets well, it does not follow that all colds will take that course, and everything should be done to prevent such attacks and to cut short probable complications. If a cold habitually flies to the chest, it may be taken for granted that there is an inherent weakness of the lungs, and the parents of children with such a predisposition should take steps to eradicate as far as possible the tendency; else the complaint may become chronic or tuberculous infection may result. Whether a common cold is contagious or not is a matter of opinion. Dr. S. Westray Battle thinks that the point is not clear, while Dr. Foxwell says that acute catarrhs are probably mutually contagious, and that pneumonia and coryza are generally recognized as being capable of reproducing themselves in fresh subjects. Dr. Moore, speaking at Dublin, says that "cold in the head is notoriously infectious, and the means of communication is the discharge from the nostrils;" and he is satisfied from repeated observation that this troublesome affection often spreads through a family of children and then through an entire household by the promiscuous use of the pocket handkerchief. That influenza is contagious is beyond a doubt, and whooping-cough also runs in epidemic form.

In regard to the treatment of colds, prevention rather than cure should be the motto. Bathing in cold water is often beneficial in preventing colds, or, to speak more accurately, in rendering the body sufficiently hardy to withstand the effects of a chill; but in this practice discretion must be observed. Children with delicate constitutions should be bathed in warm or lukewarm water, and this should be followed by energetic rubbing. Healthy exercise taken in moderation, as walking, riding, wheeling, or gymnastics, is a useful means of holding in check the tendency to catarrh. It is always advisable that children of marked catarrhal tendencies should wear woollen underclothing varying in thickness with the change of the seasons. A writer in a well-known journal gives as his opinion that a cold is frequently caught in bed. He discourses as follows: "I have a theory that most people catch cold at night after they are in bed, and it is to this fact I attribute a great deal of the violent colds, the bronchial catarrhs, and influenza which are so prevalent at certain seasons of the year. The temperature goes down suddenly in the night, and persons without knowing it catch cold when they are asleep. This evil is to be counteracted, not by piling on a lot of heavy blankets, but by wearing thick, close-fitting, woollen garments, and also warm socks on the feet."

There is much truth in these remarks. Cold is often caught in bed, particularly by children, who are frequently restless and kick off their bedclothes, and the consequence is that if clothed only in a cotton shirt a cold is the certain sequel. Woollen garments should be worn at night as well as in the daytime. The old saw to the effect that it is desirable to feed a cold contains the germs of common sense, and it is in many instances beneficial to eat heartily during the course of a cold, for the reason that the process of digestion, by increasing the capillary circulation throughout the

digestive tract, lessens the congestion of the mucous lining in other parts of the body. Finally, it can be laid down as an established fact that colds in most cases can be prevented by ordinary care and by adhering to the laws of hygiene.

News of the Week.

Randall's Island Hospitals.—Dr. Charles Warrenne Allen has been appointed consulting dermatologist to these institutions.

The New Health Board.—Mayor Van Wyck has appointed members of the health department: Mr. Nathan Straus, president and commissioner for two years; Dr. William T. Jenkins, commissioner for six years; Dr. John B. Cosby, commissioner for four years. The salary of the president is $7,500 per annum; that of each of the other commissioners is $6,000. Mr. Straus is known as the "milk philanthropist," because he was instrumental in causing the sale of sterilized milk in the parks in summer. He came in collision with the health board last summer, on the charge that the milk was below standard. The adulteration, if there was any, was evidently done without Mr. Straus' knowledge, and his prosecution savored of persecution. Dr. Jenkins was formerly health officer of the port, and caused great sorrow once to a well-known editor by keeping him in quarantine with the other unfortunate passengers on a cholera ship. Dr. Cosby is a practitioner of this city and a graduate of a Baltimore college in 1873. Dr. Robert A. Black, of Brooklyn, and Dr. George C. Hubbard, of Tottenville, have been appointed assistant sanitary superintendents for the boroughs of Brooklyn and Richmond, respectively.

The Bureau of Municipal Statistics. — Dr. John T. Nagle has been appointed by the mayor, chief of the bureau of vital statistics.

Department of Public Charities.—The following are the names of the new appointees to the department of public charities. It is to these that charitably disposed medical men, who burn to serve the poor as attending physicians and surgeons to the public hospitals, must turn for the opportunity to be philanthropic: John W. Keller, president and commissioner in boroughs of Manhattan and Bronx, for six years; Adolph Simis, Jr., commissioner in boroughs of Brooklyn and Queens, for four years; James Feeny, commissioner in borough of Richmond, for two years.

Obituary Notes.—Dr. Charles H. Jones, of Baltimore, died recently at the age of seventy years. He was graduated from the University of Maryland in 1851. He was the founder and first president of the Baltimore Medical Association.—Dr. Treffle Garceau, of Roxbury, Mass., died of heart disease on December 19th, at the age of sixty years. He was graduated in medicine in Montreal in 1863, and began practice in Lowell, whence he removed to Roxbury in 1869. He leaves three sons, one of whom is a physician.—Dr. John W. Hamilton died in Columbus, Ohio, on January 1st, aged seventy-two years. He was a graduate of the Willoughby University medical department in 1846. He was professor of surgery at the Columbus Medical College, and a member of many medical societies.—Dr. William E. Wentworth, of Mamaroneck, died on December 29th, of typhoid fever, at the age of twenty-four years.—Dr. Edward L. Dodge, of Brooklyn, died at his home, on January 3d, of pyæmia following an operation for carbuncle. He was thirty-eight years old, and was a graduate of the University Medical College in this city in 1886.—Dr. John R. Preston, one of the oldest physicians in Saratoga County, died on Sunday, at Schuylerville. He was born in Galway, Saratoga County, in 1809.—Dr. Franz Heuel, one of the oldest and best known German practitioners in the city, died at his residence, No. 320 East 21st Street, shortly after noon on Tuesday, January 4, 1898. Dr. Heuel was born in Prussia, Germany, on August 4, 1818. He was a graduate of the Berlin University. He took part in the German revolutionary movement in 1848, and as a consequence was forced to flee in this country in that year. He remained in New York ever since. After completing his studies at the Medical College of the City of New York in 1854, he went into private practice, and afterward distinguished himself by heroic conduct in the cholera epidemic in the '50's, when he treated many of the sufferers without pay and exposed himself to danger without hesitation. He was afterward for a time a medical inspector of the board of health, but relinquished the post many years ago. He leaves two sons, Dr. Franz Heuel and Dr. Emil Heuel, both practitioners in this city; also two daughters.

The First Born in the new New York was Edward Manhattan Van Wagner—a good, old Knickerbocker name. The first death was caused by diphtheria, in a ten-year boy named Bernecker.

The Minturn Hospital for Contagious Diseases.—This institution was opened for the reception of patients on January 1st. It is intended for the care of patients suffering from scarlet fever or diphtheria, who are of families in well-to-do circumstances, but who cannot well be treated at home and are not eligible for reception as charity patients in the public hospitals. The hospital is formed of a group of three buildings, which stand on a strip of land that juts out into the East River. The two pavilions—the one for the treatment of scarlet fever and the other for that of diphtheria cases—are L-shaped, two stories high, and built of red pressed brick. The third building, which contains the laundry and disinfecting-plant, is situated between the other two. On the first floor of the pavilions are the office, living-room, and laboratory of the physician-in-charge; the observation rooms, discharge rooms, solarium, kitchen, and dining-rooms, and twelve patients' rooms. The second floor is given over to the nurses', servants', and linen rooms, and on the roof is a small garden for use in summer time. A patient upon arrival is taken to the first of the observation rooms, where the diagnosis is made. If there be any doubt as to the character of his affection, he is

placed in a cot in the second room until the symptoms admit of a sure diagnosis. There are three rooms in the discharge section. In the first is an apparatus for disinfecting the clothing last worn by the patient. The second room is the bathroom, and in the third room the former patient puts on the clothes worn upon entrance, which have been thoroughly disinfected. Mrs. John W. Minturn gave the larger part of the money necessary for the construction of the hospital, and the city gave the land. The president of the board of governors is Dr. John W. Brannan; the secretary, Paul Tucker; and the treasurer, Louisa Minturn.

Dr. Joseph O'Dwyer, of intubation fame, is reported seriously ill at his home in Lexington Avenue.

Small-Pox in Atlanta.—During the past month it is reported that considerably over two hundred instances of variola have occurred in and about Atlanta, Ga. The cases have been found mostly in the negro quarters, and several schools have been closed in consequence.

Drug Clerks' Mistakes.—The recent occurrence in this city of several cases of fatal poisoning through error in compounding prescriptions has been made the occasion of a public appeal by the Druggists' League for shorter hours. The usual daily working-time of drug clerks is fourteen to sixteen hours, and the members of the league contend that the mistakes in substituting morphine for quinine, and the like, are attributable to exhaustion and blunting of the faculties consequent upon this long strain. A bill has been prepared for presentation in the State legislature this winter, restricting the druggists' work day to ten hours; and, in addition to pressing this bill, the league intends to call the attention of the January grand jury to the matter.

The Nobel Prizes.—The will of the late Alfred Nobel, who died a little over a year ago, has just been proved. He left about half of the estate to relatives, and the remainder is to be invested, the interest being divided into five prizes of about $10,000 each. Three of these prizes are to be awarded to the persons making the most important discoveries during the year preceding in physics, chemistry, and physiology or medicine. Another prize is to be given to the person making the best literary contribution upon the subject of physiology or medicine, and the fifth prize to the person who has achieved the most for the promotion of the cause of peace throughout the world. These prizes, which are all open to all the world, will be awarded by the various Swedish academies, except the prize for the propagation of peace, which is left in the hands of a committee to be elected by the Norwegian Parliament.

Football and Life Insurance.—The editor of the *Medical Examiner*, referring to the destructive game of football, says that those who engage in it are not fit subjects for life insurance. He says that recent changes in the rules have not reformed the practice of the players sufficiently to make the game safe for those wishing to avoid a probable life injury or sudden death. He quotes from Dr. Amidon, who carefully compiled from *The Lancet* a table of casualties occurring in Great Britain in a single year. The total was one hundred and eight "grave injuries," among which were one severe injury, internal, resulting in death in two days; six abdominal injuries, fatal; one accident followed by lockjaw and death; twenty fractures of collar bones, three of legs, three cases of concussion of brain, and various other injuries of spine, and internal injuries.

Dr. Belmont Bogert, who began work at Bellevue Hospital on the morning of January 1st, as ambulance surgeon, fell while jumping from the ambulance on the evening of the same day, and broke his leg.

New Journals.—With the new year come the new medical journals. As one looks over the vast and not always unruffled ocean of medical journalism, one recalls the words of Goethe—

"Geburt und Grab,
Ein ewiges Meer,"

for if many medical journals are born every year, many also pass away "like snaw wreaths in thaw." Yet enough remain (particularly in France and in the United States) to make one inclined to say, with John Abernethy, on entering his crowded lecture room on the 1st of October: "God help you, gentlemen; what is to become of you all?"—*British Medical Journal.*

The Solution of the Dispensary-Abuse Problem.—Charity begins at home, and it is time the charitable hands of the men of the medical profession who are active in charity work in hospitals and dispensaries were somewhat stayed for the benefit of those of their own calling.—*Cincinnati Lancet-Clinic.*

Medical Missionaries.—The number of medical missionaries in the world, says the *Maryland Medical Journal*, is 460, an increase of 122 in five years. Of these, 168 are in China, 165 in India, 44 in Africa, 34 in Syria and Turkey, and a smaller number in each of nearly a score of other countries. More than 340 are men and about one-third of that number women. The United States has 246 in the field; Great Britain, 174; Canada, 21. The American Presbyterians lead with a total of 71; the American Methodists follow with 55. Not to be outdone by Artemus Ward, who was ready at the call of duty to sacrifice all his wife's relations, we doubt not the medical profession in this land alone would bid Godspeed to as many more earnest workers, could they but be induced to offer themselves up for the good cause.

Proposed Sale of Two Famous Institutions.—It has been suggested as a measure of economy that the Salpêtrière and the Bicêtre in Paris be closed and the buildings sold. The inmates, to the number of about five thousand, could then be pensioned for thirty cents a day. As their support in the institutions now costs sixty cents a head a day, a saving of about half a million dollars per annum would be effected. In addition to this, the sale of the land occupied by the buildings would bring in about $6,000,000, the in-

come of which would be nearly a quarter of a million dollars more. There are said to be some eight thousand aged poor in Paris unable to obtain admission to the Salpêtrière, and the saving effected by the proposed measures would furnish enough to pension each of these at the same rate of thirty cents a day.

Medical Shepherds in Australia.—A writer in a London newspaper states that a number of young medical men, who emigrated to Australia some years ago with the idea that they would soon build up big practices there, are engaged at the present time as shepherds.

Besieging a Dispensary.—Some mischievous liar recently set afloat a story that two negro children had been kidnapped by the physicians of the St. James Dispensary in Savannah, and carried into the building and killed. The story soon spread among the colored population and was confirmed apparently by some school children, who said that they had climbed into a tree which grows near one of the dispensary windows, and had seen the bodies of the two children on a table, and that white men were standing around them cutting them up. A mob of negroes soon gathered in front of the dispensary building, and were dispersed by the police only after several of the ringleaders had been arrested. The excitement continued for several days, and crowds of excited colored men and women assembled repeatedly in front of the building. The colored teachers in the schools and the pastors of the colored churches have been asked to use their influence to disabuse the minds of the negroes of their belief in the vivisection practices of the dispensary doctors. It will probably be a long time before a pickaninny ventures to pass the door of St. James Dispensary after nightfall.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on December 23d, the president, Dr. W. E. Hughes, in the chair. Dr. Hughes reported two cases presenting jaundice and terminating fatally, in which post-mortem examination disclosed no adequate cause for death, and which for the want of a better name he designated Weil's disease. Dr. Joseph Sailer presented a communication detailing "Results of Laceration of Brain Substance." He exhibited sections showing a coarse fibrous formation and increase in neuroglia cells in the line of aseptic puncture of cat's brain three days after death. Dr. Joseph MacFarland read a paper entitled "Pneumothorax with Discovered Perforation," and he presented an illustrative specimen from a fatal case of pulmonary tuberculosis. Dr. M. Ostheim reported a case of carcinoma of the stomach, ulcerating into the liver, in which basophile cells were found in blood vomited during life. Dr. C. S. Potts exhibited the spinal cord from a young man, whose right leg had been amputated some eighteen months previously on account of sarcoma. Several vertebræ were partially disorganized, and numerous tumor masses were found in the spinal canal external to the dura mater, compressing the cord in a number of situations. Dr. David Riesman exhibited a fœtus, eight days old, in which the only lesion found post mortem was hemorrhage into the suprarenal capsules. On the right side was a congenital inguino-scrotal hernia with a patulous internal ring.

Philadelphia Neurological Society.—A stated meeting of the Philadelphia Neurological Society was held on December 20th, the president, Dr. C. W. Burr, in the chair. Dr. James Hendrie Lloyd exhibited a marked and typical case of astasia-abasia. Dr. D. L. Edsall reported, by invitation, a case of "Disassociation of Sensation of the Syringomyelic Type in Pott's Disease." Dr. W. E. Hughes read, by invitation, a report of "Two Cases of Tumor in the Pituitary Body," in neither of which were symptoms of acromegaly present. Dr. A. A. Eshner presented "A Further Communication upon a Case of Meningitis." There had been present during life some symptoms of posterior spinal sclerosis, some of paretic dementia, and others that could not be explained by either of these diseases. Death resulted from an enormous cerebellar hemorrhage, rupturing into the ventricles, and post-mortem examination disclosed a generalized meningo-encephalitis. Dr. E. R. Schreiner reported, by invitation, a case of arsenical neuritis developing in the course of treatment of chorea with Fowler's solution. In the discussion the question was raised whether the lesion present under circumstances of this kind is not a degeneration rather than an inflammation, and whether also the spinal cord may not sometimes be involved, as well as the peripheral nerves.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on December 22d, the president, Dr. James Tyson, in the chair. Dr. Joseph Price read a paper entitled "Operative Detail in Appendicitis," in which he recommended the introduction of sutures into the appendix before division of the portion to be removed. Dr. William F. Arnold, passed assistant surgeon in the United States navy, read, by invitation, a paper entitled "Some Personal Observations on the Bubonic Plague." Some doubt was cast upon the specificity of the bacillus described by Kitasato as the causative factor of the disease, and a word of commendation was expressed in favor of Yersin's antitoxic serum. Dr. Milton B. Hartzell reported "A Case of Epithelioma in a Boy of Fourteen." Dr. Edward Jackson made a report of "A Case of Ivory Exostosis of the Orbit," and exhibited several specimens. Dr. J. B. Learned, by invitation, made some remarks on the induction of sleep through fatigue induced by various muscular exercises during recumbency in bed.

Dangerous Patent Medicines. — The Ohio State food and dairy commissioner, Mr. Blackburn, has incurred the anger of certain unscrupulous patent-medicine men and newspaper proprietors by his honest efforts to enforce the law. He has brought suit against the manufacturers of various proprietary medicines, on the ground that the medicines contain poisons or narcotic drugs, and that, according to the law of the State, the packages in which they are inclosed should be labelled accordingly. The owners of the quack

medicines naturally have not taken kindly to this ruling, and in many instances have withdrawn their goods from sale in the State. With the goods went the advertisements in the newspapers, which meant a loss of revenue to the publishers. The latter complained, and the commissioner then appeared before an association of newspaper publishers, and demonstrated to them very clearly the danger of dispensing morphine, cocaine, chloral, and other poisons without a word of warning to the ignorant purchasers of these patent medicines. He recited many instanes of death or the formation of an enslaving drug habit directly due to the use of quack remedies, and succeeded in convincing his hearers that the law was a wise one, even if it did bear a little heavily for the time being on the profits of their publications.

The Deadly Roentgen Rays.—A jury in Elmira last week acquitted of murder a man who was on trial accused of this crime. The man whom the accused shot was said to be improving a month after the shooting, when the *x*-rays were used to locate the bullet which was in the brain. Death followed, and the defence alleged that the death was the result of the action of the Roentgen rays, and that the wounded man would certainly have lived had no attempt been made to locate the bullet.

Food Adulteration in Connecticut.—The board of control of the Connecticut agricultural experiment station has made a report to Governor Cooke, showing the results of the second series of examinations of articles of food made under its authority. The tests were made on samples bought in eighteen villages and cities of the State. Including among the adulterated articles any food treated with borax, salicylic acid, or other preservatives, the summary shows that ten hundred and sixty-three samples were tested, of which three hundred and three, or more than twenty-eight per cent., were adulterated.

Anthrax in Pennsylvania.—The State board of health recently called the attention of Governor Hastings to the outbreak of anthrax in Pennsylvania, caused by handling imported hides in the tanneries at Falls Creek. The governor has communicated with the treasury department at Washington, requesting that hides carrying that disease may be excluded from our ports or so disinfected as to destroy the germs of anthrax. The consular officers had already been instructed to refuse authentication of invoices of hides of neat cattle from districts in which anthrax is known to exist.

A Parisian Lady Specialist.—A lawyer writes to *The Lancet*, asking who was Dr. Marion Sims. Being a layman, he says, he had not heard of him, "but," he continues, "I happen to have seen the other day a circular bearing the name of a chemist not unknown, describing something invented by the 'late Dr. Marion Sims, a famous Parisian lady specialist.' I once heard of a man who took Marion Crawford down to dinner, and found her a most charming and accomplished lady. If this is a parallel case, it might amuse your readers to hear of it."

To Determine Sex.—Professor Schenk, well known to American students as the head of the Embryological Institute in Vienna, has announced that after twenty years' study of the question he is now prepared to tell how to determine and regulate the sex of offspring, and will do so in a communication to the Academy of Sciences.

A Doctorless City.—According to *Petermann's Mittheilungen*, there is a city of sixty thousand inhabitants in Syria, not far from Latakia, in which there is not a single physician. The name of this unfortunate place is Hamah. As is the case with most of the towns in that country, diseases of the eyes are exceedingly common, and an oculist who is willing to rough it and to suffer many discomforts could doubtless gather in numerous shekels.

Fire at Deer Island Hospital.—The easterly wing of the hospital building at Deer Island, Boston Harbor, was damaged by fire on December 11th, to the extent of $6,000. The fire was due to the overturning of a gasolene lamp, and demonstrated the insufficiency of the water power on the island. There were no casualties among patients or attendants.—*Boston Medical and Surgical Journal.*

The Health of New York.—The late president of the health board, in his final report to the mayor on the work of his department, gives the estimated population of old New York as 1,990,562. The deaths during the year were 38,857, equalling a rate of 19.2 per thousand, the lowest in the history of the city. Decreases are reported in the deaths from diarrhœal diseases and in infant mortality, directly traceable, the health officers say, to the improved sanitary conditions which prevailed during the year.

Inspection of the Island Institutions.—Governor Black recently visited the various charity institutions on the islands in the East River. The Hart's Island buildings he found old, unventilated, and crowded, and on Ward's Island also there was need of more and better accommodations. He was greatly pleased, however, with the House of Refuge.

Cost of the Indian Famine.—It is officially announced that the recent famine cost the Indian treasury $4,000,000, while loans to agriculturists and suspensions of taxes absorbed $2,000,000, irrespective of charitable contributions approximating $8,750,000.

Death from Cocaine.—Dr. Edward J. Sherow, a graduate of the College of Physicians and Surgeons of the class of 1890, twenty-eight years of age and a native of Sing Sing, N. Y., died on New Year's morning, in this city, from a supposed overdose of cocaine. It is said that the cocaine habit was contracted through application of the drug to the nasal mucous membrane for the cure of a catarrhal affection.

The State and Local Boards of Health of Ohio.—The eighth annual meeting of these boards will be held in Columbus, Ohio, on Thursday and Friday, January 20th and 21st, under the presidency of Dr. Thomas C. Hoover, president of the Ohio State board of health.

Reviews and Notices.

THE NEW PSYCHOLOGY. By E. W. SCHRIPTURE, Ph.D., Director of the Yale Psychological Laboratory. Published by Walter Scott, Ltd., London, and Imported by Charles Scribner's Sons, New York.

THIS volume forms one of the "Contemporary Science Series," which physicians have learned constitute a very important addition to their libraries. During the past few years the study of psychology has had a new interest for medical men because they have seen how closely in touch the experimental psychologist and the experimental physiologist are in their work, and what applicable bearing their conclusions have upon clinical medicine. The new psychology of the author is experimental psychology. The volume of five hundred pages is divided into five parts and eight appendices. The first is taken up with a consideration of methods, the second of time, the third of energy, the fourth of space, and the fifth of past and present. In the last chapter the author points out the fundamental difference between the science of the Greeks and the science of to-day. He pays a fitting tribute to Fechner, Helmholtz, Wundt, and other of the early prospectors to whom honor is properly due. The concluding chapter, the one entitled "The Present Situation," is one that might have been, we believe, properly and fittingly omitted. The author has a lively, convincing style, and has apparently striven to make everything subservient to lucidity. We know of no better up-to-date *résumé* and guide of physiological psychology. We have had much pleasure and profit in reading it, and we warmly recommend it to members of the profession who are interested in this branch of physiology or who wish to have their interest inspired.

THE PSYCHOLOGY OF THE EMOTIONS. By TH. RIBOT, Editor of the *Revue Philosophique*. Published by Walter Scott, Ltd., London, and Imported by Charles Scribner's Sons, New York.

THIS is likewise one of the volumes of the "Contemporary Science Series," but it is not the new psychology. It comes from the pen of one whose reputation for clear thinking and for logical statement is as widespread as the recognition of the science of psychology. The psychology of states of feelings is one of more than ordinary interest to the neurologist and alienist, and the time is opportune for the appearance of a short work such as the one before us. The volume is made up of an introduction, which is devoted to the evolution of the affected life, and of fourteen chapters. In the first part, chapters are devoted to physical pain, to moral pain, to pleasure, to morbid pleasures and pains, to the neutral states, and then a chapter entitled "Conclusions on Pleasure and Pain" is given. This mode of handling commends itself, both to the student and to the desultory reader. The remainder of Part I. is concerned with the emotions, feelings, and the feelings and the associations of ideas. Part II., devoted to special psychology, considers the instinct of conservation in its psychological form, fear, anger, sympathy, and the tender emotions, the sexual instinct, the social and moral feelings, the religious sentiment, the æsthetic sentiment, the intellectual sentiment, etc. Finally, the author commends himself to our graces by stating his conclusions in five brief pages. It would be out of place in a medical journal to attempt to make a critical analysis of so comprehensive a work as this, and we shall content ourselves with the statement that close study of its pages will fully reward while it absorbs the reader.

THE NORMAL AND PATHOLOGICAL CIRCULATION IN THE CENTRAL NERVOUS SYSTEM. By WILLIAM BROWNING, M.D. Philadelphia: J. B. Lippincott Company.

THE author, who has made himself favorably known by his work on the encranial circulation, has gathered together in a volume of one hundred and seventy pages a number of essays that have been already published in medical journals or read before medical societies. They are on such diverse topics as "An Examination of the Spinal Efferents for the Cerebro-Spinal Fluids," "On the Remains of a Foramen Spheno-Temporale in Man," "Lumbar Puncture for the Removal of Cerebro-Spinal Fluid" (which procedure, by the way, the author was one of the first to use in this country and to point out the worth of as a diagnostic agent), and "A Case Suggesting Multiple Sclerosis, but Due to Cranial Aneurism." There are altogether eighteen short sections, some of interest to the anatomist and morphologist, others to the clinician and physiologist. We have nothing but words of praise for the spirit of Dr. Browning's little volume, and the same may be said for a large part of the subject matter. Some of the latter, however, is rather perfunctory and unfinished, and it would contribute more to the author's reputation if it was withheld for a time. Notwithstanding this, the book is one that we warmly recommend to our readers as a suggestive and instructive collection of brief essays. The author shows his prentice hand of bookmaker on many pages. Involved sentences, faulty grammatical construction, annoying lapses of sequence, the interpolation of non-pertinent matter, are to be observed on more pages than one; but we shall cite only page 170. There is one more point to which we may call attention. It seems to us that it is incumbent upon a writer, when he cites the name of another writer, to cite at least the initial of his surname. We believe that he owes that to the man from whom he borrows. In the preface to his book, Dr. Browning says that the subject of normal pressure in the dural sinuses has been so fully treated by Hill that anything thereon seems superfluous at the present time, while, in the chapter on the arrangement of the supracerebral veins in man, Alexander Hill is frequently referred to. One who is not intimately familiar with anatomical literature would naturally infer that the first Hill was the second Hill and *vice versa*. Perhaps we have said enough to suggest that this is not the case.

A SYSTEM OF MEDICINE. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College. Volume IV. New York: The Macmillan Company. 1897.

THE present volume of this system treats of "general diseases of obscure causation" and of "diseases of alimentation and excretion." In the first category are all the rheumatic and gouty affections, rickets, osteomalacia, and diabetes; in the latter are diseases of the stomach (among which the editor has curiously enough included seasickness and mountain sickness), subphrenic abscess, diaphragmatic hernia, enteroptosis, diseases of the bowels, diseases of the peritoneum, abdominal diagnosis from a gynæcological standpoint, diseases of the mouth, diseases of the œsophagus, and shock and collapse. The last-named article is a well-written and interesting one, but we cannot see why its subject should have been placed in the group of alimentary diseases when it is clearly a nervous affection. However, consistency in classification is a matter of slight importance in a work of this kind. The subjects treated of in this volume are interesting in themselves, and are handled in an interesting manner by competent men. There is the same curious uncertainty in regard to the number of this volume that we noticed in reviewing the preceding one; on the title-page it is called volume iv., but it closes with the legend, "End of Vol. III."

MORAL PRINCIPLES AND MEDICAL PRACTICE, THE BASIS OF MEDICAL JURISPRUDENCE. By REV. CHARLES COPPENS, S.J., Professor of Medical Jurisprudence in the John A. Creighton Medical College, Omaha; Author of Text-Books on Metaphysics, Ethics, Oratory, and Rhetoric. New York, Cincinnati, and Chicago: Benziger Brothers. 1897.

THIS book contains the substance of lectures delivered by the author to the students of the John A. Creighton Medical College of Omaha, Neb. As would be naturally expected, the various subjects are treated of purely from the standpoint of the moral teachings of the Catholic Church, which are, of course, accepted in the main by all right-minded men of any or no dogmatic belief. We find nothing new, however, that is of value; the moral teachings are old, and the scientific are generally valueless. It would have been better, we think, had the final chapter on "Hypnotism and the Border Land of Science" been omitted, for there the author abandons his place as a teacher of morality and ventures into the domain of pseudo-science, hazarding the opinion, or rather dogmatically asserting, that the marvels of spiritism and the like are the work of devils and degraded spirits. It is a strange revelation to read such absurdities penned by a man

who claims to teach science. The authority of the author as a teacher in a regular school of medicine is seriously weakened also by the following statement, which we find on page 112: "In the allopathic [*sic*] school of medicine, in which you are being educated, the leading principle is: 'Contraries are cured by contraries—*Contraria contrariis curantur.*'"

Studier over Gummös (Tertiær) Syfilis. Af Kristian Grön. Læge ved Kristiania Kommunale Sygehns' afd. Sorgenfri. Kristiania: Steenske Bogtrykkeri. 1897.

This is a painstaking study of tertiary syphilis as regards especially its "frequency, point of origin, symptoms, and probable causes." Among other points of interest discussed by the author is the fact that the treatment of syphilis seems to be as successful in Norway as elsewhere, although mercury is very seldom employed.

Lippincott's Pocket Medical Dictionary. Including the Pronunciation and Definition of Twenty Thousand of the Principal Terms Used in Medicine and the Allied Sciences, together with Many Elaborate Tables. Edited by Ryland W. Greene, A.B., Editor of Lippincott's Medical Dictionary. Philadelphia: J. B. Lippincott Company. 1897.

This is apparently an abridgment of the larger dictionary recently issued by the same publishers. It seems well adapted to meet the wants of the users of pocket dictionaries. Most of the usual medical terms seem to be included, though we miss some of the more recent ones.

Transactions of the Michigan State Medical Society for the Year 1897. Volume XXI.

The meeting of the society of which this volume is a report must have been of an unusually interesting character, judging from the number and variety of papers presented. Considerable attention was paid by the contributors to the social and legal relations of the physician, and there was much plain and sensible talk on both subjects. Dr. Roswell Park, of Buffalo, made the address on surgery, which is in full keeping with his well-known ability in treating a broad subject.

Transactions of the State Medical Society of Wisconsin for the Year 1897. Volume XXXI. 8vo, pp. 667. 1897.

This volume contains the papers and discussions of the last annual meeting, held at Racine on May 5th. The papers are of a thoroughly practical character and have the additional merit of brevity, which has enabled the committee of publication to present a volume compassing a wide range of interesting subjects.

The Practice of Surgery. A Treatise on Surgery for the Use of Practitioners and Students. By Henry R. Wharton, M.D., Demonstrator of Surgery in the University of Pennsylvania, and B. Farquhar Curtis, M.D., Professor of Clinical Surgery, New York Post-Graduate Medical School. 8vo, pp. 1,240. Philadelphia: J. B. Lippincott Company.

There is a consistency in this work which will appeal most directly to those who need it. It is, in short, a surgery for the practitioner which gives him the information he needs in treating such cases as may come to him in his general line of work. The selections are judiciously made, and the apportionment of space to given topics is seemingly in accordance with their importance. Viewed as a whole, the work is an admirable condensation of a very broad subject. The reader profits by this in more ways than one. The authors, in their efforts to express the mere facts, get at the point at once, and oftentimes in one sentence express the contents of pages of the more elaborate treatises. Instead of lengthy discussions being given, the convictions of the authors are simply stated, to the eminent satisfaction of the student. The practitioner receives all the information necessary for a diagnosis and treatment of all the ordinary cases in surgery, but more especially the emergency ones. For the more difficult cases he has sufficiently impressive lessons of the dangers of attempting what he may not be able to perform, in which case he can the more properly and impartially refer the patient to the expert surgeon. Another feature of this admirable work is the large number of fine illustrations, most of which are from original photographs, and show many typical cases of surgical disease. The authors merit the heartiest congratulations for the successful manner in which they have fulfilled their intention. It is really the practitioner's text-book on surgery.

Diseases of the Gall Bladder and Bile Ducts. By A. W. Mayo Robson, F.R.C.S., Member of Council and Hunterian Professor of Surgery and Pathology, Royal College of Surgeons of England. 8vo, pp. 150. New York: William Wood and Company. 1897.

A great deal of practical information is compressed in the small volume before us, which is a condensation of a course of lectures on the subject delivered before the Royal College of Surgeons. The work may be divided in three principal parts, which deal, first, with the inflammatory affections of the gall bladder and ducts; secondly, with tumors of these organs; and thirdly, with the surgical treatment of gall stones. The first two conditions are exhaustively considered from a pathological standpoint, and several curious lesions and anomalies are illustrated. The various operations are very intelligibly described, and all the necessary details of technique are so clearly given that even a novice can grasp the indications in any given class of procedure. This is certainly a feature of the brochure which will commend itself to every student. The author is fortunately able to state that he has never lost an operation for non-malignant disease, and proves the fact by an elaborated tabular statement in the appendix.

Tuberculosis of the Genito-Urinary Organs, Male and Female. By N. Senn, M.D., Ph.D., LL.D. Illustrated. Philadelphia: W. B. Saunders. 1897.

There are many features of this book which make it of more than passing interest. The field is a comparatively new one, and some of the views expressed are also new, while others are at variance with past teachings. To those who have not kept well abreast of current literature bearing upon genital tuberculosis, much contained in these three hundred and ten pages will come like a revelation. By those working every day in the same field the lucid descriptions and detailed accounts of personal cases will be read with profit and pleasure. No doubt, as the author implies, much of the tuberculosis originating in the external genitals has been confounded with processes due to other causes. Fifty per cent. of uro-genital tuberculosis in the male has its origin in the epididymis. The proposition will be a surprise to many, though supported by the investigations of Councilman. The work is divided into eleven parts: two devoted to the various male organs, six to female organs, and one each to the bladder, ureters, and kidneys—the latter naturally consuming the greatest space. The print and paper are good. The subject matter is quite in keeping with the previous well-known work of the author.

Bath as a Health Resort. Published by the Bath Corporation.

This is a handy guide to Bath, republished on the occasion of the opening of the new pump room a short time ago. The book is well illustrated, and gives a good idea of the place and of its health-giving air and waters.

Cutaneous Medicine. A Systematic Treatise on the Diseases of the Skin. By Louis A. Duhring, M.D., Professor of Diseases of the Skin in the University of Pennsylvania; Author of "A Practical Treatise on Diseases of the Skin" and "Atlas of Skin Diseases." Part II. Philadelphia: J. B. Lippincott Company. 1898.

Part I. of this work we have already noticed. Whatever there was of a favorable nature in what we said may be repeated of the present volume, which deals with the classification, "Anæmias, Hyperæmias, and Inflammations." The author has done well to make the subdivisions of the work result in a series of volumes any one of which can be readily held in one hand while being read. The page numbers are, however, continuous, so that if it is desired the completed work may form a single volume. The classification referred to begins on page 223, and "Inflammation," starting with page 247, leaves but little space devoted to anæmic and hyperæmic states. Naturally eczema takes up most of this

chapter, and the numerous illustrations embracing all varieties have been selected with evident care, based upon experience of what the average reader most requires. The chapter on dermatitis herpetiformis is shorter than one would have looked for, for considering that it is so intimately associated with the author's name. It is illustrated by a number of plates, and the writer's views are made plain and concise. The work is destined to take a very high rank in the world's dermatological literature.

De Dovstumme i Norge. Af V. Uchermann, Professor ved Kristiania Universitet. Kristiania: Alb. Cammermeyer.

This is a very exhaustive study of deafmutism in Norway, including the etiology, symptoms, diagnosis, pathology, and treatment, with a review of the social relations of the afflicted, the statistics of deafmutism, etc. The work is in three volumes—one of text, one of tables, and a third of colored charts—is a monument to the enormous industry of Professor Uchermann, and a contribution of great value to the literature of this interesting subject. A brief abstract in French renders the material of service to those who cannot read the Norwegian.

L'Acromegalia nei Suoi Rapporti coll' Organo Visivo. Per le Dott. Francesco Denti, Primario Oculista nell' Ospedale Maggiore; Docente Universitario. Milano: Tipografia del Riformatorio Patronato. 1897.

This is one of the monographs bound up in a volume containing the clinical report of the ophthalmic section of the Ospedale Maggiore in Milan. Other subjects discussed are sympathetic ophthalmia, diseases of the conjunctiva, glaucoma, cataract operations, subconjunctival injections of corrosive sublimate, diseases of the optic nerve and retina, bulbar and extrabulbar neoplasms, and enucleation of the eyeball. The author has brought together an interesting collection of well-written memoirs.

Lectures on the Action of Medicines, Being the Course of Lectures on Pharmacology and Therapeutics, Delivered at St. Bartholomew's Hospital, during the Summer Session of 1896. By T. Lauder Brunton, M.D., D.Sc., LL.D., F.R.S., Fellow of the Royal College of Physicians, Associate Fellow of the College of Physicians of Philadelphia, Honorary Member of the Pharmaceutical Society, Physician and Lecturer on Pharmacology and Therapeutics to St. Bartholomew's Hospital. New York: The Macmillan Company. 1897.

The students at Bart's are to be warmly congratulated if they have such lectures as these to listen to, for not only must the listening be a pleasure but the knowledge so gained cannot but make them better physicians. But we who have never heard the lectures are also to be congratulated that the opportunity is ours of reading them in this convenient form. The book does not contain all the science of materia medica and therapeutics, but it contains what is far better for the practitioner-student, a most interesting *causerie* on therapeutic agents and how they act, with incidental allusions to the treatment of many minor and major ills. The book can be read from beginning to end with profit, or it can be browsed in with entertainment. The fact that the colloquial style of the lectures has been preserved has much to do with the ease and pleasure with which the book can be read and studied.

Dr. Mendini's Hygienic Guide to Rome. Translated and Edited by J. J. Eyre, M.R.C.P., etc. London: The Scientific Press, Limited. 1897.

The account of the hygienic conditions in Rome given by the author of this little book will come as a surprise to most people who have preserved the traditions of the deadly "Roman fever" and of the pestiferous germ-laden air of the Roman Campagna. It is time these false notions were dispelled, and we welcome Dr. Mendini's guide as an aid to this end. The author shows by the health statistics of the five largest Italian cities that Rome has the lowest mortality rate, although it is charged with the deaths of all the peasants from the Campagna who die in the hospitals in the city. Of the large cities of the world only London, Berlin, and Paris (and now New York) present a more favorable showing than Rome in this respect. The author asserts with great positiveness that there is absolutely no danger from malaria in the parts of Rome where visitors are domiciled, and every one knows the abundance and purity of the water supply. The book contains a great deal of useful information as to what are the healthiest portions of Rome, and also directions concerning the mode of living for invalids and tourists who make a sojourn in the Eternal City.

Contribution à l'Étude de l'Hémothorax Traumatique. Par le Dr. Antonio Figueiredo, Médecin de l'Hôpital de Sainte-Elisabelle, à Bahia; Membre Fondateur de la Société de Médecine et de Chirurgie de Bahia. Paris: A. Maloine. 1897.

This monograph on traumatic hæmothorax is based on a study of five cases. The histories of these are given in detail, and following each the author presents a discussion of the special diagnostic problems involved, and also enters upon the question of prognosis as this is influenced by the general condition of the patient. The study is carefully made, and shows that Dr. Figueiredo is not only a discriminating observer but an acute reasoner.

Pathological Technique. A Practical Manual for the Pathological Laboratory. By Frank Burr Mallory, M.D., and James Homer Wright, M.D. Philadelphia: W. B. Saunders. 1897.

This book is designed for practical use in pathological laboratories, both as a guide to beginners and as a source of reference for the advanced. There are one hundred and five excellent illustrations in the text. In the parts devoted to bacteriology and to pathological histology those methods and formulæ have been selected by the writers which have been found of the greatest service in practical work.

Essentials of Bacteriology. Being a Concise and Systematic Introduction to the Study of Micro-Organisms, for the Use of Students and Practitioners. By M. V. Ball, M.D. Third Edition, Revised. Philadelphia: W. B. Saunders. 1897.

This practical and useful compendium has just appeared in its third edition. The article on "Diphtheria" has been carefully revised, and the latest knowledge concerning the antitoxin treatment added.

Transactions of the American Surgical Association. Volume XV. Edited by De Forest Willard, A.M., M.D., Ph.D. 8vo, pp. 602. Philadelphia: W. J. Dornan.

This volume is full of unusually good things, among which may be mentioned the admirable address of the president, Dr. J. Collins Warren, of Boston, on the "Influence of Anæsthesia on the Surgery of the Nineteenth Century;" the addresses on the unveiling of the Gross statue at Washington; and the papers by Drs. Charles A. Powers, Edmond Souchon, Dudley P. Allen, and others. Among the illustrations is a fine one of the Gross monument as it now stands.

A Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods. By Charles E. Simon, M.D., Late Assistant Resident Physician, Johns Hopkins Hospital. Second Edition. 8vo, pp. 563. Philadelphia and New York: Lea Brothers & Co.

The second edition of this work bears very substantial evidences of thorough revision and is in all respects entirely up to date. This is saying a great deal, considering the rapid progress made in the special departments of research of which it treats. The volume is the outcome of the new methods of clinical diagnosis by bacteriological and chemical examinations, and duly records the recent triumphs in the more exact lines of pathological research. The author very truly says, in view of practical and useful work already done in this line, that it is inconceivable that a physician nowadays can rationally diagnose and treat diseases of the stomach, intestines, kidneys, liver, and other vital organs without laboratory facilities. As proof of the faith in him he offers a very practical argument in the book itself. To the progressive student every chapter is of the greatest interest in stimulating him thoroughly to investigate every case. "The Microscopic and Chemical Examination of the Blood," forming the first chapter, is an admirable study of an intensely interesting and complex subject. The secretions of the mouth, the gastric juice, fæces, sputum, and urine

are treated with like thoroughness, breadth, and detail. To any one who may not have had his attention directed to the practical utility of the examinations in question the work will be a revelation, while to the new-school investigator it will be a fresh incentive to still more useful work in the same directions. The illustrations are well made, and some of the colored plates are works of art.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 27, 1897.

ARTHUR M. JACOBUS, M.D., PRESIDENT.

The Method of Operating for Small Epitheliomata of the Lip.—DR. CHARLES N. DOWD read a paper on this subject. He said that of a series of 277 operative cases reported by one observer 35 per cent. resulted fatally by recurrence, and 5 per cent. by operation; while in 106 cases, or 42.2 per cent., there was survival for three or more years without recurrence. But these figures hardly indicated the present status of the subject. These patients usually consulted the surgeon at an early stage, and diagnosis was readily made in most instances. The ordinary treatment was by excision of a wedge-shaped piece of the lower lip and sewing together the edges of the wound, yet the disease recurred in many cases so treated. The glands were usually involved in the following order: (1) those on each side under the lower jaw; (2) those in the floor of the mouth; (3) the superficial group between the cheek and the hyoid bone; and (4) those on both sides of the neck down to the clavicle. Submaxillary enlargement, he said, was usually first noticed in one or more lymph nodes lying contiguous to the submaxillary salivary gland. These infected glands could be easily palpated if the finger was passed into the mouth down to the lower margin of the body of the jaw, just in front of the facial artery, counterpressure being made with the fingers on the outside. Unless such an examination was made, even an ordinarily careful diagnostician was liable to overlook the glandular involvement.

What Operation Recommended.—The method of removal recommended was an incision under the body of the jaw, three-fourths of an inch to one inch in length, reaching forward from a little in front of the facial artery. It should be carried down to the submaxillary salivary gland. The lymph node most often involved would be found just at the anterior border of this gland. If the posterior border of the mylo-hyoid was retracted, the gland would be exposed in the incision and could be easily removed. Through this incision the glands in the immediate vicinity could also be readily examined and, if necessary, extirpated. This procedure should not prolong the period of healing, and it should be done in all instances in which glandular involvement was detected. In the removal of the growth itself from the lip, a good-sized piece of tissue should be sacrificed. A large portion of the lip could be removed without making an unsightly deformity. Two patients were presented to illustrate the good cosmetic effect obtainable even by this more radical method of operating. From one half of the lip had been removed and from the other three-fourths of the lip, yet in both there was very slight disfigurement.

DR. DANIEL LEWIS said that, speaking in general terms, his own experience was that when the operation was done before the involvement of the lymph nodes, ninety-five per cent. were permanently cured; and that when these nodes had become infected prior to the operation recurrence took place in ninety-five per cent. of the cases. He agreed with the reader of the paper that it was not always necessary to open up the tissue under the neck and search for these glands, because they could be invariably detected by palpation performed in the manner described.

An Elliptical Incision Preferable. — For a long time past, instead of making a V-incision, he had used an elliptical one, because it was a common experience after the V-incision had been used to have the upper stitch give way during the healing process because of the unequal tension on the sutures. If an elliptical incision was used, the tension was distributed more uniformly. In operating upon these cases he employed only a pair of curved scissors. A single cut was made on either side, the epithelioma removed, and the wound brought together with horsehair sutures. Under a dressing of aristol-collodion primary union usually took place. The whole secret of success consisted in operating early. The diagnosis could be made largely by the age of the patient; any such lesion of the lip occurring in a person of fifty years or more of age, and resisting the ordinary applications, was either a cancer or at least a precancerous disease.

More Radical Treatment Favored. — DR. WILLY MEYER said that he believed it was the duty of the surgeon in every case of cancer of the lip, unless it was seen at an extremely early stage, to enter and inspect both submaxillary triangles. We could not always feel an extremely small gland, even by the method advised in the paper; hence it was very much better for the patient's future to open up both submaxillary triangles and remove in one mass the submaxillary salivary gland and lymph glands and all the fat. The wound should then be closed except a small opening, and the cancer of the lip excised. These wounds almost invariably healed as quickly as the wound in the lower lip. He had operated in this way about six years ago upon a man aged sixty-two, taking away the entire lip and many of the glands. Three years later he had been able to exhibit the patient before the New York Surgical Society, without any recurrence.

DR. PARKER SYMS agreed with the reader of the paper regarding the importance of making the bimanual examination for detecting all swellings below the mouth, yet he was inclined, with Dr. Willy Meyer, to take a more radical position than the author, and advise the removal of the glands in all cases. It was conceivable that even those glands which were too small to be palpable might be in the incipient stage of cancer. The results obtained in the very radical operations advised by Dr. Meyer and Dr. Halsted for cancer of the breast were a sufficient justification of this position.

The Improvement of General Anæsthesia by Adapting the Boiling-Point of the Narcotic to the Temperature of the Body (Schleich). — DR. WILLY MEYER said that it was fair to assume even now that one out of every two thousand still dies under chloroform anæsthesia, and one out of ten thousand under ether anæsthesia. It was this uncertainty regarding general anæsthesia that had led many surgeons to strive to perfect cocaine or other local anæsthesia. Dr. C. L. Schleich, of Berlin, reasoning from experiments on animals, was of the opinion that the absorption of a general anæsthetic is dependent on (1) the surrounding temperature, and (2) the boiling-point or maximum of evaporation of the anæsthetic.

The Physics of Ether and Chloroform Narcosis. —If a person inhales an anæsthetic having its point of maximum evaporation at 59° F., less will be introduced into the blood than if the anæsthetic has a maximum evaporation of 149° F.—*e.g.*, chloroform. If the maximum evaporation of the narcotic approaches the temperature of the body the lungs alone are capable of regulating the elimination, so that exactly as much

is exhaled during expiration as was inhaled during inspiration. This explains the fact that deep narcosis cannot be produced if the maximum of evaporation of the narcotic and the temperature of the body correspond. If, however, the maximum evaporation is 149° F., more of the anæsthetic is absorbed in inspiration than is eliminated in expiration. It must, therefore, be eliminated somewhere else—the heart, kidneys, and liver must be called into action; and this explains why the after-effects on these organs are so much more pronounced after chloroform than after ether. Sulphuric ether having a maximum evaporation of 93° F., at a temperature of 100.4° F. it must expand and distend the pulmonary alveoli. It is this obstruction to respiration which causes a certain degree of cyanosis. Another result is the secretion of mucus and the frequent occurrence of secondary pneumonic infiltration. The pressure of carbonic acid accumulating in the blood partially overcomes the tension of the ether vapor in the alveoli and permits its escape; then the cyanosis disappears and the true ether narcosis begins. It is the slight excess thus remaining in the blood which suffices to affect the brain and produce unconsciousness. Death from ether on the operating-table, therefore, is almost impossible as long as respiration is efficient. On the other hand, it is evident why ether narcosis sometimes has such deleterious effects on the lungs. On account of its high boiling-point chloroform is absorbed by the blood to a greater extent than needed, and in leaving the organism overtaxes all of the parenchymatous organs. Ether, on the other hand, is converted into vapor so rapidly when inhaled into the lungs at the temperature of 100° F., that it would not enter there at all if the alveoli did not first become overfilled with carbonic-acid gas. From the foregoing considerations it is evident that a safe narcotic would be one in which the amount eliminated during expiration would almost equal that absorbed during the previous inspiration.

Why Mixtures are Safer.—It was in this definite and really scientific manner that Schleich started his experiments. In Vienna a mixture of one part chloroform and six parts of ether had been used so extensively as to be known as the "Vienna mixture." It remained for Schleich to show the reason for the greater safety of this and other so-called "mixtures," viz., the lowering of the maximum evaporation more than twenty-seven degrees. Thus the point of maximum evaporation of the A.C.E. mixture is about 119° F.—certainly a good deal nearer the temperature of the body than the point of maximum evaporation of chloroform. This lowering had been almost unconsciously and certainly not deliberately done. No one before Schleich had ever stated the reason for the greater safety of such mixtures. It was important to note in this connection that the term "mixture" is inaccurate, and that we should speak of Schleich's "solutions."

Schleich's Results.—The chief features of Schleich's work are as follows: (1) Our familiar anæsthetics, ether and chloroform, were mixed with a benzin; (2) it was found that by so mixing various ethereal substances the resulting fluid was a true solution in a chemical sense, and not a mere mixture of different ethereal substances; (3) it was ascertained that by changing the proportion of the components one could change the maximum evaporation at will, and so, in a given case, adapt the maximum evaporation of the anæsthetic to the temperature of the patient at the time; (4) these effects were found to hold good, and were verified in cold-blooded as well as in warm-blooded animals; (5) the result is the same whether the anæsthetic was inhaled, given by rectum, or injected subcutaneously; and (6) the result was exactly the same in the human subject as in the lower animals.

Schleich's Solutions.—Schleich recommended three different solutions, made up by volume, and not by weight. Solution No. 1 is composed of chloroform, 1½ oz.; petroleum ether, ½ oz.; sulphuric ether, 6 oz. Solution No. 2 is composed of chloroform, 1½ oz.; petroleum ether, ½ oz.; and sulphuric ether, 5 oz. Solution No. 3 is composed of chloroform, 1 oz.; petroleum ether, ½ oz.; and sulphuric ether, 2⅔ oz.

Author's Conclusions.—Dr. Meyer said that his conclusions, as formulated in this paper, were based on one hundred cases of general anæsthesia observed by him since the middle of last September. They are as follows: Excitement is very rare during the induction of the anæsthesia, and not marked at any time. There is rarely accumulation of mucus, never cyanosis. During the stage of anæsthesia, in spite of the fact that the solution contains sixty to eighty per cent. of sulphuric ether, there is no accumulation of mucus and cyanosis is rare. During this stage the pulse is full and regular, sometimes fuller than before. The respirations are not impaired so long as the narcotizer attends to his work. The type of the respiration is the direct index of the patient's condition. When the respirations become deep and frequent, it indicates the approach of the danger limit. After the anæsthetic is withdrawn the patients awaken more rapidly than after chloroform or ether. More than one-half of Schleich's patients walked home one hour after being anæsthetized. Vomiting occurs, but less often than after other narcotics; it had occurred in forty-four per cent. of his cases. In not a single case was there consecutive bronchitis or pneumonia, although gastrostomy was done on two very wretched persons with very fetid bronchitis. These patients stood the operation remarkably well and the bronchitis was not increased. Albuminuria was found in only four per cent.—a distinct improvement on former experience. A few patients had disliked the odor of the solutions. When administered by artificial light the formation of chlorine gas was very noticeable, and made the attendants cough. This anæsthetic is best administered on one of Esmarch's masks, which has been covered with oil silk and to which a small funnel has been attached. Dr. Meyer thought there could be no doubt that these solutions would soon take the place of chloroform and ether, and that a great boon would be conferred upon suffering humanity through the aid of medical science.

Dr. Ralph Waldo said that Professor Schleich had recently used his anæsthetic solutions in an ordinary towel ether cone. His own personal experience with this method of anæsthesia comprised four cases, in all of which the ordinary cone was employed. A very small quantity of the mixture was used, and the patient was allowed to breathe very little air. The first patient was under complete anæsthesia for fifty-three minutes, and one and one-fourth ounces of the anæsthetic was used. The pulse was 80 at the beginning, and 78, strong, and good at the completion of the operation. The second patient was under the anæsthetic for fifty-three minutes; one and one-half ounces was used; the pulse was 96 before and 84 after the operation. The third patient was anæsthetized for thirty-five minutes: one ounce of the anæsthetic was used; the pulse was 86 before and 80 afterward. The fourth patient was under complete anæsthesia for twenty minutes; the pulse was 90 at the beginning, and 86 after the operation. Thirty minutes after the operation the patient's sensation seemed as good as before, and in less than an hour he went home alone. The rapidity with which the patient came out of the anæsthesia was particularly noticeable when the No. 1 mixture was used. He certainly proposed to continue its use in both public and private practice.

Cyanosis and Excitement in Cases of Nasal Stenosis.—Dr. Franz Torek said that he had employed this method of anæsthesia during the past month, and could confirm everything that had been stated in the paper. The patients recover so rapidly that he had used it sometimes in dispensary practice. For such work Solution No. 1 was most suitable. He had met with cyanosis and excitement in a few cases. It had not seemed to be due to the anæsthetic, however, but rather to disturbance of the respiration, as from nasal stenosis. He had observed this in cases of resection of the lower jaw for carcinoma. When using the anæsthetic by artificial light he had noted a very decided evolution of chlorine gas, though hardly more than with chloroform alone. The method demanded that the anæsthetizer should be just as watchful as with other anæsthetics.

Less Mucus and Less Nausea.—Dr. Parker Syms said that in his limited experience with the new method the longest period of anæsthesia had been two hours and five minutes, in a difficult case of urethral stricture. Anæsthesia had been induced in about five minutes, and the patient had returned to full consciousness within ten minutes after the anæsthetic was withdrawn. Only four and one-half ounces of the No. 1 solution had been used. The shortest period of anæsthesia had been twenty-three minutes, and in this case only three-fourths of an ounce of the anæsthetic solution had been consumed. In his cases there had been very little cyanosis—certainly less than with ether. There had been little or no excitement, and an exceptional freedom from hypersecretion of mucus afterward. A few patients had vomited, but they had been free from the usual annoying nausea. He would certainly continue its use, and felt confident that it would be the future agent for general anæsthesia.

Dr. Emil Mayer asked what had been the experience of the reader of the paper regarding the relative rapidity of evaporation of the three solutions.

Dr. W. McEnroe, comparing our limited knowledge of the new anæsthetic with our large experience with and the demonstrated safety of chloroform and ether, remarked that he knew a man who had given chloroform to six thousand soldiers upon the field of battle, without a single fatal result.

Very Little of the Anæsthetic Required.—Dr. M. L. Maduro expressed his surprise at a former statement of Dr. Meyer, to the effect that for an operation lasting from forty to sixty minutes the average quantity of the anæsthetic used was from six to eight ounces. His own experience in thirty cases had taught him that good results could be obtained with a smaller quantity—not more than two and one-half ounces in an operation lasting one hour.

Dr. Florian Krug, being unavoidably absent, sent a letter describing his experience with the new method. It was read by Dr. Meyer. He had employed the method in sixty-nine cases, most of them major operations. Solution No. 3 was employed, and the average duration of the anæsthesia was fifty minutes. The average time for the induction of anæsthesia was ten minutes. The average quantity of the solution used was seventy cubic centimetres, and the average quantity necessary for the entire period of anæsthesia one hundred and sixty-five cubic centimetres, or five and one-half ounces. In all but one of the cases the respiration and pulse were excellent. In four cases cyanosis was recorded. In no instance did it seem advisable to resort to any other anæsthetic.

Dr. Meyer, in closing the discussion, said that on corresponding with a number of wholesale chemists he had been astonished at the great difference of opinion existing among them regarding the properties of the petroleum ether, and particularly as to its boiling-point. It was not improbable that other anæsthetic mixtures would be discovered possessing the requisite maximum of evaporation, but the advantage of Schleich's solution was that only one new agent, petrolic ether, was introduced, the other components being familiar anæsthetics. Regarding the quantity used, the speaker said it depended very largely upon the kind of mask and the solution. The effect of solution No. 1 was much more transient than that of Nos. 2 and 3; hence for operations about the face one should always use No. 3. For such operations it would be difficult to keep the patient anæsthetized with No. 1.

Mode of Administration.—He believed that a mask which did not allow free evaporation was the best. As little as possible of the anæsthetic should be given: with the ordinary towel cone the quantity administered could not be estimated. Esmarch's mask covered with flannel and then with oil silk constituted the best arrangement, and it was convenient to have it provided with a funnel into which the anæsthetic agent could be dropped. The usual rule in administering chloroform was to give one drop about every five seconds: in the new method a drop should be allowed to fall on the mask about every second—in other words, it should be continuously dropped upon the mask. On an average he had used six or eight ounces of the anæsthetic for an operation lasting from forty-five minutes to two hours. The occasional cyanosis that had been observed did not seem to be fairly attributable to the anæsthetic itself. The respiration must be carefully watched, and if the breathing became rapid and deep the administration of the anæsthetic must be suspended and more air given. The whole narcosis was very similar to that of chloroform. The principal difference noticed so far was that, in from six hundred to one thousand administrations, in not a single instance had the patient been in a dangerous condition at any moment. In his own experience in only four per cent. of the cases had there been even slight albuminuria. Not a single death had been reported yet from the use of this anæsthetic.

Final Report of the Committee on the Abuse of Medical Charity—The Amended Dispensary Bill.—Dr. James Hawley Bürtenshaw, chairman, presented the final report of this committee. It had already received the endorsement of the several committees appointed with power to consider this matter. The bill provides that every dispensary, whether new or old, must be licensed by the State board of charities within six months after the passage of this act. This board has the power to issue the licenses, to make all the necessary rules and regulations for the government of dispensaries and other medical charities, and to revoke the license after satisfactory proof that the provisions of the act have been violated. Any person violating any of these provisions may be fined from $10 to $250. The act is to take effect immediately. It is claimed that this act will not interfere with any vested rights of corporations, and will not do injury to institutions properly and conscientiously conducted.

Dr. Landon Carter Gray said that it was an eminently just bill, and had met with the approbation of all the members of the medical community who could be interested in it. It had received the approval not only of the original committee of eleven, five of whom represented the colleges, but of the representatives from the other societies, and also of the comitia minora of this society.

The society accepted the report of the committee, and, in referring it to the committee on legislation, with power, instructed that committee to see that the bill be presented in Albany, and that it becomes a law as soon as possible.

Delegates to the State Society Instructed Regarding Dispensary Abuse.—Dr. Bürtenshaw then

offered the following resolutions, which were adopted unanimously:

"*Whereas*, The committee on abuse of medical charity, after thorough study of the question, has agreed upon the form of a legislative bill designed to correct existing dispensary abuses, which bill has been indorsed by this society and by nine other influential medical societies; and

"*Whereas*, It is desirable also to obtain for this bill the indorsement of the State Medical Society; therefore be it

"*Resolved*, That the delegates from this society to the State Medical Society be directed to attend the next meeting of the State Medical Society and present said bill to that society for indorsement; and that the delegates themselves be instructed to cast their votes in favor of such indorsement. And, as the annual election of officers of the State Medical Society occurs during the month of January next, be it

"*Resolved*, That the delegates from this society be instructed to vote at the election in favor only of those candidates who individually pledge themselves to indorse the passage of this bill by the legislature, and to vote against any and all candidates for office who may be opposed to said bill or to any similar bill or legislation."

Vote of Thanks.—On motion of Dr. F. R. Sturgis, the society tendered unanimously a vote of thanks to the committee, and the committee was discharged.

The Health Department and the Medical Profession.—The committee appointed to consider the relations of the health department and the medical profession reported that its time had been occupied chiefly with a consideration of the powers conferred upon the board of health and certain amendments that seemed advisable in the charter of Greater New York. It was evident that the powers now conferred on the health board are far beyond those originally intended, and are not necessary to secure proper sanitation. A portion of an official statement was quoted to prove that the board itself appreciated this fact. Among the more important proposed amendments are the following:

President of Health Board may be a Physician.—One amendment provides that the health board shall consist of the health officer of the port and four other persons, at least two of whom shall be physicians, and that a medical man may be elected to the presidency of this board if his colleagues see fit.

To Restrict the Jurisdiction of the Board.—The section defining the powers of the board it is proposed to alter, so that its jurisdiction shall be confined to matters of health only.

To Stop the Sale of Vaccine and Antitoxin.—It is also proposed to repeal the section which permits the board to sell vaccine lymph and diphtheria antitoxin if the supply shall exceed the amount required for the purposes of the department.

The report was accepted and its recommendations were adopted.

A Medical Commissioner of Charities.—On motion of Dr. Wickes Washburn, a resolution was adopted stating that it was the sense of the society that in the new commission of charities there should be a representative medical man.

Weak Heart.—1. There must never be less than five hours between one meal and another. 2. No solid food must ever be taken between meals. 3. All persons suffering from weak heart should take their principal meal in the middle of the day. 4. All those with weak hearts should take their meals as dry as possible.—Balfour.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 8, 1897.

Warren Coleman, M.D., Vice-President, in the Chair.

Echinococcus (?) Cyst of the Liver.—Dr. John H. Larkin presented a liver taken from a man, eighty-three years of age, who had enjoyed good health previously. There was no history of traumatism. In addition to the senile atrophy present in the liver, there was on the upper and posterior surface of the right lobe a large cyst, measuring five by three and three-fourth inches. The cyst wall was very dense and calcareous, and the contents were composed of gelatinous material, which on examination was found to consist of fat, with cholesterin and tyrosin crystals and fatty epithelium. The diaphragm was adherent and formed the upper portion of the cyst wall. The cyst contents were examined for ecchinococcus hooklets, but none was found. Nevertheless it was probable that this was a form of sterile ecchinococcus cyst of the liver.

Purulent Pericarditis: Operative Treatment.—Dr. Lewis A. Conner presented a specimen from a case of purulent pericarditis. The patient was a sailor, thirty-seven years of age, who had come under his care at the Hudson Street Hospital on March 9, 1897. The family history was negative. There was a moderate alcoholic habit, but he had had no serious previous illness. His last sickness began three days prior to admission, with sharp, lancinating pains in the chest, vomiting, and malaise, but without any chill. The next day there was a slight cough. On admission he complained of pain across the whole front of the chest; his temperature was 104.8 F.; respiration, 32; and pulse, 120. The physical examination showed some dulness at the right base posteriorly, over an area of three inches, with feeble breathing. On the left side, near the spine of the scapula, were dulness, prolonged high-pitched respiration, and exaggerated voice and whisper. Over both sides were many sibilant and sonorous râles. The area of cardiac dulness at that time was normal. The urine was normal, except for the presence of some red cells. For eleven days he presented the picture of a severe bronchopneumonia. There were a good deal of dyspnœa and cyanosis, and the cough was frequent. The sputum was examined several times without finding any tubercle bacilli. About ten days after admission his breathing improved, although his morning temperature was 101° F., and the evening temperature 105° F. He had had no chills. On the eleventh day the first sign of cardiac difficulty appeared. The cardiac sounds were decidedly fainter, and the impulse was less distinct. On March 22d the diagnosis of pericarditis with effusion could be positively made. The dyspnœa and cyanosis were then more marked. Two days later, his condition having become much worse, it was decided to aspirate. This was done in the fifth space on the left side, midway between the left border of the sternum and the nipple line. About nine hundred cubic centimetres of fairly thick offensive pus was evacuated. Within half an hour Dr. Stimson made an incision, under cocaine anæsthesia, over the site of the puncture, and removed about one inch of the cartilage of the fifth rib. What was at first supposed to be the pericardium proved on closer inspection to be a reduplication of the pleura. The pericardium was opened, and about two hundred cubic centimetres more of pus evacuated. The relief afforded by the operations was very striking. There was no evidence of shock after either operation. The patient's color and breathing were better for two or three days, but the temperature remained high. The wound was drained

with two large tubes, and irrigated daily. The discharge was quite free. Six days after operation the patient became delirious, and died on the eighth day after the operation.

The autopsy showed the pericardium adherent to the sternum and the pleura. It contained only a small quantity of pus. There was a small opening communicating with the left pleural cavity, which contained a sacculated empyema over the anterior surface of the left lung. This contained one hundred cubic centimetres of thick yellow pus, and had evidently been very imperfectly drained. The heart showed nothing abnormal in its interior. There were old adhesions over both lungs, but there was no evidence of any consolidation. The bronchi contained a good deal of muco-purulent secretion. There was moderate parenchymatous change in the kidneys. The original point of infection could not be discovered. Cultures showed a pure growth of the Fraenkel diplococcus.

Dr. Conner, in commenting on the case, said that the symptoms and physical signs had been those of a pulmonary lesion only. As these signs had improved, evidence of cardiac involvement had become evident. It was strange that the incision should have opened the pleural cavity. Dr. Roberts, of Philadelphia, had published, in the last number of the *American Journal of the Medical Sciences*, an exhaustive article on purulent pericarditis and the operative indications, giving a summary of about thirty-five reported cases that had been operated upon. Among these were a number in which the same accident had occurred as in the case just reported. It seemed evident that if the point selected for operation were outside of the internal mammary artery, yet well within the nipple line, there was always danger of infecting the pleura. A much safer site for the puncture was just to the left of the base of the xiphoid cartilage, between that and the free border of the ribs, the needle being passed obliquely upward. The chances of recovery seemed to be distinctly good if the accident mentioned were avoidable. Thus, of the thirty-five cases referred to, fifteen terminated in recovery, which was a very much better showing than from the non-operative treatment.

Fibrinous Hemorrhagic Perisplenitis.—Dr. Warren Coleman presented a spleen that was so adherent to the diaphragm that the latter had to be removed with it. The measurements of the spleen and attached diaphragm were seventeen by eleven by six centimetres, and the weight was one and three-fourths pounds. On making a longitudinal section through the organ, a moderately large amount of sanguineous liquid escaped from a cavity to be described later. It was found that the mass was made up in part of other than splenic tissue. The spleen itself measured fourteen by nine by three centimetres. Outside of the spleen and between it and the diaphragm was a moderately dense layer of new tissue, apparently a fibrinous deposit, which was divided approximately into two equal parts by a thin and more perfectly formed membrane. Between these two parts the cavity above referred to had formed. The adventitious layer measured three centimetres in its thickest portion. It covered the whole of the diaphragmatic surface of the spleen, and that surface only, thinning away somewhat as it reached the margins. From the pressure of the dividing layer it was assumed that the new tissue was deposited at two successive times. Cultures taken at the autopsy were negative, only putrefactive organisms being present. Sections of the new tissue show that it is composed of a meshwork of fibrin inclosing red blood cells. The capsule proper of the spleen has been invaded by small round cells, and the bundles of connective tissue have been separated from each other, giving a somewhat reticular appearance.

The patient was a woman, thirty-five years of age. The cause of death was lobar pneumonia. The heart weighed ten ounces; its walls were pale and soft. The mitral valve showed an increase of connective tissue along its free margin. The coronaries were normal. The left pleural cavity was partially obliterated, the result of an old pleurisy; the right was wholly obliterated from the same cause, and the costal pleura was much thickened. The bronchial glands were enlarged, pigmented, and tuberculous. There was pneumonic consolidation of the whole of the right lung, the process having commenced in the middle lobe and upper part of the lower, and then extended. A little blood was present in the pelvic cavity, but was believed to have come from the omentum. The kidneys presented the changes of extensive parenchymatous degeneration, with a moderate connective-tissue increase in places. Each kidney had two ureters, which united a short distance above the bladder.

Aneurismal Dilatation of the Pulmonary Valve.—Dr. Coleman also presented a specimen showing aneurismal dilatation of the pulmonary valve. It was taken from a woman, about fifty years of age, who was found dead. The cause of death was general pulmonary tuberculosis, which had originated in an old process at the left apex, where a small cavity had formed. Miliary tubercles were scattered throughout the rest of both lungs. The lungs were likewise emphysematous. There was no lesion in the pulmonary arteries macroscopically demonstrable. The heart had stopped in diastole, and both sides were filled with dark coagula. All three cusps of the pulmonary valve presented the changes of chronic fibroid endocarditis, especially marked in the left anterior cusp, which was the seat of the dilatation. Here the connective-tissue increase was most pronounced. The dilatation was greatest about the middle of the cusp, below the corpus Arantii. The cusp at this point projected about three millimetres farther into the lumen of the arterial ring than normal. The right ventricle was distinctly hypertrophied and dilated. The only discoverable lesion which could have tended to produce the changes in the valves was emphysema, with its vascular changes. The tuberculous process at the apex was not sufficiently extensive or sufficiently fibroid to have raised the blood pressure in the pulmonary circuit to any extent. As already stated, there were no atheromatous changes in the larger divisions of the pulmonary artery. The changes in the smaller branches of the pulmonary artery, however, must have been more extensive than was ordinary in emphysema. Emphysema, with right-heart hypertrophy, is comparatively common; changes in the pulmonary valve are very rare. The nature of the lesion in the valve was such that it could not have given origin to any symptoms or signs during life. Affections of the pulmonary valve are very rare, and usually congenital. The valve had been the seat, however, in adults, of simple, acute, and malignant endocarditis.

Dr. J. G. Adami, of Montreal, asked, in regard to Dr. Coleman's case of perisplenitis, if there had been any disturbance in the spleen itself, or if the disturbance had been sharply defined from the spleen substance.

Dr. Coleman replied by exhibiting specimens under the microscope. They showed nothing abnormal in the splenic tissue.

Dr. Adami said that the nearest approach to such a condition that he had met with was in a case of fibroid pneumonia with bad resolution. The post-mortem showed the left lung to be firmly adherent to the diaphragm, and in one portion a small gangrenous area. The spleen was separated from the diaphragm by a thick mass similar to that described in Dr. Coleman's case, and in the middle of this mass there was

definite suppuration. Along the splenic vein, near the pancreas, was another small abscess, and there were also multiple abscesses in the liver. It seemed to him that there must have been a microbic infection from the lung to the perisplenic tissue, setting up suppuration, and thence through the splenic vein to the liver.

Dr. Coleman said that in his case the pneumonia was on the right side, and there was no lesion found except an enlargement of the spleen, which was soft and dark. There was an old interstitial pleurisy, which did not entirely obliterate the cavity.

Subglottic Abscess—Death from Œdema of the Glottis.—Dr. James Ewing presented a larynx taken from a case of subglottic abscess, which had had a rather sudden and fatal termination from general œdema of the glottis. The history was very imperfect, and was obtained only from the family. The patient had been taken sick with the ordinary symptoms of cold, four days before admission to the hospital. He suffered from pains in the joints, but principally from a sore throat and slight cough, with scanty mucoid expectoration. He was not considered seriously ill at first. Examination showed considerable swelling around the base of the epiglottis, but not much obstruction of the rima glottidis, in spite of the presence of considerable dyspnœa. Shortly after admission the dyspnœa increased rather suddenly, and became markedly stridulous. Operative interference of any kind was declined. He suddenly became unconscious, and a hurried tracheotomy was performed, but it did not save him.

At the post-mortem examination there was nothing of special interest in the body, such as tuberculosis or syphilis. There were the ordinary post-mortem findings of previously existing and severe general œdema of the epiglottis and of the whole of the larynx. The mucous membrane of the vocal cords was white and thick, and, being very anæmic, resembled somewhat a false membrane. On careful examination, behind and below the posterior attachment of the right vocal cord, a small opening was found in the mucous membrane, which communicated with a small abscess cavity containing creamy pus. On section an abscess cavity, measuring about one centimetre in diameter, was found, which was lined with the ordinary pyogenic membrane. This was the only inflammatory lesion of importance in this region. Cultures made from the pus showed no Klebs-Loeffler or tubercle bacilli, and sections of the wall of the abscess cavity showed ordinary granulation tissue. There was no history or other evidence of syphilis or tuberculosis; hence the case seemed to be one of simple primary abscess, arising probably from the larynx. The object in presenting the case was to place on record a rather rare termination of laryngitis.

Filaria Sanguinis Stained.—Dr. Ewing exhibited under the microscope a slide showing the filaria sanguinis. He said that he was indebted to the authorities of the New York Hospital, and especially to the house physician, for the specimen. An interesting feature in it was the very satisfactory staining. The smears were made in the ordinary way, fixed in alcohol and ether, and stained with methylene blue. The structure of the filaria was in this way very beautifully brought out. The granular structure of the body was thus made evident, and when examined dry, without any mounting-medium, the envelope of the filaria could be plainly seen. This disappeared when the specimen was mounted in a medium having a higher refractive index than air. He had searched very carefully, but in vain, for the cilia described by some writers as attached to the sheath of the filaria. The method of preparation just described was a good way of preserving such a specimen permanently.

In answer to a question from Dr. Adami, Dr. Ewing said that the specimen presented was certainly much larger than the filaria most commonly seen.

Dr. Adami said that, as there was reason to believe that there is a new species of filaria in the West Indies, all cases of the kind coming from there should be very carefully examined.

Tuberculous Disease of the Vertebræ.—Dr. V. P. Gibney presented a specimen showing tuberculous disease of the vertebræ. It had been removed from a boy, who was ten years of age when admitted to the hospital on July 16, 1895. He had been suffering from spinal disease for a long time previously. Examination showed a moderate kyphosis in the lower dorsal and first lumbar vertebræ. Shortly before his admission a psoas abscess had developed on the right side. This was tapped, but the fluid was too thick to pass through a large needle. About a month later the abscess was opened, and from four to six ounces of thick, caseous pus was removed. A month after this the opening was enlarged and the curette passed upward into the lumbar vertebræ, and bits of bone were removed from the vertebræ. The sinus remained open from that time on, and the case steadily grew worse. It was reported as an example of the failure of excellent hygienic surroundings to induce a good reparative process. In the summer of 1896 this boy had spent four or five months continuously in an excellent summer hospital at Englewood, where he had had every advantage. A few months later he had been sent to the country for the winter. His back was well protected by a jacket, he was outdoors a good deal, and had the best of air and nourishment. Last summer he was also in the country. In spite of these advantages, the sinus steadily discharged and the liver began to enlarge. Last summer he presented symptoms of what was considered by some of the consulting staff to be pulmonary tuberculosis. The child died on December 6th, and the autopsy was made by Dr. Buxton. On section of the spinal column comparatively a small area of disease was found, with only a few loose pieces of bone. The lungs were absolutely normal, except for general atelectasis resulting from pressure of the diaphragm and the enormously enlarged liver. The brain was not examined. The heart was normal. The pericardium contained about four ounces of fluid. The pleura was slightly adherent; its external surface was smooth; there were no tubercles. The bronchial glands were enlarged and calcareous. The abdomen contained six or eight ounces of fluid. The spleen was enlarged and pale. The kidneys were the seat of an acute parenchymatous nephritis and some amyloid change. The intestine was normal. The mesenteric and retroperitoneal glands were enlarged and caseous. The liver weighed six pounds, and was smooth and hard.

The society then adjourned.

In Psoriasis cacodylic acid has been advocated by Daulas (*Therap. Wochens.*, No. 22, 1897). The following formula is given:

℞ Acid. cacodylic	5
Rum	40
Syr. aurant. cort	40
Aq. dest.	120
Ol. menth. pip.	q.s.

M. S. Six teaspoonfuls daily.

Among the disadvantages which have been noted are a garlic-like odor of breath, occasional slight gastric disturbances, and, as recently pointed out by Balzer and Griffon, an erythroderma with extensive desquamation resembling that of scarlatina may occur after the dose of eight grains daily is reached. Eczema has also been produced.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CENTRAL HOSPITAL BOARD—HOSPITAL ABUSE, NEWPORT INFIRMARY DISPUTE—UNPLEASANT APPEARANCES IN THE NEWSPAPERS—ACTION FOR NEGLIGENCE AND A SECRET POST-MORTEM — EPIDEMICS — PANCREATIC CYSTS—BRITISH MEDICAL PLEBISCITE—ADELAIDE UNIVERSITY AND SCHOOL'S FORTUNE—SIR CH. NICHOLSON, BART.—LONDON UNIVERSITY SCHEMES.

London, December 17, 1897.

Another meeting got up by the Charity Organization Society in favor of a Central Hospital board was held on Monday. Sir W. Broadbent moved a resolution expressing the great importance of the scheme. He disclaimed all hostility to hospitals, as he might perhaps well do in addressing the public, but would scarcely consider it necessary if speaking to the profession. He also said there was no intention to adopt coercive measures toward any boards that did not fall in with the organization's views, but he hoped it would have a voice in the disposal of the Prince of Wales' fund.

Sir Joseph Fayrer, Mr. Victor Horsley, and Dr. Glover also gave a general support to the scheme. Other gentlemen, however, took grave objection and pointed out some of the dangers ahead. Among these were the great power of the purse if the proposed board had large funds to allocate; the impossibility of a board of two hundred persons carrying on the business part, and therefore the certainty that the control would fall into the hands of a few zealous but probably prejudiced persons. This has happened with the Sunday fund. It is significant that the managers of hospitals were practically unrepresented at the meeting. They doubtless see difficulties in the way, and are not disposed to give up their authority to a board of which it is impossible to foresee the action or predicate its fitness for the work.

A lurid light is shed on hospital abuse and the difficulty of controlling it, by what promises to become another scandal. At Newport, Monmouth, the directors of the infirmary have taken the high-handed measure of dismissing one of the staff because he declined to treat patients who were not proper objects of charity. Two cases were refused after the directors had taken no notice of others which had been referred to them for inquiry. The families were earning £117 and £153 respectively. The ophthalmic surgeon, Dr. Ensor, declined to treat them, in the hope that his action would lead to a wage limit or the appointment of an inquiry officer. The works where the patients were employed subscribe £10 10*s.* per annum, and the men collect about £60. The directors seem to fear the loss of these sums. The workpeople seem to fancy their collections give them a right to free hospital treatment, thus putting the charity on a par with clubs. Complications of this kind are likely to occur elsewhere, and subscribers and others must be educated on the subject. The Cardiff Medical Society has taken up the subject and unanimously passed a resolution, expressing the hope that the board will see its way to withdraw the notice it has given to Dr. Ensor. This would be the best thing to do. It would clear the way for a temperate discussion of the difficulties by all concerned, and surely some rules might be framed which would give satisfaction to the staff as well as to the managers. The latter no doubt have the real interests of the charity at heart, and should not be blind to the injury that would result from injustice to the staff.

Quite a run of unpleasant cases have been reported in the newspapers. One promising young doctor, suffering from insomnia, resorted to chloral hydrate, and eventually took an overdose. Verdict, accidental death. A more depressing case is a "suicide during temporary insanity," apparently caused by a serious charge having been made against the victim. A practitioner of many years' standing sold his practice, and the purchaser has just sued him for misrepresentation. An attempt to levy blackmail was defeated by the doctor promptly handing the criminal over to the police —certainly the most sensible course to adopt. Other similar cases have occurred, and the divorce court has also had cases of practitioners to investigate.

In an action against a doctor for negligence, the plaintiff is said to have been attended gratuitously, and the doctor even called in a consultant and paid the fee himself. Of course the poor man's proceeding is got up by a lawyer. All that is to be taken for granted, gratitude being unknown to gratis patients of a sort. But what demands the notice of the medical council is that a neighboring practitioner and his partner with one of the staff of the Westminster Hospital made a post-mortem behind the back of the accused. In court two of these persons gave evidence on the strength of this secret post-mortem, against the diagnosis and treatment of the accused doctor. Their "expert evidence" seems to be as shaky as their ethical conduct, which should attract the attention of the licensing authorities concerned, of the Medical Council, and of the other members of the staff of the Westminster Hospital.

The decline of the typhoid epidemics is restoring hope if not confidence in the towns affected. At Maidstone the mortality has been light, averaging under eight per cent., the total deaths being one hundred and forty-three out of eighteen hundred and eighty-six cases. The emergency hospitals are being closed, and many nurses dispensed with. At King's Lynn there were ten fresh cases last week, bringing the total to four hundred and thirty-five.

The discussion on typhoid prevention by the Medico-Chirurgical Society has again been adjourned, so I will postpone remarks upon it.

A severe epidemic of measles has occurred at Barking. It is said that above one thousand cases have occurred; but measles is not a notifiable disease, so the figures may not be correct. About thirty deaths have beeu registered. The schools in the town and neighborhood have been closed.

Pancreatic cysts occupied the attention of the Medical Society on Monday evening. Mr. Doran gave an account of a case in which a cyst was attached by a broad base to the body of the pancreas. He sutured the cyst to the abdominal wall and inserted a drainage tube. Forty-four ounces of yellow fluid escaped and a fistula remained open from May to October. The patient was a single woman, aged twenty-four years, and Mr. Doran remarked that these cysts may form at any age. He considers total removal justifiable, even if the tail of the pancreas be included, provided a pedicle can be formed, but removal of a sessile cyst is not to be attempted. The results of drainage are, he thought, fairly satisfactory, and there is great danger in aspirating or tapping for diagnostic purposes.

Dr. Rolleston and Mr. Turner related a case in a man of thirty years. A tumor below the liver was diagnosed as distended gall bladder, but proved on operation to be a cyst arising near the pancreas: it was not possible to be more precise than to call it peripancreatic. About thirty ounces of dark fluid which yielded no ferments was removed by tapping, and a good recovery followed.

Mr. Malcolm related a case of supposed hydronephrosis which proved to be a multilocular cyst contain-

ing a fluid with amylolytic reaction. It arose in the tail and the hemorrhage was very difficult to arrest. Another case was mentioned, in which Mr. Gould operated, the only symptom in which at first was jaundice; subsequently a tumor formed. Mr. Battle mentioned yet another case in which he cut down upon an undetermined swelling, but its appearance was so malignant he left it alone. Nevertheless the patient made a good recovery, and Mr. Battle did not pretend to know what the tumor was.

The *plebiscite* agreed to be taken of the British Medical Association, as to whether it should undertake medical defence, is now in progress. Reply postcards have been issued with a request that they be returned immediately. The colonial branches are also to be consulted, so the returns cannot be complete for some time.

The University of Adelaide benefits to the extent of £25,000 and the Medical School by a further £20,000 under the will of the late Sir T. Elder.

Sir Ch. Nicholson, Bart., is best known as a colonial politician. He was the first president of the Queensland legislative council, and presided over three earlier Australian assemblies. He is, however, a doctor—M.D., LL.D., D.C.L. He was chancellor of Sydney University. He is now a nonagenarian and living near London.

The London University question is receiving the attention of the newspapers, in the anticipation that the government will this year introduce a measure early enough to give it a chance of passing. The senate of the existing university met the representatives of about twenty educational bodies on Tuesday, under the presidency of Lord Herschell, who urged that all parties should be prepared to accept some compromise. A deputation is expected to wait on the president of the council, in which the senate, the convocation, the two royal colleges, the corporation of London, and other bodies will be represented. The medical schools are almost equally divided as to the schemes they would like. They must take Lord Herschel's advice and be prepared for a compromise. Otherwise the government may force on them something they do not want, or, if opposition is offered, may again postpone action.

STATISTICS OF ABDOMINAL SECTION IN AMERICA.

To the Editor of the Medical Record.

Sir: I have just had sent to me a copy of the forty-first annual report of the Hospital for Women in New York, containing an address by Dr. T. Gaillard Thomas, the greater part of which purports to answer some animadversions which are alleged to have been made concerning the results of the work in that institution. At the conclusion he puts to the critics Shylock's question, "Are you answered?"

I have not been one of the critics, and only because the facts never came under my notice; but on their behalf, and on behalf of suffering humanity, I say to Dr. Thomas that they are not answered, but that on the contrary he makes out a most deplorable state of matters.

He puts forward a group of figures which shows that in seven large selected hospitals in America the results in abdominal section run from 25 per cent. in Boston City Hospital down to 15.03 per cent. in his own institution. Of this collection of statistics I have only two things to say—that the whole thing is deplorable and must be remedied; and that the mortality in the New York Woman's Hospital is "murderous," as Mathews Duncan used to put it.

He certainly does not make the matter any better by pointing out that during a period of thirteen years the mortality of his hospital has been 22.43 per cent., and that this triumphant result has been due to the introduction of "antisepsis, the sheet anchor of the surgeon." This makes me more than ever thankful that I discovered early in my career the fallacy of this so-called antiseptic craze.

I inclose with this letter a copy of the twenty-third annual report of the Birmingham and Midland Hospital for Women, for 1893; and I select this year for three reasons. The first is that it was the first year in which no work was done by myself and the bulk of it was done by two of my former assistants, and because it was an exceptionally bad year.

As to the statistics themselves, let me say that, like those of the New York Hospital for Women, in Dr. Thomas' own words: "The surgical staff of this hospital has absolutely nothing to do with the making of its statistics." Each case is entered by an officer responsible to the lay committee, and each fatal case is investigated by a special pathologist altogether independent of the operating staff. At the end of each year each operator has to defend his facts before his colleagues on a committee upon which also sit the chairman and secretary of the managing committee, and a perfect audit is made and signed. This document is published with a table upon which every case is entered under the distinguishing initial of its own surgeon, and with such details that any case can be easily identified. Any cooking of the statistics is an absolute impossibility, and only the most trivial errors have been ever detected.

In 1893 the abdominal sections numbered 176 (against 153 in New York in 1894), with a mortality of 6.2 against 15.03 per cent. in the New York Woman's Hospital.

Another table is given of 1,350 cases of abdominal section, performed almost entirely by Dr. Savage and myself, from 1884 to 1893, with 75 deaths—a mortality of 5.5 per cent.

During these years I did all my work on plain soap and water, having abandoned every trace of the varying absurdities of Listerism two years before. Dr. Savage followed Lister in fashion of his own, varying from time to time. The work was fairly well divided between us, as also was the mortality, and with the most careful reckoning of the figures the verdict against Listerism must be, in Scotch fashion, "Not proven;" for with its complete absence my results were no worse, and with its partial presence Dr. Savage did no better.

What can Dr. Thomas have to say to this?

I have only to say that his results show that there is something radically wrong with his hospital, and that the medical profession of America, advancing as it is beyond the progress of our art in all other countries, cannot afford to let matters go on as they are.

If I may answer in one word the question which will of course follow what I have said—What is the cause of your success?—I say emphatically, the absolute segregation of our patients and close attention to every detail constitute the whole of the mystery.

That there is an inevitable mortality in abdominal section I think is certain. That two men, working in the same place, with the same material, should bring it down during ten years to 5.5 per cent. in a continuous, consecutive series of 1,350 cases, shows that the inevitable mortality is pretty nearly reached. That a removable mortality of more than three times that amount should be allowed to remain as the minimum to be reached in America cannot be admitted for a moment.

That even the low mortality we have had in Birmingham is probably not the inevitable mortality is, I

think, almost proved by a little figure twisting; for if we take out four bad years—1884, 1889, 1890, 1893—we find 553 cases, with a mortality of 8.5 per cent. But in six good years—1885, 1886, 1887, 1888, 1891, 1892—we had 797 cases, with a mortality of 3.5 per cent. I think this latter is nearer the inevitable, and that a higher mortality than that is due to causes entirely removable. All such causes ought to be earnestly sought for and removed at any cost.

LAWSON TAIT.

BIRMINGHAM, ENG., December 14, 1897.

"SHOULD MINISTERS PAY DOCTORS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am interested in as well as amused by the recent articles in the MEDICAL RECORD on this practical subject. Having had some experience along this line, I can relate some interesting episodes, while I reserve the right and pleasure of treating my own pastors (who have always treated me generously) gratuitously so far as commercial matters go.

I think I can "go" Dr. Lynch "one better" on the pineapple deal. Many years ago I treated and nursed the spiritual adviser of a neighboring church society through many weary weeks of suffering and illness resulting from a fractured thigh. Considerable expense to myself was attached to the case. Upon getting about again he asked me for my bill, and I replied that I had made no account against him but had "charged the account to the Lord." He thanked me warmly and expressed very great gratitude. Some months afterward my marriage occurred, and this reverend gentleman and his wife were guests at the wedding. They felt that they must show their gratitude to us in some way, and so, nicely rolled up in the finest quality of tissue paper, came an enormous engraving, a cheap woodcut of "The Three Graces," to frame which would have cost me at least $4 or $5. Now, I dare say Dr. Lynch would rather have the pineapple. The engraving had been obtained as a premium for subscribers to a religious paper.

This reverend gentleman's successor also employed me to a large extent and at considerable expense to myself, and upon his retirement from the field was very grateful to me, so much so that during the following summer he made a house-to-house canvas among his old parishioners, and urged them to employ a certain newly arrived doctor who belonged to his particular church.

I can assure you, Mr. Editor, that that class of men has since been made to know something of my own estimation of the value of my services.

J. R. STURTEVANT, M.D.

THERESA, N. Y., December 27, 1897.

SUGGESTIONS FROM READING THE LAST "MEDICAL RECORD."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Every number of the MEDICAL RECORD suggests thoughts and I have frequently been inclined to send you for publication those which occur to me. If your readers generally would do this, much practical information would be disseminated and the profession would faster advance toward the *ultima thule* of medicine, viz., the cure of disease. We seem to know everything else in medicine except this. We have many fine surgeons, but few medicinal remedies.

No. 1.—Is not the creosote treatment of tuberculosis about "played out"? It has certainly had its day, because no good seems to come of it. Turpentine in emulsion is just as good, if not better, and is far less disagreeable to take and much better tolerated by the stomach. It should always be administered on an empty stomach and at least one hour before taking food. It is an antiseptic of power, and stimulates the general glandular system, especially the mesenteric glands. I greatly prefer it to creosote, and usually administer it in the following formula:

R Olei terebinth. ..... ℥ ss.
Cretæ prep. et
Sach. alb. ..... āā ℥ ij.
Pulv. acac. et
Aquæ cin. ..... āā q.s. emul. ℥ iv.

S. Dessertspoonful three times a day upon an empty stomach ("shake" label).

From articles heretofore published in the MEDICAL RECORD your readers already know that I believe the disease to be one of malnutrition, originating in the blood-making organs, and that the pulmonary and other symptoms are secondary, with the bacilli following and not preceding the lesions. The primary indication, then, is to aid the system in making a full supply of normal blood, and in accomplishing this the cure is wrought. Whatever promotes this is beneficial, and whatever retards this is injurious and harmful.

The best general medical treatment that I have ever employed in the disease is the turpentine mixture as indicated above, with whiskey saturated with Turk Island salt, one hour after each meal. I usually put one-half pound of the salt crystals in a quart of whiskey, so that the liquor is supersaturated, many of the crystals remaining undissolved. The dose is regulated according to the weight, age, habits, and condition of the patient, always diluted with water. This seems to promote digestion, assimilation, and all the blood-making functions, and at the same time it retards tissue waste. Of course all other hygienic measures should be applied, and unusual symptoms should receive attention as they arise. It may also be necessary to withhold the turpentine for a few days at a time, either from its effect upon the vascular system in drying the mucous membranes or its action upon the urinary tract. A number of incipient cases have been cured by this treatment in my hands, and the only objection I have found to using it is that many patients will not discontinue the treatment at my bidding. It seems to them so beneficial that they cannot survive without it.

No. 2.—On page 903 you give from Holton the following formula:

R Tr. lobeliæ. ..... gtt. i.
Aquæ. ..... ℥ i.

M. To be used in one-drop doses for colic in infants.

I have reared ten children of my own, and many more of those of my patients, on the following:

VINUM LOBELIÆ COMP.

R Pulv. lobeliæ fol ..... ℥ ij.
Pulv. cypripedium et
Pulv. ictodes ..... āā ℥ i.
Pulv. menth. pip. et
Pulv. anisi sem. ..... āā ℥ ss.
Vin. xericum ..... ♁ ij.

M. Agitate daily for two weeks and filter.

This makes an elegant and agreeable preparation, and it is excellent not only for colic but for every acute inflammatory condition—coughs, cold, fevers, etc. It can do no harm, as the worst it can accomplish is to effect emesis, and when given to this extent will relieve all of these forms of disease. The depressant effect of the lobelia is so fully counteracted by the menstruum that no injurious relaxation can occur. It should be administered in hot water, sweetened, four parts to one of the medicine; or for very young infants—a day old, for instance—it may be diluted even more. It promotes sleep, and has been used exten-

sively in my practice with children in place of paregoric. I have yet to see a single alarming symptom arising from its use.

In the first stages of pneumonia it is the remedy *par excellence*. In tablespoonful doses for an adult in a gill of hot water every hour until it effects free diaphoresis, and if necessary pushed to emesis, it will relieve the congestion and cure the disease. If there is a cure, this is the remedy, a hundred times safer than veratrum and a thousand times safer than aconite.

No. 3.—On page 890 you have the "twenty-five-cent doctor." The country is full of them. With proprietary preparations, tablets, and triturates, they go from house to house and furnish the medicines, or poisons, all for twenty-five cents; while if the patient calls upon a reputable physician he must pay him a dollar and then go to the druggist and pay another dollar. In an agricultural community, where money is gained by hard work and not much obtained by that, the twenty-five-cent doctor is always the busy practitioner; while the more reputable doctor is called upon only by the few, or by the "twenty-five-cent doctor" himself when he gets into a surgical or obstetrical scrape.

J. S. PRETTYMAN, M.D.

MILFORD, DEL., December 22, 1897.

New Instruments.

A NEW AND SIMPLE BATH FOR FEVER PATIENTS.

BY ALFRED COLES HAVEN, M.D.,

LAKE FOREST, ILL.

CULLEN, a century ago, advocated the cold bath in fevers. Brand more recently has developed and proved its usefulness. To-day the cold bath is acknowledged as the most perfect method of combating fever. In typhoid, where its benefit is most striking, it reduces fever, modifying the general course of the disease; favors elimination of the poisonous ptomains, the pathogenic factors; besides strengthening the heart, stimulating respiration, quieting nervous excitement, producing profuse diuresis, keeping the skin soft and healthy, lessening tendency to bedsores; and generally it is followed by a grateful and refreshing sleep. I have seen a bath of 90° F. reduce the patient's fever three degrees; again, one of 70° F. produced no reduction whatever. These are both exceptional cases, at the two extremes. I do not condemn the bath when the fever is not reduced, for elimination and the other favorable features are still preserved. Ordinarily I begin a bath with a temperature of 90° F., and reduce it to 75° or 70° F., meanwhile using vigorous frictions with a piece of Turkish towelling all over the body and limbs, except the abdomen in typhoid. Ten or fifteen minutes usually suffices.

Why is such a useful therapeutic remedy not universally recognized and used? The people, and too often the profession, do not appreciate with what ease and simplicity the bath can be given. They argue: "The bath is all right for the hospital, but would never do for general use in private practice. It requires too many assistants, people are prejudiced against it, and often no tub is at hand and the expense of buying one is considerable."

The Furbush bath, made in Philadelphia, and the Burr bath of Chicago, meet these indications to a certain extent. They are portable, and both enable the patient to be bathed in bed. But, first, they are expensive, placing them beyond the reach of the masses: second, they both have clumsy frameworks of wood that render them difficult to transport by hand: third, the patient, if unaccustomed to bathe, is often alarmed by the extensive paraphernalia, especially the framework of the Burr bath, which is lifted over the patient.

I have used the Burr bath with great satisfaction, but, appreciating its defects, have sought to devise a much simpler bath, which would be equally serviceable, with some important additions. In the first place, I have done away entirely with the cumbersome framework; then I have reduced its cost to an insignificant sum, placing it within the reach of all. It can be manipulated with far less effort. The siphon has a plug, which allows of deliberation in its use in emptying the bath, and the whole structure can be rolled into a little package no larger than a small travelling bag. I append a description: Two leather straps, five feet long, one inch wide, each with an ordinary buckle in the centre; at either end of each strap is a hook, and two small rings sewed near the centre of each strap, two feet apart, serve to receive snaps on the end of two parallel ropes, which map out the framework of the bath. The ropes are passed through hems in a rubber sheet, three yards long and one and one-fourth yards wide. The straps are attached, one to the headboard and the other to the footboard of the bed. To empty the bath, one side of the tub is let down by unfastening a snap and a valley made of the rubber cloth guides the water into a tub on the floor, finishing with the siphon.

A still cheaper form of bath may be improvised out of a clothesline, a dozen ordinary wooden clothespins, and three yards of table oilcloth. Tie a loop of rope firmly around the headboard, another around the footboard, and connect by two parallel ropes. Attach oilcloth with clothespins, and you have as comfortable a bath as the most expensive, at a cost not exceeding seventy-five cents. The loops around the headboard and footboard may be dispensed with in metal beds. Four feet of garden hose with a wooden plug in one end makes an excellent siphon. Such a bath I have now in use.

I believe I have simplified the bath so that it is within the reach of all. The materials for the simpler form can be obtained at any country grocery store; and the more elaborate one which I have described can be sold at less than half the usual price of such luxuries, and I believe it is far simpler and equally efficient.

My only desire is to extend the benefits of the bath to the masses. The patient in the crowded tenement and in the country farmhouse can be shown by his physician in a moment how to obtain the benefits of that health-giving fluid—cold water.

AN AUTOMATIC LIGATURE PASSER.

BY E. PURRE MALLETT, M.D.,

NEW YORK,

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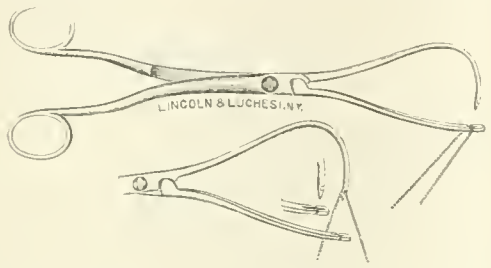
THERE seems to be such a multiplicity of new instruments and modifications of old ones constantly appearing that one hesitates to suggest another. Still the most enthusiastic and advanced surgeon would hardly care to say that his methods and appliances had as yet reached perfection, so that any instrument claiming to simplify and expedite the graver operations will at least be regarded with interest by progressive men.

The instrument shown in the accompanying cut I have devised to facilitate the tying-off of pedicles and the ligation of vessels in the most inaccessible parts of the abdominal cavity. As its principle is entirely different from that of any other instrument with which I am familiar, a somewhat detailed description is necessary. It is composed of two blades—the upper or penetrating blade being fashioned like an aneurism

needle, with an open or self-threading eye. The lower blade is blunt and smooth, and acts as a counterpressure to the needle. In the end of this lower blade is a small slot just large enough to admit the needle, and across this slot is a groove which receives and retains the ligature until picked up by the needle. That comprises the entire mechanism.

The *modus operandi* is simplicity itself, and is as follows: The instrument is opened, thus separating the blades. A ligature of the desired size is then firmly placed in the groove of the lower blade. To pass the ligature this blade, the lower one, is introduced behind the pedicle or structure to be ligated (generally guided by the fingers of the left hand, which is grasping the pedicle), while the needle blade is passing at the same time over the upper surface of the pedicle, under guidance of the eye. When that part of the pedicle is reached where it is desired to pass the ligature, the instrument is simply closed and rapidly opened again and withdrawn, the ligature appearing in the eye of



the needle blade, having been caught automatically from the groove of the lower blade by the open eye of the upper blade and pulled through the tissue.

The upper figure in the cut shows the ligature in position upon the lower blade, with the needle blade ready to transfix the pedicle when compression is made upon the scissor handles; while the lower figure shows the needle blade having transfixed the pedicle and carried the ligature through with it.

The advantages this instrument would seem to possess over those in use at the present time for similar purposes are:

First, the ease, accuracy, and rapidity by which ligatures can be passed through any tissues, particularly those situated deeply in the pelvis.

Second, ligatures can be passed with the structures *in situ*, the advantages of which are obvious.

Third, the operator is not dependent upon the skill or dexterity of an assistant in either catching the ligature when it has been passed through the tissues by the pedicle needle, or in placing the ligature within the grasp of the Cleveland passer, if that instrument is used; but the operator is thus enabled to pass the ligature entirely with his right hand, while his left hand maintains the structures in proper position.

The mechanical details have been successfully carried out for me by Messrs. Lincoln & Luchesi.

65 West Sixty-Ninth Street.

The South and Yellow Fever.—The numerous conflicting and in many instances ridiculous quarantine regulations formulated by State, county, and municipal authorities, and enforced oftentimes by excited and inexperienced men, aided in some cases by the shotgun, during the epidemic of yellow fever which has just prevailed in the Gulf States; the utter disregard of commercial and railway interests, and in the end the complete failure to arrest the passage of the contagion from town to town and State to State, form a telling object lesson, which must convince the stanchest supporter of State autonomy that the Federal government should take entire and complete control of quarantine in such diseases.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 1, 1898:

	Cases.	Deaths.
Tuberculosis	136	106
Typhoid fever	17	8
Scarlet fever	193	20
Measles	267	8
Diphtheria	167	19
Laryngeal diphtheria (croup)	2	1
Chicken-pox	19	0
Cerebro-spinal meningitis	0	1

The Number of Physicians in Germany and England.—According to the Borner Reichsmedicinal-Kalender for 1897, there were in Germany, in November, 1896, 24,000 physicians, and this number showed an increase of 901 over the previous year. Great Britain had, in 1897, 34,284 physicians, and this showed an increase of 988 over the preceding year. In London there was 1 doctor to every 850 inhabitants, while outside of this city there was 1 doctor to 1,700 inhabitants.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Proceedings of the Association of Military Surgeons, 1897. Edited by Dr. J. E. Pilcher. 8vo, 694 pages. Illustrated.

Report of the New York State Commission in Lunacy. 8vo, 1,335 pages. Illustrated.

Psilosis. By Dr. George Thin. Second Edition. 8vo, 270 pages. Illustrated. J. and A. Churchill, London. Price, $3.50.

Manual of Gynæcology. By Dr. A. T. Byford. Second Edition. 8vo, 596 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia. Price, $3.00.

Transactions of the Clinical Society of London. Vol. XIII. 8vo, 262 pages. Illustrated. Longmans, Green, & Co., London.

Diseases of Women. By Dr. J. Phillips. Second Edition. 12mo, 275 pages. Illustrated. Charles Griffin & Co., Ltd., London. Price, 7s. 6d.

Manual of Pathology. By Dr. W. M. L. Coplin. 8vo, 638 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia. Price, $3.00.

A System of Medicine. Edited by Dr. T. C. Allbutt. Vol. V. 8vo, 871 pages. Illustrated. The Macmillan Company, New York.

Atlas of Clinical Medicine. Three Volumes. By Dr. Byrom Bramwell. Folio. Illustrated. T. & A. Constable, Edinburgh.

Ambroise Paré. By Stephen Paget. 8vo, 309 pages. Illustrated. G. P. Putnam's Sons, New York.

Transactions of the American Orthopædic Association, 1897. Vol. X. 8vo, 292 pages. Illustrated.

Diseases of the Stomach. By Dr. J. C. Hammeter. 8vo, 788 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia. Price, $6.00.

The Care and Feeding of Children. By Dr. L. E. Holt. Second Edition. 12mo, 104 pages. D. Appleton & Co., New York.

Diseases of the Eye. Fifth Edition. By E. Nettleship, F.R.C.S. Revised by W. T. A. Spicer, M.A. 8vo, 528 pages. Illustrated. Lea Brothers & Co., New York.

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Original Articles.

CLINICAL OBSERVATIONS ON MALARIA AND ITS TREATMENT.[1]

BY BEVERLEY ROBINSON, M.D.,

NEW YORK.

THE usual intermittent form of malarial fever as we meet with it in New York practice, both in and out of hospital wards, is as a rule readily diagnosed. Not that errors even in these cases do not occur, because as a fact they do. Despite our most careful estimate of a given case, I have known more than once a so-called example of intermittent fever ultimately to be determined to be one of gall stones, tuberculosis, or typhoid fever. Still when the liver and gall bladder are carefully considered, the expectoration is microscopically examined, and the blood or serum investigated as to characteristic clumping, such mistakes are relatively infrequent. On the other hand, if we rely solely upon the discovery of the malarial parasite even in these cases to fix our diagnosis, we shall not infrequently remain in legitimate doubt about the nature of the case we are treating.

I have an example present to my mind of a young woman in my ward at St. Luke's Hospital, with the history of malarial fever taken at the Isthmus of Panama, who had a succession of chills followed by fever and sweating. Yet no malarial organism was ever detected in her blood, though several careful examinations were made during or just subsequent to the period of chill. Again, in this case quinine, Warburg's tincture, and nitrate of potassium were taken without curative effect, and arsenic in frequent increasing doses alone proved effectual. Not only this, but the spleen even during the paroxysm of fever was neither tender nor enlarged. And here I feel constrained to say that, valuable as I have found microscopical examinations in many of these cases of intermittent fever to determine the differential diagnosis, still Laveran's great discovery must not be regarded as final in all such cases, because at times it will unquestionably prove to be unsatisfactory. Of course I recognize that the search for the malarial organism must be made skilfully, patiently, and with suitable instrument and at proper time. Nevertheless, there are cases in which the malarial parasite cannot be found. The cases, however, which give most trouble, remain most uncertain, and are never settled definitely except by the touchstone of treatment, are those cases of continuous fever which last many days, and even weeks, and finally are designated, properly as I believe, malarial, because no other satisfactory diagnosis can be made. They are not cases of typhoid fever, because their temperature charts never show the rises and falls which are characteristic of typhoid fever. They have no lenticular eruption, no bronchitis, no diarrhœa, no tenderness in the right iliac fossa, no clumping of the red globules with the application of Widal's culture test. They are not tuberculous, because no bacilli are found, no pulmonary or peritoneal symptoms sooner or later point to it. They are not hepatic in origin, because there are no biliary colics, no distention of the gall bladder, no jaundice, and the age and previous history practically eliminate this diagnosis. Shall we name cases of fever prolonged for a week or two simple continuous fever, when diuretics, saline cathartics, low diet, rest in bed, are unavailing, and when there are inappetence, some prostration, slight elevation of temperature in the afternoons, now and then chilly sensations with a degree or two of lowering of temperature, some enlargement of the spleen, and urine practically normal? Perhaps we should, were it not that either moderately large or frequently repeated doses of quinine, Warburg's tincture, or, better still, the compound tincture of bark, cure these cases eventually.

It is a widespread conviction in the profession that quinine must and will cure malarial fever.[1] Is this true? Time and again I have given by the mouth or rectum large repeated doses of quinine in solution, and the fever continued. In many of these cases Huxham's tincture of bark in teaspoonful doses every two or three hours gave the happiest results, and soon my patient was entirely well. When this has been true, the blood usually showed a certain degree of anæmia. There were no visible change in the form of the blood globules, no marked increase of leucocytes (rather a diminution), but a marked lowering of the hæmoglobin and of the number of the red cells. No doubt the constituents of the bark which are soluble by percolation with alcohol are valuable as tonics. Among these we should put the extractive matters, notably cincho-tannic acid.

The older authors understood much better than we do the importance of these substances in overcoming the humoral changes causing or resulting from malaria. No oneco uld read the treatise on fevers written by Huxham more than a hundred years ago (London, 1767) without being convinced of the great value he attached to the use of suitable products of calisaya bark.

In Huxham's original formula there is also Virginia snakeroot, and of the combined drugs "he gave one drachm to half an ounce every fourth, sixth, or eighth hour, with ten, fifteen, or twenty drops of elixir vitrioli out of any appropriate draught, or diluted wine."

"I very well know," writes Huxham, "it will sometimes succeed in intermittents when the bark in substance or decoction will not easily sit with the patients. The above composition tends to strengthen the solids, to prevent the further dissolution and corruption of the blood, and in the event to restore the crasis."

Huxham evidently attributed considerable importance to the use of an astringent generous red wine, and also to that of some acid, and especially the elixir of vitriol. Aromatics are also not undervalued by him.

Robert Jackson,[2] writing somewhat later (1795), affirms that "bark alone undoubtedly has a right to be considered as a specific in the cure of the intermitting fever, but its virtues are occasionally improved by the addition of aromatics, chalybeates, and partic-

[1] Read at a meeting of the New York Academy of Medicine, January 6, 1898.

[1] Many eminent medical writers also support this opinion.

[2] "Treatise on Fevers," Philadelphia, 1795, pp. 210, 211.

ularly by a certain proportion of snakeroot. Virginia snakeroot joined with the Peruvian bark was often observed to produce very excellent effects. The cures were more complete and permanent. There was not only less tendency to relapse, but dysenteries and dropsies were more rare after I was fortunate enough to adopt this mode of practice than they had been during the preceding years."

In later times this conviction about the utility of bark has been strengthened by the reports of travellers in South America. Thus Tschudi, as a result of observation during his travels in Peru, states that "the inhabitants of the Peruvian forests drink an infusion of the green bark as a remedy for intermittent fever." He also "found the fresh bark more efficacious than the dried, as in less than half the usual dose it not only effects cures in a short time but insures the patient against the return of the disease." [1]

Good bark contains mainly two different substances, the alkaloids or febrifuge principles and tannin, the tonic ingredient. Among the tonic preparations the extract and wine of bark contain the most tannin of a special kind, and owe their properties doubtless to it.

In the quinine wine of the French codex the quantity of the alkaloid is very small—less than a grain to the wineglassful. Such a small quantity of quinine can scarcely produce any notable tonic effects. Moreover, if the wine of quinine be made with a highly colored wine containing a notable quantity of tannin, the quinine is precipitated by the latter and remains on the filter.

The revisers of the codex have recognized the therapeutic value of tannin in tonic wines of bark by substituting the Huanaco bark in double quantity for the calisaya bark, mainly because this bark contains a large amount of tannin and only a small quantity of the alkaloids of the bark. Only very lately F. Alix[2] advocates the use of tannin in cases of malaria that have resisted ordinary quinine treatment. The tannin is given in solution. Alix cites several successful cases in illustration of the virtues of this treatment, which he says "is remarkably efficacious." To expect such good or lasting effects from even massive doses of quinine will prove delusory, in my judgment, in the highest degree. This statement will be difficult to prove in our mere hospital experience, for the reason that the mild forms of paludism, as shown by continuous moderate elevation of temperature with slight diurnal changes, are not often under treatment in hospital wards. Moreover, when they are, do we not find the cases complicated with other numerous signs of disease? I object very much to hospital studies being made largely or solely the basis of views which should control the practice of medicine without appeal.

In Vol. II., p. 742, of T. Clifford Allbutt's "System of Medicine," and in the last sentence of the article on malarial fever, it is stated that "the physician who at this day cannot treat malarial fevers successfully with quinine should abandon the practice of medicine." Such a sweeping diatribe is scarcely becoming, it seems to me, from the writer of a classical article in an authoritative work. It is doubly objectionable when it is unsupported by certain closely observed facts of important clinical significance. In the first place there are personal idiosyncrasies everywhere to be met and viewed in this light. We know many patients who simply cannot take quinine. It produces nausea or vomiting, aural congestion with tinnitus, skin eruptions of different characters, not to speak of very depressing effects upon the general circulation. This is not invariably true of bark even with these patients, and to numerous other patients the administration of the bark promotes appetite, nutrition, and general well being.

At the present time I have under my care a patient, a young woman with a good appetite, regular bowels, menses normal, urine in sufficient quantity, containing neither albumin nor sugar. For some days or weeks this patient has had daily and irregular moderate elevations of temperature, followed by no appreciable sweats. At certain times, but particularly about one or two o'clock in the afternoon, the temperature becomes subnormal, with or without slight chilliness. A week or two of the treatment with Huxham's tincture of bark brought back a normal range of temperature and led to the disappearance of chilly feelings, and of the general depression and malaise previously alleged by the patient.

When the blood of these patients is examined microscopically for the presence of the hæmatozoön malariæ, the result is usually negative. We cannot therefore be guided in this manner as to a positive diagnosis. As to the spleen, the rule is that it is not much enlarged. We may or may not be able to find its edge under the free border of the ribs; we may indeed find increased percussion dulness over its site, but even this examination frequently remains doubtful. The abdomen is sometimes very tense, which prevents proper palpation, or the abdominal walls are very thick from deposited fat, and this interferes with the examination. If we eliminate the microscopical examination of the blood and the precise limitations of the splenic dulness as guides to the diagnosis of malarial fever, we are forced to abide by our interpretation of the symptoms presented by the patient, by the previous history, ambient conditions, and particularly the kind and effects of treatment. The idea, far too prevalent in my opinion, that malarial fever is rarely if ever endemic in New York City is not borne out by the frequent, almost daily experience of medical practitioners; not that I wish to affirm, nor do I believe, that the marked intermittent forms of tertian type are at all usual among the better class of people, but the mild continuous type is surely prevalent, and to this form I direct particular attention.

It has always appeared to me that the characteristic behavior of a child suffering with malaria is very valuable in aiding us to make a correct diagnosis. It is no infrequent experience for me to be told by the mother or guardian that a small child who had been bright and gay, romping, playing, talking, laughing, almost immediately became languid, quiet, and indifferent, averse to movement or conversation, with or without rise of temperature. A sudden change from the appearance of happy, exuberant health and spirits to a condition of morbid feeling and action without apparent cause, is certainly very striking and often means malaria. After an hour or two of this protracted condition the child will ordinarily begin to notice and play around, slowly at first, but little by little with all its energy and abundant *entrain*. There may be no evidence of chill, no sweating; sometimes fever, sometimes none; no marked digestive disturbance, no cutaneous manifestations. "Malaria," writes Dr. Holt,[1] "is more frequently overlooked in young children than in later life, from the fact that its forms are more irregular." In this way the impression has become pretty general that children are less liable than adults to have attacks of malaria. The contrary is doubtless true, and certainly in my experience, as in that of Holt, children suffering from these manifestations are frequently met with. By means of calisaya bark repeated several times a day in appropriate doses for a week or more, all previous symptoms of malaria will disappear completely. Occasionally there will

[1] "United States Dispensatory," seventeenth edition, p. 408.

[2] Arch. de Méd., April, 1895, and "Year Book of Treatment," 1897, p. 427.

[1] "Diseases of Infancy and Childhood." New York, 1897, p. 1,076.

be no reappearance of these manifestations for many months. If the slightest cold be taken, or if there be overfatigue or indiscretions of diet, another outbreak may at any time occur. Speaking in regard to children, Holt[1] writes, "Malarial attacks are particularly liable to occur when the general health is reduced by derangement of the digestive organs." I have no doubt of the truth of this statement, but it is also true and even more so than with the adult, that digestive disturbances are frequently directly caused by the presence of the malarial parasite and can be cured only when this is recognized and properly treated. My experience of many years of summer practice, when I have taken care of numerous children, has convinced me of the importance of this fact. These cases are not always apyretic. On the contrary the temperature will frequently rise several degrees in a short time, and we are often in legitimate doubt after the most careful inquiry and research as to the nature of the disease. In summer practice, by the sea especially, such cases are frequent, but fortunately certain manifestations of malaria are there readily discovered.

For one or other reason the microscopical examination of the blood for malarial organisms is more fruitful than elsewhere, apparently. The sea air seems to have the power of bringing the plasmodium into the blood so that it can be easily discovered. This fact I have been able to observe or become familiar with on several occasions. One of the changes occasioned by the malarial poison is that of the mucous membrane of the upper respiratory tract. We constantly meet with cough, paroxysmal and obstinate in character, with little or no expectoration, which is obviously under the dependence of the malarial dyscrasia. In these cases the ordinary cough mixtures aided with sprays and local applications, soothing or astringent, remain inactive unless the constitutional state be considered.

We are not inclined as a rule to look for malaria when it is a question of the differential diagnosis of a cutaneous lesion. And yet that various eruptive diseases are thus occasioned is to my mind unquestionable. I have seen a general erythematous or papular rash, very much resembling that of scarlatina or measles, inaugurate with the chill an attack of intermittent fever. I have seen an invasion of general furuncular disease in a child, which remained obstinate and painful for many weeks, and was relieved ultimately only by frequent doses of the compound tincture of bark.

It is a matter of common knowledge, the unpleasant congestive effects caused by quinine upon the aural circulation. The evil effects, however, are not seen in anything like the same degree in different persons. While some persons cannot take more than a minute dose of quinine without having their head ring and their ears become painful or noisy, others bear moderate or even large doses with impunity and complain very little of tinnitus. Manson,[2] in speaking of quinine, writes: "There are undoubtedly cases of malarial disease in which quinine fails, and there are not a few cases in which, acting more or less as a poison, it cannot be used in effective doses, and in which some substitute for it would be most useful." I am inclined to believe that the mode of administration has something to do with the effects of quinine upon the ear, and that it is really better borne in aural troubles when administered in rectal injections than when it is given by the stomach. The idea formerly prevalent not to give a large or even moderate dose of quinine by the mouth, if the tongue was at all coated, or there were other signs of biliary derangement, is to-day not seldom lost sight of. It is true that in some hospital services a dose of calomel or blue mass is given at the beginning of the treatment with quinine, but it is rarely repeated, and, moreover, the quinine itself is not suspected of producing injurious effects upon the stomach.

It is probable that one reason why Warburg's tincture or extract is frequently efficacious in arresting attacks of malarial fever, especially in instances somewhat chronic in type, is on account of its decided action on the liver and bowels. Apart from its well-known antimalarial repute, I know of one physician, lately deceased, who had a very large experience of its value and who told me that this was the manner in which he estimated it, viz., as a very important cholagogue. There are many ways in which malarial infection can take place which are rarely suspected. One is through open furnace flues communicating through the furnace and cold-air box immediately with damp, uncemented cellars or area ways. When the fire of the furnace is burning very little, or, again, when it is entirely out and the flues are left open, the upward draught carries such air directly into bedchambers, and indeed into every part of the house. If in some houses the soil pipe or main drain of the house is defective, the effects of sewer gas are often added to those conditions breeding malarial fever. I have no doubt in my own mind that sewer-gas poisoning and the infection of the system with malarial germs are often confounded. In point of fact, many of the symptoms occasioned by one or other kind of poisoning are similar, and it is unquestionable that quinine or some preparation of cinchona bark will produce curative results in the treatment of both classes of disease.

In the chronic forms of malarial poisoning in which with a moderate grade of anæmia there are a marked depression of the vital forces, repeated attacks of neuralgia in various regions of the body, and circulatory as well as renal disturbances marking functional inadequacy, no treatment will avail much unless it be a suitable and prolonged change of climate. Nothing will benefit some of these patients to the same degree as their transport inland to a high mountainous region for a more or less prolonged period. I recall two of my patients of this kind, to whom a lengthy sojourn at St. Moritz in the Engadine was of very great benefit. In many cases of malarial poisoning and in certain constitutions a permanent cure is established only, if ever, by many years of careful attention to their habits and surroundings. And even when these are suitable and healthful, these patients will be obliged to take an occasional antimalarial treatment. In some cases of chronic malaria I have used the eau de la Bourboule, a natural arsenical water, with great advantage. From one to three ounces of this water after meals is a sufficient dose. Some of these malarial patients are more particularly affected with disturbances of the digestive tract and a coated tongue; flatulence and disturbed stomach and intestinal digestion of this origin are not seldom met with by me. The digestive annoyance may be that of obstinate constipation: again, it is a disposition to chronic diarrhœa. Sometimes the diarrhœa and constipation alternate in such a way that our efforts to bring about healthy digestion and assimilation of food are at times disheartening. We may use on the one hand mercurials in small repeated or occasional large doses, combined or not with appropriate carminatives or cholagogues. We may try soda, bismuth, or different antiseptic salts, like beta-naphthol or the sulphocarbolates, with or without vegetable charcoal, and yet until we get the system properly influenced with one of the preparations of cinchona our remedial interference occasionally remains fruitless.

One of my patients, a young lawyer of New York, is an instance of the sort I refer to. Many years ago

[1] "Diseases of Infancy," p. 1,070.
[2] "Year Book of Treatment," 1896, p. 410.

he contracted Chagres fever in South America, and for several years whenever I examined his blood microscopically I found more or less free pigment in it. On account of his stomachal disturbances he went abroad, and was more or less under medical and dietetic treatment during eighteen months. He travelled in different countries, made of course a sea voyage to and from Europe, and yet even now he has occasional febrile attacks with concomitant diarrhœa, furred tongue, foul breath, relaxed throat, and irritative cough. I am obliged in his case to depend upon the combined use of quinine, iron, and arsenic to bring his attacks to a satisfactory termination. One formula used is that of reduced iron, arsenious acid, and sulphate of quinine; the other is the citrate of iron and quinine, arsenious acid, with one-quarter of a grain of extract of nux vomica and a little extract of henbane added, so as to invigorate his impaired nervous system and reduce in a measure the irritative effects of the arsenic on the alimentary tract.

Ordinarily we expect malarial fevers to be generated in low-lying, badly drained districts, near watercourses where there are decaying organic matter and marked elevation of temperature. We must not ignore the fact, however, that in a rocky soil where the substratum is clay, and the soil therefore very impermeable at times, the stagnation of water under the surface will breed malarial fever of a pronounced type. I have had experience with just this kind of malarial product, and, although some text-books may refer to the possibility of its development under these conditions, it is not ordinarily accepted or believed.

In regard to the use of the sulphate or other salts of quinine as compared with the compound tincture of cinchona, I have had much the same experience that Trousseau has had.[1] In the treatment of mild forms of malarial fever, while the preparations of bark may not act so rapidly as quinine, they are often more efficacious. After the paroxysms have once been arrested they are not so apt to recur. If the bark is given continuously for several weeks, we shall find that the patient's general condition is much better than it is in those cases in which quinine in small or moderate doses has been persistently taken. The anæmia is less marked, the appetite is keener, the strength is less impaired. Moreover, we are not apt to have œdematous infiltration of tissues, or that subicteric, cachectic look which is often met with in patients who have taken quinine for too prolonged a period.

As to the spleen, I would simply affirm that, despite repeated statements to the contrary, this organ will often remain without notable degree of enlargement or local tenderness, although the presence of the malarial poisoning is unquestionable. Of course it should be understood that in intense forms of malarial fever, or whenever there is a suspicion even that a pernicious form of fever may suddenly develop, we must make use of the quinine salts immediately and in large doses, until the paroxysms are broken up; but after these have disappeared for a week or more it is then judicious and timely to substitute for them the use of a suitable preparation of bark, given in fairly large doses, frequently repeated. I usually order under these circumstances one drachm of the compound tincture every two or three hours. In some instances I make use of the bark combined with nux vomica or strychnine. As a substitute for the compound tincture of bark I would suggest the use of the compound fluid extract of bark. This preparation is devoid of the alcohol of the compound tincture and is five times as strong. Both of these facts add to its value. It may be given in glycerin, simple elixir, or some palatable syrup with water, in doses of one-fourth to a teaspoonful, according to circumstances.

[1] Clinique Médicale, vol. iii., pp. 476–489.

Some of us doubtless remember a former house physician of Bellevue Hospital, Dr. Gaspar Griswold, whose untimely death brought to a close what promised to be a very brilliant medical career. In August, 1879, Dr. Griswold published, in the New York Medical Record (page 150), a short but very convincing article on "Pilocarpine in Intermittent Fever." In this article Dr. Griswold claimed that he had practically aborted paroxysms of intermittent fever with one-fifth grain of muriate of pilocarpine, administered hypodermically. This was accomplished without any bad after-effect, no depression, no ptyalism. Dr. Griswold also claimed for pilocarpine that it not only abated the paroxysm during which it was employed, but also prevented the return of future paroxysms. In this manner pilocarpine became a direct and very important adjunct to quinine or the cinchona preparations in the cure of intermittent fever, especially of the tertian type. Upon several occasions since reading Dr. Griswold's article I have made use of pilocarpine hypodermically. I have, it is true, seen some good effects and results from its use, but never to the degree and in the manner reported by Dr. Griswold. To be just to a distinguished observer, I should add that I have never been willing to give as much as one-fifth grain, but have limited myself to one-tenth or one-twelfth grain, as I consider these doses safer in view of possible œdema of the lungs caused by pilocarpine.[1] For my own part, in order to meet the indications of the chill of a malarial paroxysm, I know of nothing superior to a large dose of chloric ether, or a hypodermic of morphine and atropine. While neither of these has the power to abort or cut short the chill, they both will promote in a greater or less degree the comfort and well being of the patient, and for this reason should be supported by good medical authority. In a similar manner I am disposed to recommend occasionally the use of the hot-air bath.

In terminating this clinical paper, I wish to refer to a very able article which appeared from the pen of Prof. William Osler, in the *Medical News*, March 6, 1897, on "The Diagnosis of Malarial Fever," and which previously, on February 22, 1897, was read before the Medical Society of the County of New York. Although in the main no one could disagree with the report and findings of this distinguished observer, yet it may be permitted to me to criticise it from two points of view: First, because of the very positive way in which Osler affirms that, without the presence of the malarial parasite, there is no malaria. Despite this statement, Osler admits that there are instances in which it is only after repeated and most careful examinations on the part of experts that this organism can be found. He does not believe that it may occasionally be absent. In this view I believe he is too dogmatic. Again, Osler states that "other maladies, a motley host, from headache to biliousness, from keratitis to chilblains," are attributed to "a touch of malaria."

This judgment may be true of very ignorant practitioners, but must not be permitted to include many men who are close observers and intelligent in their particular fields of work, and who are obliged to admit that no other diagnosis than that of malaria will fit many cases, despite the absence of special organisms, and no other treatment than a suitable preparation of cinchona bark will cure their fever in a reasonable time, or prevent frequent or serious relapses.

Again, even if it be admitted that in all cases of malarial fever the plasmodium is present at some time in the blood, and when not discovered merely

[1] I shall never forget a fatal case of œdema of the lungs occasioned many years ago by a too large dose of jaborandi per rectum.

proves the lack of skill or patience in the search for it, yet this fact should not interfere with the due appreciation of the other clinical phenomena indicating malaria. These phenomena, when estimated carefully and all sources of error eliminated as far as possible, have enabled physicians in the past quite generally to make an accurate diagnosis, and should not be underestimated.

To illustrate my position, let us take as an analogous example pulmonary tuberculosis. Of course, whenever Koch's bacillus can be discovered in the sputa, a positive diagnosis can be given from this fact alone; yet there are numerous instances in which for long periods—it may be weeks or months—there are no sputa, and no bacilli can therefore be found. Despite this fact, the other signs and symptoms point almost indubitably to the presence of tuberculous disease. Sometimes, not to say frequently, at a later period bacilli are found, and the diagnosis is rendered absolutely positive. In a few instances, it is true, bacilli are never found. It behooves us, however, in either case to institute the best advised antituberculous treatment, and in some degree at least to have our judgment reaffirmed by the apparent or evident result of it. Certainly it would not be wise or conscionable to withhold antituberculous treatment in doubtful cases, or when we could say only that tubercle was present, partly in view of the signs we had actually found and partly because no other disease so nearly approximated the condition already discovered.

Thus it is with the diagnosis of malaria in many instances. We do not find after careful search the plasmodium malariæ, we may not have an undoubted antecedent malarial history, the symptoms present may not settle the diagnosis unquestionably, and yet there is no other disease which so nearly approximates what we have before us and are forced to interpret as malarial fever. We apply the touchstone of specific treatment, sometimes after other treatment has been vainly tried, sometimes immediately and in view of a highly probable diagnosis, and very shortly there is great improvement or a rapid temporary cure of our patient.

Are we not, then, still further justified in reaffirming our previous diagnosis, and saying this is malaria?

In conclusion, let me add one word, and it is that while we should give our warm, steadfast adherence to all skilled laboratory work, clinicians should not allow themselves to be wholly influenced by it. There are still numerous sources of error connected with it, not merely or principally as regards technique, but as regards interpretation of one's findings under the microscope. Take diphtheria, for example, and see where we should drift if we take the present laboratory examinations as our sole reliable guide. The Loeffler bacillus is present, and hence we have to do with diphtheria. No Loeffler bacillus is found, and therefore there is no diphtheria. As a clinician, I hold that many of the latter class of cases are to all intents and purposes, outside the laboratory researches, to be regarded as diphtheria. Their care and treatment must be essentially the same, except perhaps in the injection of antitoxin; and to ignore this view is to expose ourselves to regrets and poor success in the management of many of our cases.

At the conclusion of the paper, to give greater emphasis to the statements made regarding the diagnosis by microscopical examination of the blood, Dr. Robinson read a letter from Dr. Frederic E. Soudern. In a case at present under Dr. Robinson's observation, Dr. Soudern had recently been unable to find the plasmodia, although some months previously they had been found in this person's blood by Dr. Harold Ernst, of Boston.

"My Dear Doctor: *A propos* of our conversation this morning, I beg leave to ask your indulgence in the following:

"The plasmodia of malaria are, according to most observations in this climate, in the great majority of cases, found only in the peripheral circulation, during, as well as a limited period before, and a short time after, the period of actual paroxysm, be this of long or short duration. They are then found microscopically in fresh or stained specimens of blood without difficulty.

"In very mild infections they may be very scanty in the peripheral circulation, probably stored up in the inner organs, but a careful search usually reveals a typical picture, on which the diagnosis can be based.

"Attention must be given to Baccelli, who states, in Verhandlungen des XI. Congresses für innere Medicin, Leipzig, 1892, that sometimes severe malarial fevers occur during which it is impossible to make out the presence of plasmodia in the blood. He adds that frequently in the beginning of the attack the parasite cannot be found.

"In those cases of pernicious æstivo-autumnal malaria without a febrile movement parasites may be found, but this condition is very rare. Also in exceptional cases of malarial cachexia without fever the hæmocytozoa may be present, but also very rarely. Consequently I believe that the vast majority of cases observed a longer or shorter period after the actual series of paroxysms, or between such series months apart, do not show plasmodia on examination of the blood.

"The train of symptoms in these instances may probably be attributed to the toxins, of which little is as yet known, or they may have the secondary anæmia as their causative factor, or both. For example, in postmalarial hæmoglobinuria, where a causative factor must still be potent, most frequently plasmodia are not found in the blood by competent observers; and here again we must probably look to one or other, or both, of the above possible etiological factors.

"Yours very faithfully,

"Frederic E. Soudern, M.D."

New York, January 6, 1898.

CLINICAL OBSERVATIONS UPON THE HEART AND CIRCULATION IN DIPHTHERIA.[1]

By HENRY DWIGHT CHAPIN, M.D.,

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The various types of diphtheria and their symptomatology afford a wide field for discussion. In this paper it is intended simply to call attention to the heart as affected by diphtheria, as noted by the writer in clinical observations made at the Willard Parker Hospital. In a large percentage of cases the interest and attention of the physician are absorbingly directed to this organ, and the mortality of the disease depends largely upon the way in which it is affected by the poisons generated by the pathological processes. It is not intended here to make an exhaustive study of this subject, but rather to sketch certain clinical types that have been observed in the hospital. The so-called septic type is usually followed to a fatal termination by a persistent and powerfully depressant action upon the heart. In these cases there is a profuse membrane covering tonsils, uvula, and soft palate, with plugged nostrils and sometimes epistaxis. A peculiar fetor exhales from these secretions, and more or less adenitis is present. At times hemorrhagic spots

[1] Read at a stated meeting of the New York Academy of Medicine, January 6, 1898.

upon the skin may be noted. While the kidneys and various other organs are crippled in such an attack, death nearly always results from a steady and more or less rapid failure of the heart, upon which the most stimulating treatment appears to have little effect. It is small wonder that this is the case, as the organ has to contend not only with the toxins of diphtheria, but with what appears to be a general septic poisoning, shown by extreme pallor, persistent vomiting, and stupor. While various grades of uræmia may be present, all of these portentous symptoms may appear when the patient is passing a fair amount of urine. A brief synopsis of a few cases may be of interest in this connection, as exhibiting the way these patients act.

Mary McL——, eight years old, had been four days ill on admission. Thick membrane on both tonsils and soft palate; anterior nasal discharge, with nasal obstruction; cervical adenitis. She was given six thousand units of antitoxin, irrigation, feeding, and free stimulation. On admission the pulse was weak and the patient in a somewhat stupid condition. The pulse improved some under stimulation. Five days after admission uncontrollable vomiting began, and continued until the patient's death at the end of the ninth day. At the same time a scarlatiniform rash developed, that was thought to be due to the antitoxin. The temperature varied from normal to 102.5° F. The patient did well until the fifth day after admission, when pallor, stupor, and vomiting, with weak and rapid pulse (112–156), set in, and continued until death.

The occurrence of vomiting in connection with a weak pulse is an exceedingly grave omen. One symptom is apt to be as uncontrollable as the other. The stomach may give out before there are marked evidences of heart failure, but the latter will soon follow. If, in cases in which the pulse is acting badly, vomiting begins, the former condition will prove most intractable, even to hypodermic stimulation.

Frank D——, three years old, had been ill for three days on admission. Thick yellow membrane on both tonsils and sides of uvula, extending on to hard palate; anterior nasal discharge and nose partly plugged; cervical adenitis. The patient did quite well for four days, but had several attacks of epistaxis. On the fifth day he began to vomit. This improved under stomach washing, calomel, and rectal feeding, but began again later. It was not accompanied at first by pallor and stupor, and was not thought to be especially serious. The pulse was weak on admission, but improved somewhat under treatment. It soon grew weak again, and during the day before the patient died it was almost imperceptible—125 to 135. The temperature was irregular, between 100° and 102° F. He died ten days after admission. He was first given twenty-five hundred units of antitoxin, and afterward two thousand units.

Lillie F——, seven years old, three days ill on admission. Thick gray membrane on both tonsils and pillars of fauces; profuse anterior nasal discharge and one nostril plugged; slight bilateral adenitis. The throat cleared of membrane six days after admission, but it partly reformed later. On admission pulse was of good quality. Six days later pallor began to be marked. Next day the patient was somewhat drowsy and the pulse showed signs of weakness. At the same time the temperature rose abruptly to 104.8 F., and an otitis media developed, the drum rupturing nine days after admission. The pulse continued weak, and two days later uncontrollable vomiting set in. The pulse grew weaker, very rapid, and irregular, in spite of frequent hypodermic stimulation. The patient grew very restless, and died on the thirteenth day of the disease. Forty-five hundred units of antitoxin was given on admission, and twenty-five hundred units on day of death.

Emma H——, four years old, sick four days, with thick white membrane covering tonsils, uvula, and posterior part of hard palate; both nostrils plugged. On admission the pulse was quite weak. This improved and the patient did well for five days, but was very pale. The throat and nose were now practically clear. Five days after admission the pulse became rapid and very feeble. Two days later vomiting began, both ears discharging. Eleven days after admission there was regurgitation. The vomiting and feeble heart action, with stupor alternating with delirium, continued until the patient's death on the thirteenth day after admission. The temperature was irregular, from 100° to 103° F. Twenty-five hundred units of antitoxin was given on admission, and two thousand units on the following day.

A distinct and marked slowing of the pulse rate is a peculiarity not infrequently noted in these grave cases. While the quality of the pulse is more important in prognosis than the mere rate, yet the latter may be of grave significance. The slowing may take place before or after a marked quickening. The prognosis will depend upon the degree of slowness, which, if extreme, is always followed by a fatal ending.

Elsie F——, eight years old, had been six days ill. Thin gray shreds of membrane scattered over pillars of fauces and tonsils; bloody anterior nasal discharge; bilateral cervical adenitis. On admission the patient was in a semistupid condition, with marked pallor. Pulse, 120, and of fair force. Regurgitation two days after admission. Two days later the pulse became very soft and weak, and dropped to 60, continuing slow and weak until the patient died, three days later. Vomiting set in on the same day that the pulse became slow. Five thousand units of antitoxin was given on admission, followed by hypodermics of whiskey and strychnine during period of heart failure.

James McC——, seven and one-half years old, had been three days ill. Both tonsils, anterior pillars of fauces, and uvula were covered by white membrane; nasal obstruction; bilateral cervical adenitis. On admission the patient was very pale, but the mental condition and pulse were fairly good. Two days after admission vomiting began, and continued until the patient's death on the fifth day. At the same time the pulse became very weak, with a rate from 115 to 120. On the day before his death the pulse dropped to 42, remaining slow until death. The temperature varied from 100° to 102.6° F. The urine contained much albumin, but was passed in sufficient amount. No œdema. Hemorrhagic spots over body. On admission twenty-four hundred units of antitoxin was given, and later eighteen hundred units. Free stimulation.

Lillie M——, four and one-half years old, had been ill for two days. Thick gray membrane on both tonsils and pillars of fauces; both nostrils plugged; cervical adenitis. For the first three days after admission the pulse was of fairly good quality, although somewhat rapid. On the fourth day it dropped from 128 to 66, but the strength was not decreased. The next day it became rapid and feeble (120 to 138); the patient developed stupor and vomiting, which continued until her death, three days later. We have here the remarkable phenomenon of a slow pulse lasting about twenty-four hours in the middle of her illness, preceded and followed by rapid heart action. Temperature from 98° to 100° F. Purpuric spots over body. On admission six thousand units of antitoxin was given. Free hypodermic stimulation.

The following case presented a slow pulse on admission:

Cicato G——, six and one-half years old. Thin gray membrane on both tonsils, sides of uvula, and pillars of fauces, but the membrane was beginning to disappear. On admission the patient was in a stupid

condition. The pulse was slow (60), but regular and of fair strength. It improved for a day under stimulation, but then became very slow, dropping to 38, and irregular. Vomiting set in on the second day and continued until death, three days later. The pulse was regular, with good rate and form (104), on the day before death. On the day of his death it had the same rate, but was irregular. There was vomiting of old blood clots, probably from epistaxis. No pyrexia. He died suddenly, after convulsions. On admission fifteen hundred units of antitoxin was given.

The most remarkable case of slow pulse in my service occurred in a boy of five years. For a few days after admission he had rapid heart action, then the pulse began to slow up, and in a few days his heart beat was only 28 to the minute. He died after two days of this extremely slow pulse. On auscultation the cardiac sounds were fairly distinct. Repeated hypodermics of whiskey, strychnine, and nitroglycerin had absolutely no effect upon the organ.

A slow pulse, however, in the absence of other untoward symptoms, does not necessarily predicate a fatal ending, as is shown by the following case:

Alexander H——, thirteen years old, ill three days. Small patch of yellow exudate on right posterior pillar; also several small patches in crypts of left tonsil. On admission the patient had an intermittent and irregular pulse—rate, 90, and of fair force. After rest in bed and stimulation the pulse improved. In two days the pulse became slow (40), but the patient was bright and presented no symptoms of heart failure. It remained about 40 for three days, at times irregular. The rate then increased (60 to 70), with occasional irregularity, and the patient went on to recovery in about a week. Sixteen hundred units of filtered antitoxin was given, and the usual stimulation.

It occasionally follows that the heart does not succumb in these severe septic cases, but responds enough to free stimulation to tide the patient over the critical point. I have seen a few such instances, of which the following is an example:

Charles S——, four years old, six days ill on admission. Hemorrhagic necrotic membrane on uvula and soft palate; small amount on both tonsils; bilateral cervical adenitis. Pulse rapid and weak. Marked pallor and patient somewhat stupid. Urine loaded with albumin and blood cells. He improved slowly during the next six days, the membrane completely disappearing. The pulse then became exceedingly rapid, irregular, and weak, showing a double dicrotism that made it exceedingly difficult to count. Vomiting began, and all medication by mouth was discontinued, stimulation being given hypodermically and by rectum. Three days later the stomach recovered its tone, so as to allow moderate feeding and stimulation. Two weeks later the patient left the hospital in fair condition. Twenty-four hundred units of antitoxin was given.

Too much importance cannot be paid to keeping the patient quiet in a recumbent position until the heart completely recovers its tone in these severe septic cases. The depression of its function may persist for weeks after all exudation has disappeared, and indeed every other manifestation of disease. A physician who entered the hospital with tonsils and palate covered with membrane insisted upon leaving between the second and third week. His pulse was feeble and he was warned of danger. Shortly after his departure he died suddenly of heart failure.

When the local manifestation of the disease is slight and there is no sepsis, the heart may suffer comparatively little. There seems to be a direct ratio between the amount and character of the local inflammatory process and exudation, and the nature and severity of the constitutional symptoms, especially as regards the heart. In mild diphtheria a rapid or irregular pulse, without other constitutional symptoms, does not seem to portend the danger that the same action does in severe septic cases. In a number of instances an irregular pulse during convalescence has been improved by letting the child get out of bed. For example:

Minnie C——, ten years old, sick two days on admission. Thick yellowish deposit on right tonsil. The patient was pale and poorly nourished, and the day after admission the pulse became irregular in force and frequency. Free stimulation ordered. No vomiting or pains, and mental condition good. During the next few days the general condition markedly improved, but the pulse continued irregular, the stimulation apparently not affecting it. On the twelfth day she was very bright and well, except for the irregular pulse, and she was allowed to sit up. No effect on the pulse, except a slight improvement in regularity. She was then up daily until her discharge on the sixteenth day, when the pulse was of good force and almost entirely regular. She was given two thousand units of antitoxin on admission.

An irregular or intermittent pulse, without symptoms of prostration, cannot have the same significance as when the two coexist, as shown by this and similar cases. Physical signs referred to one organ must to a certain extent be interpreted by the way other organs are acting and by general rational signs.

During the course of diphtheria, as well as during convalescence, the heart must be most carefully watched. If it responds to stimulation the case is correspondingly hopeful. In the grave type of the disease cited in the first few cases, no stimulation has any effect upon the heart. All stimulants have been tried, but reliance is placed principally upon whiskey, strychnine, nitroglycerin, and, in some cases, digitalis. When vomiting begins, with pallor and stupor, frequent hypodermic stimulation is employed, as it is useless to try the stomach, which rejects everything.

Not infrequently children lose their lives because they cannot be kept quiet, but insist on sitting up in bed or tossing about. Small doses of morphine given hypodermically are most effectual when the pulse is weak and irregular and the child very restless. After a hypodermic they lie quietly, and thus the heart is relieved of extra strain. The direct action of non-narcotic doses of morphine upon the heart is likewise steadying and stimulating.

In the clinical study and observation of cases at the hospital, the writer is indebted to Dr. Poor, of the staff, for aid and co-operation.

Aphasia.—The object of treatment is to restore the conduction of impulses along the usual paths or to open up new paths. In amnesic aphasia, endeavor to strengthen the defective recollection of words. Learn the words by heart, and then adopt short reading-exercises. The exercises should be performed in front of a mirror, so as to enable one to recall the memory of the necessary movements. In motor aphasia other parts of the brain may take on function. Single sounds, then syllables, and then words, are taught. Along with the articulation exercises, writing-exercises with the left hand should be performed. Teach the patient to form words from printed letters. Sensory aphasia is far more difficult to teach. First attempts are made by means of written language. Develop lip reading, combining with it reading, writing, and other exercises. These cases are often complicated with a combination of different forms of aphasia. Much patience is required. Results so far encourage further efforts. — KARL BOK, *Festschr. des Stuttgart. aerztl. Vereins*, 1897.

FURTHER STUDIES (THIRD SERIES) ON THE GONOCOCCUS* (NEISSER).†

By HENRY HEIMAN, M.D.,

NEW YORK.

In my second paper, entitled "A Further Study of the Biology of the Gonococcus," etc.,[1] I called attention to the comparatively long viability of the gonococcus in liquid culture media, such as liquid chest-serum plus nutrient broth, etc. The experiments of transplanting the gonococcus on such liquid media I continued, and after eighty-two days I was still able to find the gonococcus by transplanting the same from the liquid medium on chest-serum agar, but not in cover-glass preparations. Recognizing the fact that the gonococcus had been found in the exudates of chronic urethritis cases of four years' standing or more, I was anxious to determine the number of times it was possible to transplant the gonococcus from its original culture medium to other similar media. I therefore substituted the following experiments:

First, I planted the gonococcus on chest-serum agar and then transplanted the same every fifth or sixth day on a chest-serum agar tube. This experiment I repeated twenty-five times, showing that the gonococcus can be transplanted probably indefinitely under proper conditions. This fact very likely accounts for those cases of chronic gonorrhœal urethritis of years' standing which still present the gonococcus in cover-glass preparations and culture media. This set of cases must not be confounded with those cases of chronic urethritis in which an old gonorrhœal infection is accountable for the diseased urethra. This observation was made by Wassermann,[2] who showed that gonococci produce toxins, and that gonococci cadavers contain these toxins and remain toxic for a long time. Wassermann's experiments show that chronic urethritis may exist as a result of the gonococcus directly, or of its toxin products indirectly, and that injections of these toxic materials are followed by pathological conditions of the urethra. In corroboration of these facts I hereby present the following schedule, showing fifteen cases of chronic urethritis sent to me for culture experiments, which were pronounced cured by their medical attendant.

TABLE I.—EXAMINATIONS OF GONORRHŒAL THREADS OF CHRONIC URETHRITIS CASES WITH COVER-GLASS AND CULTURE MEDIA BY MEANS OF THE CENTRIFUGE.

Number of Injection.	Duration of Disease.	Condition of Urine.	Cover Glass.		Cultures.		Number of Cases.	Percentage.		Remarks.
			Positive.	Negative.	Positive.	Negative.		Cover Glass.	Culture.	
First.	8 m.	Clear, few threads.	..	1	..	1	1			
First.	1 yr.	do.	..	1	..	1	1			
First.	1 yr.	do.	..	1	..	1	1			
First.	1 yr.	Cloudy.	..	1	..	1	1	..	..	After injection of Ag. No. 3.
First.	1 yr.	Clear, few threads.	..	1	..	1	1			
First.	1 yr.	do.	..	1	..	1	1			
First.	1 yr.	do.	..	1	..	1	1			
Second	14 m.	do.	..	1	..	1	1			
First.	15 m	do.	..	1	..	1	1			
First.	16 m.	Cloudy.	..	1	..	1	1	..	..	After injection of Ag. No. 3.
First.	4 yr.	Clear, few threads.	..	1	..	1	1			
First.	5 yr.	Cloudy.	..	1	..	1	1	..	..	After injection of Ag. No. 3.
First.	5 yr.	Clear, few threads.	..	1	..	1	1			
First.	6 yr.	do.	..	1	..	1	1			
			..	15	..	15	15	%	%	

* This paper is based upon experiments conducted in the bacterial laboratory, department of pathology of the College of Physicians and Surgeons, Columbia University, New York

† Read at the meeting of the genito-urinary section, New York Academy of Medicine, December 14, 1897.

The urine of most of these cases showed threads, and in no single case, as the table will show, was the gonococcus demonstrable by cover-glass preparations and culture media.

In the last edition of Bouchard's[3] "Pathology" the statement is made that Strauss, Pescione, and Eraud claim to have found the gonococcus in the normal urethra. The opinion to which my observation leads me is entirely at variance with that of the above-named writers. I believe that the gonococcus does not exist in the normal urethra. In reading the published reports of the experiments of Strauss, Pescione, and Eraud, I find that their work was deficient in that they did not avail themselves at that time (1889 and 1890) in their experiments of either culture media or of Gram's stain. Strauss[4] cites the case of a boy, sixteen years of age, in whom he found the gonococcus. The boy was of weak constitution, a confirmed masturbator, and he claims the boy masturbated last eight days before the purulent discharge made its appearance. Strauss simply used ordinary aniline dyes for staining, and concludes that the gonococcus may be an unoffensive host, an ordinary saprophyte in a healthy urethra, and that through such irritation the gonococcus may invade the epithelium and produce a catarrhal condition. Pescione's[5] experiments are in the same line, and his conclusions are similar to those of Strauss. Eraud[6] publishes similar histories, based on experiments, which were questioned even at that time by Verchère. The fact that we cannot in every instance, particularly in the vulvo-vaginitis of children, trace the source of infection, by no means justifies us in believing that the gonococcus has a normal habitat in the urethra or in the vulvo-vaginal tract of children. A former paper[7] on the gonococcus (*q. v.*) fully covers this point. A most interesting fact in the life history of the gonococcus in connection with this point was demonstrated by Welander's[8] experiments. He caused flies to be dipped in gonorrhœal pus and then allowed them to fly about and land upon suitable culture media. At the expiration of three hours he could still demonstrate gonococci colonies on culture media. The theory that a diplococcus exists as a saprophyte in the normal urethra, and that it develops under certain favorable conditions into the gonococcus, is certainly questionable.

Rectal Gonorrhœa.—Rectal gonorrhœa undoubtedly occurs more frequently than is usually believed or recognized, especially in women. In a paper by Baer,[9] the author found sixty-seven out of one hundred and ninety-one cases of gonorrhœa to be suffering from rectal gonorrhœa. He did not, however, succeed in cultivations from the rectal secretions. Schultz[10] found fourteen out of one hundred and seventy-four gonorrhœal cases to be suffering from rectal gonorrhœa. *En passant*, I beg to report four cases of rectal gonorrhœa, in two of which I was enabled to demonstrate the gonococcus not only with cover-glass preparations, but also by culture media.

CASE I.—Female, single, aged nineteen years; presented rectal and vaginal discharges. Dispensary patient of Dr. Moskowitz. The rectal symptoms predominated and caused her to seek medical advice. This patient's hymen seemed to be intact, and she stated that intercourse occurred in the standing position and she was unable to tell whether her vagina or rectum was entered. The rectal secretions were examined with cover-glass preparations and by culture media, with positive results.

CASE II.—Female, aged twenty-four years, married three months. Patient of Dr. Brettauer. Husband had chronic gonorrhœa. This patient suffered from endometritis, bartholinitis; as a result of the last an abscess formed and ruptured into the rectum, causing the rectal gonorrhœa. The rectal discharges were

examined by me with cover-glass preparations by Gram's method and with culture media, with positive results.

My other two cases were examined only by cover-glass preparations (Gram's stain), with positive results. In the one case of a boy the infection occurred through pederasty; in the other, a female child, three years old, who originally suffered from an ischio-rectal abscess, the infection occurred from a vulvo-vaginitis, which she acquired in a hospital.

Gonorrhœal Arthritis.—The following four cases of gonorrhœal joint affections that came within my own observations are of interest in connection with the study of the gonococcus. In two of them the experiment included culture media.

Case I.—Newborn female child, patient of Dr. Jarecky. In this case the joint affection followed a gonorrhœal ophthalmia, which made its appearance on the sixth day after birth. Two weeks later the small finger of the right hand became swollen, and forty-eight hours later the left wrist became similarly affected; three days later the left great toe was found swollen, and presented all the symptoms of an acute inflammatory process. An incision into the toe revealed an infiltration and a little pus. The following day, when I first saw the case, we found the wound closed and covered with a crust, which was removed and the wound reopened. We could then detect a focus of pus, which was utilized for experimental purposes. Cover-glass preparations were made and examined by Gram's method, gonococci being found in considerable number.

Case II.—Female child, eleven years old, suffering from vulvo-vaginitis, in the discharges of which gonococci were found in cover-glass preparations (Gram's method). The left elbow-joint became swollen and fluctuating two weeks after the vulvo-vaginal infection. The aspiration of the elbow-joint showed a serous effusion. The examination for gonococci with cover-glass preparation gave a negative result.

Case III.—Male patient, aged seventeen years, with acute gonorrhœa. On the twenty-fifth day after infection an acute inflammatory process appeared in the right wrist, with pains in the left ankle, right shoulder, and left wrist. I aspirated the right wrist three weeks after the swelling first made its appearance here; a little effusion was removed and examined by cover-glass preparations and culture media, with negative results. The urethral secretion gave a positive result with culture media.

Case IV.—Male, aged twenty-eight years, with gonorrhœa of three months' standing. This patient then developed a swelling over the left sterno-clavicular joint, accompanied by a rise of temperature. A probatory puncture revealed a serous fluid free from gonococci. Twenty-four hours later a second puncture revealed pus, in which gonococci were found by cover-glass preparation and culture media. I need hardly state that in both instances the syringe employed and place of puncture were rendered thoroughly aseptic.

Inoculations into the Eyes of Newborn Rabbits and Kittens with the Gonococcus (Neisser).—Heller,[11] of Berlin, believing newborn animals more susceptible to gonorrhœal infection than old ones, employed only newborn rabbits in his inoculation experiments. On this account, I also resorted to newborn rabbits and kittens. I first inoculated a series of six newborn rabbits on different days—three on the third day after birth, two on the fifth, and one on the sixth. Of course the lids of the rabbits, being closed, were forced open for inoculation purposes. In this series of experiments the results, as far as the production of gonorrhœal ophthalmia was concerned, were negative, even after the expiration of fourteen days. There was not even a serous discharge as a result of the mechanical irritation depending upon the inoculation. The experiment was performed in the following manner:

The eyelids having been forced open, a sterilized platinum loop was passed under the lids, then withdrawn, and then streaked on chest-serum agar plates. This procedure was for control purposes, no gonococci being demonstrable. Then a pure gonococcus culture was introduced under the lids and was rubbed all over the palpebral conjunctiva. Twenty-four hours later the eye was examined and no discharge was observed. The platinum loop was reinserted under the eyelids, then streaked upon chest-serum agar plates, all with negative results. This procedure was repeated on the second, third, and sixth days after the attempted inoculation, always with a negative result.

For the second series of experiments, six newborn kittens were employed, in each of which an attempt at gonorrhœal injection into the eye was made and in the same manner as before. In all cases the results were negative. Next a rabbit, about one month old, was employed. An irritation of the eye was artificially produced by instilling a few drops of hydric acetate. Before the instillation the mucous membranes of the eye were examined for the presence of the gonococcus, and none found. Forty-eight hours after the instillation of the acid, the conjunctiva of the eye was found swollen and congested, while the cornea was hazy and much secretion was present. An examination of this secretion made with cover-glass preparation and culture medium revealed numerous cocci, but no typical gonococci. I then inoculated the same eye with a pure culture of the gonococcus, and in twenty-four, forty-eight, and seventy-two hours the examination for gonococci gave a negative result.

The following summary of my experiments shows that:

1. The gonococcus can be kept alive in certain liquid culture media as long as eighty-two days.

2. The gonococcus can be transplanted probably indefinitely from one culture medium to another. I succeeded in transplanting it twenty five times.

3. Fifteen cases of chronic urethritis, pronounced on clinical evidence cured, were found to be entirely free from gonococci, as judged by cover-glass preparations and cultures.

4. The statements of Strauss, Pescione, and Eraud, that the gonococcus occurs in the normal urethra, is not satisfactorily proven by their published experiments.

5. Rectal gonorrhœa can often be detected by suitable examination. In two out of four cases of my own a bacteriological diagnosis was possible.

6. Gonorrhœal arthritis may be a sequela of ophthalmia neonatorum.

7. My experiments on the inoculation of the eyes of newborn rabbits and kittens with gonococci gave negative results.

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220 EAST ONE HUNDRED AND SIXTEENTH STREET.

A CASE OF COLLES'S FRACTURE TREATED PRONE ON A FLAT SPLINT, WITH CHIEF REGARD TO RUPTURED LIGAMENTS.

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WHATEVER doubt may have existed as to the true nature of Colles's fracture and the causes of the subsequent deformity in many cases, the *x*-ray has removed. In my paper in the MEDICAL RECORD for May 8, 1897, I attempted to show that the deformity, often following treatment in the best hands, was due to ruptured ligaments rather than to broken bone; and I attempted to map out a line of treatment which looked especially to this view.

I tried to show that in severe cases of Colles's fracture, besides the fracture of the lower end of the radius, be it simply transverse or comminuted, its styloid process was broken off, and with it the styloid process of the ulna; and that the two radio-ulnar ligaments and the strong internal lateral ligament were also ruptured. The other ligaments of the joint must also be more or less affected, but the above-mentioned ones were chiefly concerned in the subsequent deformity. That the rupture of the internal lateral ligament was shown by the falling of the hand to the radial side and by the breaking off of the styloid process of the ulna, so beautifully shown by the *x*-ray.

Since writing that paper I have had a typically severe case of Colles's fracture whose nature and

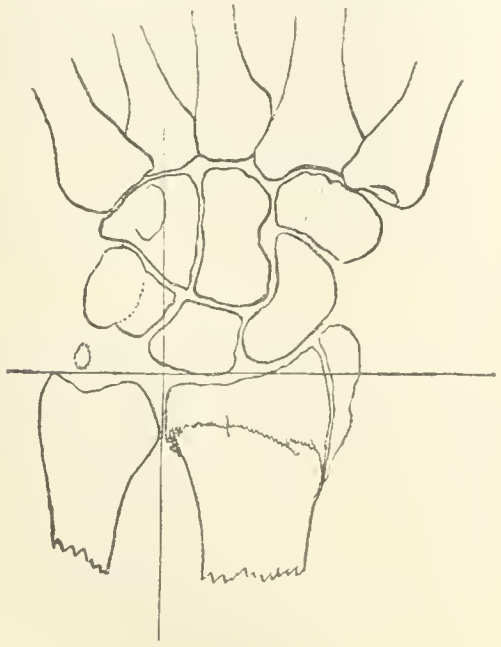

FIG. 1.

course I have carefully studied through the fluoroscope, and whose treatment has been based on the view there set forth. The study of this case has not only emphasized what I then wrote, but has also shown that the treatment is right in principle, even if the details of its carrying out are not all perfected.

A gentleman of thirty-eight fell through a hatchway, sustaining a Colles's fracture. When first seen

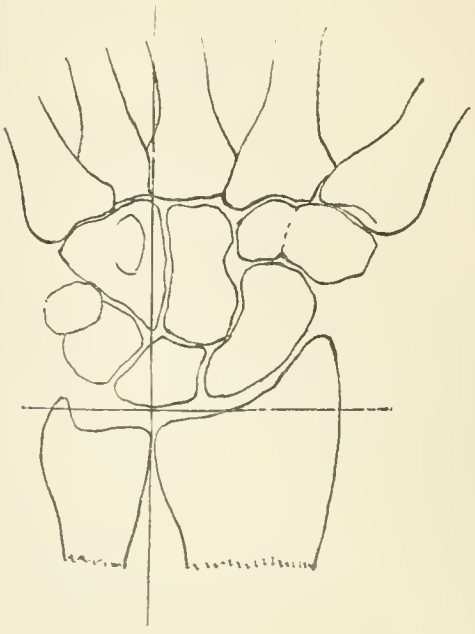

FIG. 2.

the deformity was great, the distal fragment of the radius being displaced dorsally, which gave the characteristic silver-fork deformity, and also the appearance as if both bones were broken. This was remarked by the physician I called in to give the anæsthetic. The patient was very thin and there was only a moderate amount of swelling present. Under chloroform I replaced the broken fragments with ease, and put up the wrist by the method described in my paper. The wrist and forearm were laid prone and in a straight line with each other on a light flat splint, slightly padded, and extending from an inch below the elbow to the metacarpo-phalangeal articulation, thus permitting free movements to the fingers. To overcome the displacement of the ulna toward the palmar surface, a wedge or prop was made of a narrow roller bandage, rolled sufficiently thick to bring the ulna into its natural plane, and long enough to extend well over the pisiform bone, thus bridging the ulno-carpal joint and forming a *point d'appui* for the retaining bandage. I dispensed with the pad over the point of fracture in the radius as there was no tendency to displacement, and the general roller bandage seemed quite sufficient to hold it in place. With a narrow bandage, say one and one-quarter to one and one-half inches wide, I started on the ulnar side over the pad and carried it around under the splint to the radial side, and over the dorsum of the wrist to the point of starting, making two turns; then from the radial side over the dorsum of the hand to the metacarpo-phalangeal joint of the little finger, under the palm to the corresponding joint of the index finger, and finally across the dorsum of the hand diagonally to the point of starting, thus making a figure of eight; and this repeated two or three times. The bandage was then continued up the forearm to the upper end of the splint. This kept the hand in a straight line with the forearm. Thus placed, a straight line through the middle of the index finger will touch the outer edge of the styloid process of the radius; this is a good guide. Towels wrung out of cold water were applied and continued at intervals for a week, alternating with gentle massage. As soon as the patient could get to my office, about thirty-six hours after the injury, the parts

were examined by the fluoroscope through the bandage and splint and found to be in good position. I saw a small fragment of the styloid process of the ulna broken off which I had failed to detect in my manipulations under chloroform, though I had carefully sought for it. It was of course too small to be detected in that way. This proved that the internal lateral ligament was torn loose.

At the end of three weeks I took a careful radiograph of the wrist from which the above outline tracing has been made (Fig. 1). After much thought and experiment I have come to the conclusion that the best way to show the revelations of the *x*-ray in such a case is to trace the outlines carefully on tracing-cloth or paper over the negative by a strong transmitted light, all other light being shut off. For the correctness of this tracing I can vouch, and I think it will show in a very striking way the fractured bones and their relationship to the carpus. It shows the characteristic transverse fracture of the radius as well as its fractured styloid process, both fragments in good position. The little piece torn loose from the styloid process of the ulna is plain enough. In replacing the dislocated ulna it has been perhaps slightly over-replaced and has been separated from the radius more than normally exists, not apparent, however, in examining the wrist. There is evident a slight falling of the hand to the radial side with a certain amount of adduction causing a displacement of the hand of about four millimetres, also apparent on examining the hand and forearm. For comparison I have introduced a similar tracing of a normal wrist, taken, of course, from another subject, as shown in Fig. 2.

The bandage was kept on six weeks, the parts being gently massaged several times daily. I consider this length of time necessary for the restoration of the ruptured ligaments. The movements of the wrist were found to be fair enough; there was a slight thickening over the dorsum of the radius at the point of fracture. I doubt not that three or four months will quite restore the parts to their natural movements. The patient, at any rate, is satisfied with the result.

This treatment is not only simple but it gives the surgeon complete control of the parts for appliccation and massage, and he can watch any slipping of the parts from their original reposition. Moreover, the prone position is the best one for a correct placing of the distal ends of the radius and ulna, the two bones at their ends being farthest apart in pronation. In this position, again, there is the least strain upon the ligaments; it is the most natural position for the forearm and hand when at rest. In this position, further, the distal ends of the ulna and radius are most symmetrically placed to the bones of the carpus, and the carpus and forearm are more nearly in the same plane. Plaster-Paris and the many cumbersome splints figured in our text-books and quite generally used must go. Any splint or bandaging which prevents a constant inspection of the hand and forearm is dangerous, for there is ever a tendency of the hand to fall to the radial side from the ruptured ligaments and the muscular pull, as well as the dorsal displacement of the lower fragments of the radius.

The tendency in the modern treatment of fractures is toward a simpler retaining apparatus as well as a more systematic use of massage, electricity, and passive movements; and certainly the wrist offers the best opportunity for carrying out this principle. A simple transverse fracture of the radius when properly replaced, should this even be necessary, requires the simplest bandage. It is only when the more important ligaments are ruptured that the best judgment and care of the surgeon are brought into play; and now there is added to our resources the magic of the *x*-ray, that dark light which illumines as no other light can.

BACTERIUM COLI COMMUNE (ESCHERICH) IN THE URINE, AND ITS SIGNIFICANCE.

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FELLOW N.Y.A.M.

Two of the cases to be reported have interesting features aside from the above-mentioned; they are therefore discussed more in detail.

Case I.—Mathilda L——, aged fourteen years, was sent to me by the family physician, with the following history: For a number of years she has been suffering from vertigo. Three years ago the family physician was consulted, and, locating the cause in the naso-pharynx, he sent her to a specialist for treatment. This being of no avail, she was placed upon tonic treatment, with the hope, it was said, that she would outgrow the affection. About six months ago the vertigo became so severe that the patient was compelled to take to her bed. From what I can gather, the symptoms at that time were vertigo with loss of consciousness, severe supra-orbital and infra-orbital neuralgia, and retention of urine. After she had been in bed some two weeks the severity of the attacks of vertigo diminished, and the rentention, after the frequent use of the catheter, ceased. The supra-orbital and infra-orbital neuralgia, however, continued, and it was for this that she was sent to me for treatment.

Family history: Both grandparents died of old age. She has no chronic nervous disease nor is there nervous disease in the family. Mother neurotic; father perfectly well. She has one sister and four brothers, who all had convulsions in infancy; at present they are perfectly well.

Previous history: She has with the exception of measles and whooping-cough never been seriously ill. She nursed as an infant, and was the only one of six children who never had convulsions. A year and a half ago she began to menstruate, and has since then been regular. She did well at school; she worked very hard and always stood well in the class. At home her mother had always found her obedient and congenial, and in no way different from any of the other children.

Status præsens: March 6, 1897, the patient complains of pain over the supra-orbital and infra-orbital foramina. There are frequent but not periodic attacks of vertigo, which apparently have no connection with the ingestion of food or exertion, but are somewhat relieved by the prone position. They are said to come on suddenly without premonition and are accompanied by partial loss of consciousness. She has never, however, fallen in the street or in any public place; on the contrary, she has always found support and is able to call for assistance. The girl is irritable and prone to fits of passion, as the mother says, with very slight provocation or without assignable cause. She is moody, refuses to associate with her relatives and former friends, and, though formerly very particular, she now takes no interest in dress. Her manner is shiftless, and she strongly impresses one as an hysterical individual. Bowels and micturition normal; appetite fair.

Physical examination, head: No signs of degeneration. Pain on very slight pressure over the supra-orbital and infra-orbital foramina. Eyes, ears, nose, and throat, examined by Dr. Borkan, show no abnormality. Lungs, normal. Heart, arrhythmic one beat in ten omitted; otherwise normal. The liver and other abdominal organs show no sign of disease. Blood, leucocytosis. Urine, normal.

Diagnosis: Auto-intoxication. Treatment, resorcin, outdoor exercise, and cold baths. Galvanization of

[1] Read before the San Francisco County Medical Society.

the supra-orbital and infra-orbital nerves. Improvement very slight.

On April 14th, it was said that the patient had passed no urine for over twenty-four hours. There being no distention of the bladder or any other alarming symptoms, I refused to use the catheter, in spite of the solicitude of the mother. When, however, after forty-eight hours she still insisted upon having passed no urine, I used the catheter.

Urine: Quantity, one hundred and fifty cubic centimetres; specific gravity, 1.015: showed no abnormality. Again she was said not to have passed urine in forty-eight hours; the urine passed at the end of that time was also normal.

The symptoms other than the psychical were not influenced by the four days of retention. Thenceforth, however, the mental condition became more and more precarious. She had frequent attacks of what is ordinarily called hysterics and spoke continually of being tired of life, and the like. This condition became progressively more and more difficult to combat, and, as the home influence was such as not to warrant the hope of improvement there, I advised either taking the patient to a hospital or sending her to a sanatorium. The parents not sharing my opinion as to the benefit to be derived from such a course, I withdrew from the management of the case. Another physician was called, the diagnosis incipient melancholia made, and rest cure advised.

I was called again several days later, and it was suggested that the girl be sent to Dr. Robertson's sanatorium at Livermore, to which I agreed. Here she improved both mentally and physically. It was found necessary, however, to take the urine by catheter throughout the three weeks of her stay. She was carefully watched, and I was informed by Dr. Robertson that the quantity of urine was markedly diminished, though it was otherwise normal.

May 22d, she returned from Livermore and was seen the following day. She looked very well; heart beat rhythmical, abdomen tender. Urine by catheter was one hundred and eighty cubic centimetres, cloudy, acid in reaction, and fetid; specific gravity, 1.025. It contained a trace of albumin, red blood corpuscles, and the micrococcus ureæ. Urea was given to promote diuresis; other treatment as before.

May 25th, urine by catheter. Quantity, two hundred cubic centimetres; specific gravity, 1.022; albumin, trace; red blood corpuscles, micrococcus ureæ.

May 26th, she complained of intense pain over the course of the right ureter, radiating to the bladder; abdomen extremely sensitive. Urine by catheter, two hundred and fifty cubic centimetres; red and white blood corpuscles, abundant micrococcus ureæ. The pain over the ureter, the suppression, and the blood in the ureter led me to suspect stone in the pelvis of the kidney or ureter. The pain continued paroxysmally during the night and next morning. I therefore asked Dr. Rosenstein to perform cystoscopy in order to determine positively, if possible, the presence of stone and its exact location. The Kelly cystoscope was used. The patient took the chloroform very badly, and though a clear view of the bladder was obtained it was impossible, through lack of time and the poor surroundings, to pass a catheter into the ureter.

May 28th, the day following the operation, pain was paroxysmal but not so severe. Urine: quantity, five hundred cubic centimetres, cloudy, acid reaction; specific gravity, 1.021: it contained 2.2 gr. of albumin (Esbach), bladder epithelium, red and white blood corpuscles, and was loaded with uric-acid crystals.

Treatment: Urotropine, 1.5 gr. a day, alkaline water: potassium bromide and chloral hydrate per rectum when the pain was severe.

May 30th, the urine was still loaded with uric-acid crystals, but there was a marked diminution in the other abnormal constituents. From now on the pain over the ureter gradually diminished in severity, the quantity of urine increased, and the blood, uric-acid crystals, and other abnormal constituents disappeared. The mental condition on the contrary became more and more difficult to combat. She became hysterical and refractory, a source of constant worry and annoyance to those surrounding her. This condition I had no doubt was in a measure due to the lack of tact upon the part of her relatives, so, when on June 7th the urine was again normal in character, I sent her to the country.

On her return, June 18th, she complained of tenderness over the entire abdomen, so that she could hardly bear the weight of her clothes. There was obstinate constipation, and she still had attacks of vertigo, though these were very much less frequent. Urine normal. She was given aloes, rhubarb, strychnine, and belladonna for the constipation, and the alkaline water and constitutional treatment were continued.

July 27th, I was again called. There were naso-pharyngeal catarrh, pain over the bladder, frequent and painful micturition. Urine cloudy, acid; specific gravity, 1.019; it contained a few flakes of bladder epithelium and the bacterium coli in large numbers. The urine continued to be loaded with the bacteria (which were motile and otherwise characteristic) up to a week ago, when after the bladder was washed six times with a weak solution of creolin (one-half per cent.) they disappeared, only to reappear to-day. The pain over the bladder had, however, disappeared, micturition was very much less painful or frequent, and the mental and other symptoms were now entirely absent.

Case II.—G. M——, aged ten years: family history good. She has never been seriously ill until the first attack of the present illness. She is of an extremely nervous temperament and up to a year ago her mental development had been slow; since then it has been rapid. In November last she was taken suddenly ill with vomiting and constipation. The attack was mild and she soon recovered with but slight treatment. Up to August 5, 1897, she had three more attacks, which were progressively more and more severe. On August 5th she had the attack of greatest severity. While playing in the street she suddenly became nauseated and began to vomit. She was immediately put to bed, where she soon sank into a state of semicollapse. The retching and vomiting became almost continuous. She refused to answer questions and was apparently oblivious to her surroundings.

Physical examination: Pupils contracted; heart beat feeble and rapid; abdomen distended and tympanitic, but not tender. Bacteriological examination of the vomit showed the colon bacillus in pure culture.

Treatment: Lavage of the colon, rectal feeding, stimulation.

During the following two days the condition became more precarious. The pulse could with difficulty be felt at the wrist, the extremities were cool, there were jactitation and continuous retching. Pustules made their appearance upon the tongue and lips, and cultures from these showed the presence of the colon bacillus in far greater number than other micro-organisms. The urine, which had heretofore been normal, on the fifth day looked like grease, contained albumin and the bacterium coli commune in enormous numbers.

Treatment: Chloral hydrate and potassium bromide, sherry, and peptone per rectum; strychnine hypodermically; lavage of the colon.

On the sixth day the vomiting and retching ceased, the urine was perfectly normal, and the child began to improve.

Since then she has had three attacks, each one milder and shorter than the preceding. In none of these has the colon bacillus again appeared in the urine.

The administration of resorcin and lavage of the colon between the attacks and the administration of chloral and bromide as soon as the attacks began, I think, did much to mitigate their severity.

Case III.—S. W——, girl, aged nine years. Previous history: Though always delicate she has except for measles never been seriously sick. For some time she has been suffering from vertigo. She recently passed a large number of ascarides lumbricoides in the stool.

Status præsens: Complains of pain upon urination and inability to retain urine.

Physical examination: Otitis media chronica. No other abnormality. Urine cloudy, acid, and of fetid odor; specific gravity, 1.015; loaded with the bacterium coli commune (Escherich).

She was given santonin and castor oil, and passed a very large number of the ascarides. She was then put upon salol, three decigrams thrice daily, and after two weeks was discharged cured.

Case IV.—P. A——, girl, aged one year and nine months. Previous health good. For the last two weeks she cries upon urination. Urinates very frequently and only in small quantity. No other abnormality. Urine cloudy, acid, fetid; specific gravity, 1.016; large numbers of the bacterium coli commune.

Treatment: Salol, 0.2 thrice daily: lavage of the bladder with one-half-per-cent. creolin solution. One week later she was discharged cured.

That the bacterium coli commune (Escherich) which inhabits the normal human intestine can under certain conditions, or when it invades other organs, become pathognomonic, has been proven beyond question. Recent investigations[1] have shown it to be the most frequent and most important etiological factor in the gastro-enteric diseases of children,[2] in fact it has been found in connection with inflammatory processes of nearly all the organs.[3]

Interesting as it would be, it would lead too far were I to discuss even superficially its morbid influence in the many affections with which it has been found associated. I must therefore confine myself to the discussion of its causal influences in the cases presented.

Since Krogius (1891)[4] found the bacillus pyocyaneus of Albarran and Hallé and the bacillus septicum of Clados identical with the colon bacillus, the investigations and experience of many authors have shown the colon bacillus to be the most frequent cause of cystitis, pyelitis, and pyelo-nephritis. Savor[5] reports seventeen cases of ascending nephritis, in ten of which he found the colon bacillus in pure culture, and in three associated with the proteus of Hauser. Von Wunscheim[6] found it in pure culture in eleven out of sixteen cases.

In my cases it is plain that the colon bacillus played at least a very important part in bringing about the disease; in two of the cases it was certainly the direct cause (Cases III. and IV.). Its presence in pure culture in the urine and vomit in one of the cases, and its presence in the urine in the others, and the rapid improvement which followed its disappearance, make this almost certain.

In the early records of Case I. it is noted that the micrococcus ureæ was found. At that time I had not the bacillus coli in mind, and did not examine the organisms thus named very closely. Now, after close observation I have no doubt that these organisms which appeared spherical were colon bacilli in rapid motion, which gave them this circular appearance. At any rate, no organism was found until the patient returned from Livermore, and I see no reason to believe that they were not the same then as they were afterward, especially as there was no record of ammoniacal urine.

The diagnosis of auto-intoxication in this case was based upon the arrhythmic heart action, vertigo, neuralgia, coincident with leucocytosis, which are symptomatic of poisoning by the xanthin bodies. Later, when to these symptoms were added hypochondria, hysterical manifestations, pain over the ureter, blood and uric-acid crystals in the urine, and retention, the case became typical of the condition known as uric-acid diathesis. Finally, the blood and severe pain suggested the presence of stone either in the pelvis of the kidney or in the ureter.

Here a word of explanation is perhaps necessary. Formerly uric acid was supposed to be a product of the general albumin metabolism and an intermediate stage in the formation of urea. Since the researches of Beneke (1874) this theory has been considered untenable, and has been for the most part abandoned. The researches of Hertraczewski and Kossel have shown that the uric acid is the end product of nuclein: moreover that the so-called xanthin bodies are intermediate stages in the uric-acid formation. Recently Hertraczewski has shown that the destruction of nucleated cells, especially white blood corpuscles, within the body causes a perceptible increase in the amount of uric acid excreted. In leukæmia he found the amount of uric acid to increase in ratio to the increase of leucocytes, and Dunnin and Norbaczek found the same to be true in the resolution stage of croupous pneumonia, when, as is known, large numbers of leucocytes are destroyed. When the xanthin bodies are not completely oxidized they are not readily eliminated, and circulate within the body, causing intoxication or, as it is called, auto-intoxication. Experiments with these substances upon animals produce symptoms closely allied to such diseases as rheumatism, gout, lithiasis, etc., and these diseases are considered by many to be of this nature.

We have in our case signs and evidences analogous to those caused by poisoning by the xanthin bases, or auto-intoxication. We find on the other hand at various stages of the disease the colon bacillus present in the urine. Have we here two separate and distinct morbid conditions, coincident but not dependent. Are they interdependent, or does one cause the other? The question is difficult to decide. On theoretic grounds it might be supposed that there was primary infection from the colon bacillus, that this organism interfered with the function of the kidneys, and considering, as some authors do, the kidney as the seat of the uric-acid formation, that there were incomplete oxidation and auto-intoxication by the xanthin bodies. This, aside from the fact that the action of the kidney in the uric-acid formation is still hypothetical, is from the history of the case improbable. The facts that the characteristic symptoms of auto-intoxication were present long before anything abnormal was found in the urine, and that the colon bacillus appeared only after frequent catherization, the usual cause of infection, point to this as a secondary affair.

Charrin and Bouchard[7] found the bacillus not infrequently present in the male urethra and in the vulva, and they as well as others state that the bacillus is usually carried into the bladder with the catheter or sound. In this case there was catarrhal vaginitis, and the mucus from the vagina gave a pure culture of colon bacilli. It seems therefore only reasonable to consider the catheter the cause of infection.

In the other cases infection cannot readily be traced to this source. In Case II. the catheter was never used, and cultures from the vulva and vagina never showed any colon bacilli. Here as in the other two cases the bacillus must have entered the bladder directly by penetrating either the intestine or rectum. That it can penetrate the intestine has been shown by a number of investigators. Redet and Roux found it in a large number of cases of peritonitis of intestinal origin, in many of which the bacillus must have pene-

trated the intestinal wall. Wreden[8] by experiment found that it can gain entrance directly from the rectum to the bladder when the rectal mucous membrane is injured. Posner and Lewin[9] bloodlessly occluded the rectum and simultaneously tied the urethra in animals; the result was the appearance of the colon bacillus in the urine and the development of cystitis. The bacillus in these experiments did not in all probability directly invade the bladder, for when the bacillus prodigiosus was injected into the intestine under similar conditions it was found not alone in the kidney and urine but also in the blood and bile.

Case II. seems to me analogous to the three experiments. The sudden onset of the symptoms, the absence of indigestion, constipation, and diarrhœa previous to the attack, the persistent vomiting and collapse, indicate some poisoning or intoxication. It would not, judging from the frequent repetition of the attacks and from the relief obtained by the sedatives and high irrigation, be difficult to ascribe the disease to volvulus, which by partly occluding the intestine allowed the toxins of the no doubt virulent colon bacillus to be absorbed, or cause, as was undoubtedly the case, general infection. Of course this must remain problematical; still in my opinion this is the nearest approach to a positive diagnosis. That general infection took place is proved by the bacilli found in pustules on the tongue and lips, and that they passed into the urine from the blood is proved by their disappearance from it when the other symptoms disappeared.

In Case III. a condition of greater permeability of the intestine was probably caused by the irritation of the ascarides, and the bacillus in this case probably took the direct route to the bladder.

In Case IV. the method of invasion must remain doubtful.

Of late, cystitis due to auto-infection by the bacterium coli commune of Escherich has been found quite common in children, especially in girls. Escherich first called attention to this disease by a report of four cases. Subsequently numerous cases were reported, and it is now beginning to find a place in the newer text-books on pædiatrics. Trumpp, in the last volume of the *Archiv für Kinderheilkunde*, reports thirteen cases, nine in girls and four in boys, which occurred in the hospital during an epidemic of enteritis.

Roberts, Reinhold, Ross, and Shottellius have published cases in which large numbers of colon bacilli were found in the urine, there being no other abnormality at the time of urination. According to Krogius[4] the urine is always acid, cloudy in appearance, and has a fetid odor. He has in a number of cases found it to exist without other symptoms. However, that in many cases it does cause cystitis is proved by the numerous instances reported by Escherich, Trumpp, Scherich, and others, and I think by the cases presented this evening.

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SCARLET FEVER A LOCAL DISEASE.

By LUKE FLEMING, M.D.,

TARRYTOWN, N. Y.

Scarlet fever is a self-limited, acute, infectious, local disease of the throat, presenting marked general symptoms. If I may be permitted to use this definition as a text and to claim for it originality, I probably shall be assailed by many, on the ground that in it there is nothing new. Still there is one part of it which I believe to be new and which I wish to emphasize, and that is that scarlet fever is a local disease of the throat. Furthermore, I hold that the commonly accepted teaching that the desquamated skin is the source of the germ, and in consequence that the desquamatory period is most dangerous, is wrong. Scarlet fever is the twin sister of diphtheria. They bear to each other in all the important features a close resemblance. Both attack the mucous membranes of the throat, especially of children. Both have a tendency to invade the nares and trachea, and both likewise produce false membrane. This production, however, is strong in diphtheria, and the resulting membrane is thick and gray, while in scarlet fever the production is weak and the membrane is thin and brown. Both, too, produce poisons similar in their destructive action upon the blood corpuscles, as is seen in those cases presenting hæmorrhagica purpura, and popularly known as "black scarlet fever" and "black diphtheria." In scarlet fever, however, the poison exercises a most marked irritative power on the organs by which it is excreted; if by the bowels, we get diarrhœa; by the kidneys, nephritis; and by the skin, dermatitis. The poison of diphtheria, on the contrary, is more akin in its action to aconite, paralyzing nerve tissue.

Now, diphtheria has for a long time been recognized as a distinctly local disease. Certainly no one thinks of looking in the skin, the urine, or the fæces for the Klebs-Loeffler bacillus. But scarlet fever has not received this recognition. It is called a constitutional disease, and we are presented with a spectacle somewhat unique, it seems to me, of men searching diligently in the cutaneous and urinary excretions for the bacillus of scarlet fever. Eckland describes what he holds to be the specific microbe found in the urine, and Edington another in the skin. A germ capable of producing the lesions of scarlet fever in passing through the system to reach skin and kidney would produce a general septicæmia from which few if any would recover. For instance, a woman sick with scarlet fever is delivered of a child. Would she develop puerperal fever? I think most men will answer that if proper asepsis is practised in her accouchement she will not. But if the scarlet fever germ is in the blood, she could not possibly escape it. Now if the germ is in the skin, it must get there through the general circulation, and that it is in the skin every text-book teaches. "The contagion of scarlet fever is probably not developed until the eruption appears and is particularly to be dreaded during desquamation."[1] "It is generally conceded that a scarlet-fever patient is most dangerous during the stage of desquamation, and that the branny scales of this period are the most frequent carriers of the contagion, though others claim like properties for the mucus, urine, and fæces."[2] I am inclined to question the truth of such statements. In my humble opinion neither skin, urine, nor fæces contains the germ except by accident; in the tissues of the throat this germ finds its first home and last resting-place, and it does not exhibit, as some would have us believe, a tendency "to wander away from its own fireside."

In scarlet fever the only constant lesion is a sore

[1] Osler: "Theory and Practice," p. 67.

[2] Starr: "American Text-Book of the Diseases of Children," p. 156.

throat. In eighty-eight cases seen recently at the Willard Parker Hospital, through the courtesy of the house staff, there was disease of the throat in all, varying in intensity from a mild inflammation to severe involvement of all the neighboring cervical tissues. In one there was a nasal discharge, as though the seat of the infection lay in the nose. As a general rule, the severity of the general symptoms in scarlet fever is in direct proportion to the severity of the local lesion in the throat. It may sometimes happen, however, that a child of weak resisting power will succumb quickly to the poison of an infection which in a clinical aspect is mild, and which in another child, of strong resisting power, would create only mild general symptoms. The condition of the throat is of the highest import in scarlet fever, and the most pronounced symptom, the rash, is of more importance in a prognostic than in a diagnostic sense. We can have a severe scarlet fever without a rash. Indeed, while a severe rash is indicative of a severe infection, it is not indicative of danger. But a severe sore throat and no rash are cause for the greatest alarm. To understand the value of the rash, we must start right by recognizing that scarlet fever is a disease of the throat, caused by a specific germ which produces a specific poison; and this poison, being absorbed into the circulation, must be excreted. A rash indicates that this poison is being excreted by the skin, whereas no rash indicates that it is being excreted by other organs, usually the kidneys. Now a poison capable of producing a dermatitis, such as we see in scarlet fever, is very severe in its action on the kidneys, and a severe rash therefore is a favorable symptom, because it tells us that the burden of this excretion is being done by the skin.

In view of this fact it is incomprehensible to me how any one can recommend a cold pack in the treatment of scarlet fever. It is claimed that by the consequent reduction of temperature the patient is relieved—insomnia, nervousness, etc., are overcome. It strikes me, however, that this little good is badly compensated by the dangers incurred. Cold applied to the surface of the body must certainly constrict the cutaneous blood-vessels, and thus throw suddenly and severely the volume of blood, and therefore the volume of work, upon the kidneys. Considering the fact that a high temperature is due to the presence of toxins, the rational plan of treatment for a high temperature is a hot pack.

There is no disease that responds more promptly to a good plan of treatment than does scarlet fever, and in this plan there are two cardinal rules. One is to practise disinfection at the seat of disease, and the second to protect the kidneys at the expense of the skin. In regard to the first of these rules, I do not mean that the nurse should be armed with a spray and a solution of peroxide of hydrogen. The spray is the most deadly instrument that has been placed in the armamentarium of the physician. It is responsible for the past high mortality in diphtheria, and I do not wish that it should exert its baneful influence on our little scarlet-fever patients also. But what I would suggest is that suitable mild antiseptic mixtures be given, either as douches or in teaspoonful doses as internal medicine, to be by the act of swallowing brought in contact with the diseased surface, and that proper care be given to nasal and buccal hygiene.

There are some, no doubt, who will scoff at local treatment of scarlet fever, claiming, as they do in diphtheria, that it is ineffective. I, however, believe that both scarlet fever and diphtheria are specific infected wounds of the throat, and that he who treats them locally on antiseptic principles is merely carrying out the idea and teachings of Lister. To those, however, who are wedded with a blind love to the serum treatment of disease, I would respectfully suggest that they look for the specific germ of scarlet fever in the throat, and abandon the idea that it teems in the skin; that instead of the desquamatory period being the most dangerous, a scarlet-fever patient is dangerous only while a diseased throat is capable of producing an infectious mucus. This suggestion may savor somewhat of assurance; but it oftentimes happens that some men, from constant application to the microscope, are unable to see things with the broad range of the naked eye. They feel that everything microscopical must be supported, whether it be inoculation for mythical hydrophobia or an impractical Widal reaction. For us all it might be well to remember that common sense is always a good friend to truth, and that wisdom is not always an attribute of the wise. We cannot well forget how the plain, poor sailor of Genoa proved to the wise men of his time how flat was the world and how wise these wise men were.

HOW TO PREVENT TYPHOID FEVER IN RURAL DISTRICTS.[1]

By HARVEY B. BASHORE, M.D.,

WEST FAIRVIEW, PA.

Typhoid fever is the plague of the country districts. In a certain locality in Michigan where accurate statistics were kept it was found that in an area in which the people used well water there were just twenty-six times as many cases in proportion as there were in a city district all of whose inhabitants used a Lake Superior water. In Pennsylvania I think that the average is fully as high, at least it would reach ten to fifteen times more for the country than for the cities.

There is no longer a question that the prevalence of this rural typhoid arises from the fact that the population depends upon polluted well water, and that the wells are infected from privies which one time or another have held typhoid excreta and infected the surrounding ground water.

Wells might not be so bad were it not for the fact that the ground water infected with typhoid purifies very slowly.

To eliminate this disease it is plain that we have to eliminate one or the other means of infection, either the well or the privy vaults which have poisoned the waters.

It will be a hard and thankless task to get people to give up their privy vaults and use earth closets, and it will be a matter of many years' teaching before they do it.

On the other hand, changing the water supply is comparatively easy, and meets with more general approval. A good many of the small villages are already working in this direction by attempting to procure a public supply from some neighboring spring, and by this means they hope to meet the difficulty; but a public supply, such as is generally furnished to small towns, very often becomes polluted, and the danger is worse than ever. Then, too, a public supply is comparatively costly.

There is another way, however, to bridge the difficulty successfully and cheaply, and that is by substituting cisterns for the old wells. By this means typhoid fever may be eliminated more quickly and more thoroughly from rural districts than by any other method.

The problem of using cistern water has been carefully studied, and we are able to tell just exactly the size of the cistern, the amount of collecting surface,

[1] Read by title at the Philadelphia meeting of the American Public Health Association.

etc., necessary for any given family, calculated for the known rainfall of the district. For example, if the roof surface contains one thousand square feet and if the rainfall is thirty-seven inches, about twenty thousand gallons will be collectable annually, which at ten gallons a head daily is more than sufficient for the wants of an ordinary family. For a yearly yield of this amount the cistern need not be excessively large, for the rain does not all come down at once. A cistern five feet deep and ten feet in diameter will hold about two thousand gallons. This will probably last more than a month, and before it is exhausted there will likely be more rain to add to the supply, for it is rare that a month passes without some precipitation.

If we rely on the cistern to eliminate typhoid fever, we must pay some attention to its construction, for only on its ability to keep out soil water rests the superiority of the cistern over the well. If carefully made of bricks and thoroughly cemented, it will be proof in most cases against this contamination from the soil. I know personally of such a cistern which was made twenty-five years ago and is still as good as ever.

Cistern water generally has a peculiar flavor arising from the decomposition of vegetable materials which get into the water from the collecting surface. This may be avoided in a great measure by keeping the cistern clean and by a "cutoff," so arranged that the first washings from the roof are turned into the street; or if thought necessary the water may be filtered.

In order to filter cistern water all we have to do is to build a partition in the cistern, with several holes at the bottom, connecting the two sides. Into the one side is placed the filter, consisting simply of three or four feet of coarse sand or of layers of gravel, polarite, and sand. Into this side the roof leader empties and into the other dips the pump. By this means cistern water may be made as palatable as any other water, and obtained at much less expense.

That the use of cistern water will prevent typhoid fever in rural districts is not hypothetical, but a fact proved by experience. In a certain county in Pennsylvania, on account of an underlying limestone formation, there is a great inability to get good well water, and as a consequence the greater part of the community uses cisterns. In this region a careful study of the records of the resident physicians has been made, and it was found that there was a marked absence of typhoid fever. One of the towns in this place, well known to the author, will serve as an example of all the rest. This town of twenty-two hundred inhabitants has for many years depended almost exclusively on cistern water, and as a result typhoid fever is practically an unknown disease. In the last twenty years, so the oldest resident physician tells me, there has not occurred one case of typhoid fever among those exclusively using cistern water. In all this time, moreover, there have been very few cases of fever in the whole town, and every one has been traced to the use of well or spring water. The exact record for the last five years is three cases of fever, which the attending physician would not call "true" typhoid. Taking these cases, however, to be typhoid, and counting one death for every twenty sick, it would make the death rate of this community something like one per ten thousand—probably the lowest, at least one of the lowest, typhoid death rates ever attained.

Here, then, is a town where the typhoid sick rate is hardly worth considering and where the death rate is almost *nil*.

If all rural dwellers would give up their wells and resort to the cistern, the story of this one town would be repeated everywhere and rural typhoid would become an unknown disease.

Progress of Medical Science.

The Quantity of Ammonia Contained in the Human Blood under Physiological and Pathological Conditions.—Dr. H. Winterberg (*Wiener klin. Wochenschrift*, 1897, No. 14), basing his conclusions upon an examination of the blood of twelve healthy persons, states that the average quantity of ammonia in the circulation is 0.96 mgm. in each 100 c.c. of blood, this quantity varying slightly in each individual, as do the salts, etc. The quantity varies greatly in fever; it is usually increased, but may be unaltered or diminished. More important are his observations of the uræmic state, in which he noticed but a slight increase in the ammonia, once up to 2 mgm., once to 1.4 mgm. The blood of a dog after extirpation of both kidneys showed no change in the amount of ammonia. This experiment he thinks tends to prove the fallacy of Frerichs' theory that uræmia is due to an accumulation of carbonate of ammonium in the blood.

Botryo-Mycosis Occurring in Man.—For several years Drs. A. Poncet and L. Dor (Lyons, France) have been observing an apparently inflammatory or rather neoplastic growth, which in its location and anatomical construction is different from other tumors. In four such instances reported, the disease was located twice on the finger, once on the thenar eminence, and once on the shoulder. It is described as an ulcerated fungoid mass of from pea to nut size, originating in the cutis, resembling a mass of granulation tissue, rich in blood-vessels and attached to the underlying tissue by a pedicle, the whole giving one the impression of a fungus growth. This papilloma consists histologically of an inflammatory structure, with more or less thick fibrous stroma, in which the botryomyces are distinguishable, and hence the disease is really a botryomycosis, a disease already known to occur in horses after castration. The fungus was recognized microscopically and by culture, and finally when a similar growth was produced by the inoculation of an ass. In all four cases there was but a single pediculated, painless, vascular tumor. From this it would seem that botryo-mycosis is a distinct disease, to which man is susceptible.—*Therapeutische Wochenschrift.*

The Syndrome of Chronic Arthritis Deformans.—Dr. F. Barjon (*Gazette des Hôpitaux*, August 28, 1897) concludes a paper with the above title as follows: "1. Debility, predisposition, and heredity, together with various pathogenic influences, develop rheumatism; either acute articular rheumatism or pseudo-rheumatism, such as that resulting from the different infectious diseases—gonorrhœa, scarlatina, tuberculosis, diphtheria, etc. In any case it does not seem to depend upon a primitive lesion of the nerve centres. 2. In these diverse chronic manifestations there is a clinical syndrome, always the same, evolving three periods—articular, neurotrophic, and myelopathic—always accompanied by essentially the same anatomical lesions of the articulations and bony extremities, and having constantly the same urosemeiographic curve. 3. The distinction actually established between the affection called "true rheumatism" and the "pseudo-rheumatism" should be considered as provisory. It is destined to disappear with the more accurate determination of the causes of each rheumatic process and the conditions which vary the ulterior evolution of this same process. 4. The *x*-rays may be very useful in differentiating anatomical lesions created by the chronic rheumatismal syndrome and those of other deforming joint diseases, such as gout and nervous affections."

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THE GOVERNOR'S MESSAGE AND THE PAUPER INSANE.

THE message of the governor of New York to the State legislature contains many pertinent and suggestive facts relating to the proper dispensation of public moneys for charitable purposes. On the whole, his arguments against undue extravagance in the care of our paupers are well founded, and his recommendations of remedies for their abuse are eminently reasonable. When we learn that there are nearly seventy thousand sick and poor who are obtaining State aid, and that the enormous sum of $20,000,000 is necessary to that end, the question of adequate distribution of such a sum becomes a matter for serious consideration: especially must this be apparent when fully $5,000,000 of this amount is appropriated for the custody and treatment of the insane.

Much has been said and written concerning the care of the pauper lunatic, and on general principles it is a matter for congratulation that all such patients are now the wards of the State. In the interests of ordinary humanity, and with the instincts of a laudable charity, it is always a sacred responsibility to help and guard the weaker brother. Generally, however, it is not so much a question as to whether enough is not done, as it is that too much is attempted. It strikes us that His Excellency, while endeavoring to check undue extravagance, is eminently just in being conservatively charitable. His opinion regarding the actual needs of our insane paupers will doubtless meet with the responsive indorsement of every one conversant with the condition of affairs to which he refers.

It cannot be denied that our State hospitals for the insane are very expensive affairs. The buildings have a palatial magnificence out of all proportion to their actual needs as strictly hospital establishments. Millions of dollars have been spent in the erection of these plants without in any ostensible way affecting the real ends for their construction. Generally speaking, there is more building than hospital, more show of luxurious surroundings than there are treatment and cure of patients.

On this latter point the governor very pertinently remarks: "A pauper is not, because of his insanity, entitled to extravagant fare or gorgeous surroundings. The large majority of farmers and mechanics live in the humblest way and contribute by tax to the support of State institutions. Justice to them will not permit, and humanity to the insane does not require, that lavish and ill-considered outlay which characterizes the quarters holding some of the State's insane."

Very properly he enjoins upon the managers of such institutions "the constant recollection that the expenses of these inmates are paid by many thousands on the outside whose surroundings are far less comfortable."

Considering the needs of some of the asylums around Greater New York, he is very reasonably of the opinion that "there are two extremes in this State in the care of the insane. One is so extravagant and the other so poor that both deserve censure. The State is paying every dollar it ought for its pauper insane Money enough has been expended to provide comfortable quarters for every inmate, but waste in some places and neglect in others have produced the extremes I describe. The first cannot be corrected, for the outlay is made; but the last can and ought to be without delay. All the money to be paid out for new buildings should be devoted for some time to come to the institutions around New York City, and the amount thus expended should be increased to the utmost limit by keeping the expenses of other institutions now well provided for down to the smallest figure. Whatever structures are built should be comfortable and substantial, nothing more; and the practice of erecting palaces at the public expense for the accommodation of paupers has, I hope, seen its last example." To all of which we heartily say, Amen.

THE COUNTY SOCIETY AND THE HEALTH BOARD.

IT is many years since a president of the Medical Society of the County of New York has appreciated his duty to the profession so fully as the present incumbent. Dr. Jacobus, in his inaugural address, called attention to many of the disabilities under which the profession is laboring, and suggested the proper remedies—namely, thorough investigation of alleged evils by competent committees, with instructions to devise and recommend suitable legislation. One of these committees was charged with an investigation of the relations of the health department to the profession and the public: and its report, adopted unanimously at the last meeting of the society, represents the careful work of men whose intelligence and constant devotion to the interests of the profession for over twenty-five years are known to all. The bill prepared by them, and which has been presented to the legislature with a promptness that other committees might emulate, now awaits the action of our lawgivers. We have examined its provisions with care, and find that, while it in nowise interferes with the present *personnel* of this department, it rescinds the antiquated provision that prevented a physician from being the presiding officer. It defines the duties of physicians in regard

to the report of cases of contagious and infectious diseases, and specifically names the ones that shall be reported. It provides against the further increase of hospitals to be controlled by the board, and absolutely repeals the obnoxious section which virtually made every physician employed in the department a spy on his fellow-practitioner. The present charter authorizes the department to manufacture an indefinite number of antitoxins. This power has been materially curtailed, and its authority to offer them for sale in competition with private producers is absolutely repealed. These are the principal changes, and we believe they reflect the sober and thinking sense of the profession. It is to be hoped that no obstructions will be thrown in the way of prompt and favorable action by the legislature. The presentation of this bill, however, does not terminate the work of the committee, which will be continued by Drs. Hadden, A. H. Smith, Piffard, and Satterthwaite.

THE WRECK OF A LIFE AND ITS WARNING.

The sudden and lamentable death of a young physician of this city on the morning of January 1st, from an overdose of cocaine, was a sad termination of a career which had the promise of being highly prosperous and even brilliant. The doctor, after completing his medical studies at the College of Physicians and Surgeons, nearly eight years ago, and serving as interne and house physician at several of the city hospitals with distinguished ability, had entered upon the private practice of his profession with unusually bright prospects of success. But, unfortunately and unadvisedly, he several years ago commenced the habitual use of cocaine in a medicated spray for the relief of a chronic nasal catarrh from which he had long suffered. As is quite sure to happen in such cases, the dose which at first afforded relief soon required to be increased in order to produce the desired effect; and then a demand for the drug in gradually increasing quantities, as a general stimulant, was created; until finally, a dose somewhat too large, or taken when the systemic powers of resistance were below the usual standard, led to a fatal result.

There can be little doubt that practitioners of medicine often fail in their duty in prescribing stimulants and narcotics to be used habitually as remedies in chronic disease, or in not clearly and emphatically directing that these remedies are to be used only as temporary expedients, which must on no account be continued after the initial prescription has been exhausted—at least without further advice and a renewed prescription. And it may be added that the use of stimulants and narcotics in chronic diseases is not simply dangerous; in most cases the practice involves a medical blunder, since it serves to weaken the parts it was intended to strengthen, and so to perpetuate the maladies it was intended to cure.

Silver-Nitrate Stains can be removed by rubbing with a cloth wet in one part each of corrosive sublimate and ammonium chloride to eight parts of water.

THE SANITARY CONDITION OF THE ARMY.

According to the report of the surgeon-general the sanitary condition of our soldiers is on the whole satisfactory. The new quarters at posts recently built are stated to be excellent from a sanitary point of view. At some of the old posts the buildings are said to be more or less out of repair, overcrowded, with inadequate ventilation and primitive methods for the removal of wastes. Nevertheless it is pleasing to note that there is a steady improvement in hygienic conditions all along the line. The water supply at a few of the posts is made the subject of complaint, but in the majority of instances little fault can be found in this respect. The fact is pointed out that there is a well-marked coincidence between the prevalence of fever and the amount of field service performed by the troops forming the garrison. Post surgeons in referring to the causation of low fevers in their commands have frequently taken occasion to explain that these did not originate in insanitary conditions at the post, but were incurred by the men when absent on field service. Dr. Smart suggests as a remedy for this state of affairs the use of portable filters for troops when in the field. The question of employing means to insure a purer milk supply is raised at several of the posts, and, as these are for the most part located in country districts, such a proposition cannot be regarded as unnecessary. The time is surely ripe for a radical change to be made in the methods at present in use in regard to dairy supervision in the rural parts of the country. The experiment as to whether the five days' rations when spread over a period of ten days would be sufficient to keep men in proper health, was put to a practical test in April of last year. The result of this experiment went to show that although there was a loss of weight on an average of 2.935 pounds per man, yet that all the forty-six men who composed the troop were at the termination of the march in fine physical condition.

ENDEMIC TYPHOID.

The most frequent cause of typhoid is undoubtedly infected water; the next most common vehicle for spreading the disease is milk. Reference was made in the Medical Record of December 11th to the epidemic of typhoid fever traced to infected milk at Paterson, N. J., and there have also been within recent years many examples in this country in which the disease has originated from similar sources. The origin of endemic typhoid fever is, however, in too many instances shrouded in obscurity, and so long as a case crops up only here and there in a district no very strenuous efforts are made to solve the difficulty. In the course of this past summer typhoid fever in a sporadic form has been prevalent in an outlying portion of Southampton, Long Island, and the residents wisely appointed a committee to investigate the cause. The report summarizing the results of the committee's inquiry has been published, and provides some instructive reading. During the summer of 1897 ten cases of typhoid occurred in a suburb called the Art Village,

a short distance from Southampton, nine of which developed in the place itself. The fact has also been ascertained from two local physicians, that for the last three or four years a number of cases have continuously occurred in the same locality. When it is explained that the district in question is beyond the limit of the Southampton water works, and that in consequence the inhabitants are compelled to depend upon wells for their water supply, it will be understood that the origin of the outbreak was not far to seek. Much attention has of late been paid to the question of the diffusion of sporadic typhoid by means of wells, and particularly in regard to the length of time that the typhoid bacilli will live in these contaminated receptacles. Up to a short time ago Murchison's theory, that typhoid arises from pythogenic causes, was generally accepted. Recently, in the face of the numerous water-borne epidemics, this explanation has been felt not to be altogether satisfactory. The investigations of Sir Richard Thorne on the etiology of endemic typhoid have demonstrated to what an extent the typhoid organism may spread; and have likewise thrown much light on the vexed point as to the duration of life of the bacilli in the soil. Dr. Sidney Martin found, after sterilizing two samples of soil (one of which was saturated with organic matter) and inoculating both with typhoid bacilli, that the organism survived at least two hundred and twenty days in the soil containing much organic matter, while it was dying out of the other in twenty-three days. Dr. Robertson's experiments on unsterilized earth much contaminated with refuse showed that the bacilli died down in the winter, only to multiply freely in the summer.

In connection with these statements *The Hospital* says: "We seem here to see an explanation of the origin of endemic typhoid which fits in with all the facts. When typhoid is imported into a place with clean surroundings and a clean soil, however virulent it may be, it soon dies out. Where, on the other hand, the soil is polluted with decomposing organic and especially animal matter, the typhoid organism takes root, and not only grows but persists, so that whenever the temperature rises to the proper heat and the soil is moistened to the proper degree a great development of the typhoid bacilli takes place; and these, washed into wells or streams from which drinking-water is drawn, again gain access to man, and thus at last give rise to cases of typhoid fever, the origin of which no one can trace, so long is it since the infection was planted in the soil."

Whether this theory is the correct one will require further proof before it will be universally accepted, but at least it sounds plausible. The fact, however, remains, that periodic and frequent examination, both bacteriological and chemical, of drinking-water should be insisted upon, for, while these measures cannot be depended upon to determine with certainty whether a water be dangerous to health or not, yet both are good indices. This course of procedure should be especially followed where the supply of water is procured from wells. The source of the water should be examined with the greatest minuteness, so as to make certain that there is no chance of contamination. Wells, unless properly protected, should be closed. It is absurd, as well as in a high degree a menace to health, that excrement should be placed in one pervious hole and drinking-water taken from another but a short distance away.

It is worthy of notice that although there are disastrous epidemics now, yet endemic typhoid has greatly decreased and the total mortality has immensely declined. This mortality might with care be reduced to a minimum. So far as the Art Village on Long Island is concerned, the remedy for the existing state of affairs surely lies in the hands of the authorities at Southampton. The wells should be abolished, and the Art Village should be connected with the water system of Southampton with all possible dispatch.

News of the Week.

The Wonders of Science.—The new year has opened well as regards medical progress, the first week bringing the news of two astounding discoveries. One of these comes from Mexico and is to the effect that an American physician has lighted upon an herb of such marvellous healing virtues that a few doses of it suffice to put an end at once to the most desperate cases of malarial, typhus, or typhoid fevers. The other, a life-making rather than life-saving discovery, is reported from Vienna. It is said that a Dr. Schenck, a university professor and president of the embryological society, has found out the secret of sex. He finds that this depends wholly upon the nature of the food consumed by the parents, whether one or both the report does not state, and he has proved his theory by a long series of experiments beginning with oysters and ending with man. We may add that we are indebted for these startling details to the daily press, our correspondents in Mexico and Vienna having strangely failed to telegraph us an account of the astounding discoveries.

Randall's Island Alumni Association.—There will be a meeting at the Academy of Medicine on Tuesday evening, January 18th, for the purpose of forming an association of the alumni of Randall's Island Hospital. All who have at any time served on the staff are requested to be present.

The Boston Medical Society.—A meeting of the Boston Medical Society was held on January 1, 1898. The subject of medical abuses in the hospitals and dispensaries was discussed by Drs. S. Goodman, F. F. Whittier, N. M. Goodman, Gustavus Liebman, F. J. Kelleher, Philip Sosnowsky, A. Rovinsky. Papers on the same subject were read by Drs. R. K. Noyes, Charles F. Parker, M Gerstein, the latter dwelling on the abuses in the lying-in hospitals. A committee of five was appointed to report at the next meeting some ways and means to ameliorate the condition of affairs in the dispensaries and out-patient departments. Dr. M. Gerstein presented a bill to be introduced in the coming legislature; it was referred to the committee on medical abuses. The following officers were

elected for the ensuing year: Dr. Samuel Goodman, *President;* Dr. Rufus K. Noyes, *First Vice-President;* Dr. Francis J. Kelleher, *Second Vice-President;* Dr. Morris Gerstein, *Secretary;* Dr. Victor Bychower, *Treasurer;* Drs. N. M. Goodman, A. Rovinsky, Charles F. Parker, J. J. Hanley, B. L. Bernard, H. P. Leonard, *Directors.*

An Example for Future International Congress Committees.—The committee whose duty it is to prepare for publication the Transactions of the Twelfth International Congress, held in Moscow, has been so unusually expeditious that a considerable part of the material is already in the hands of the printer. The Russians evidently believe more in the value of time than did their predecessors of the Berlin and Rome congresses.

Dr. R. Harvey Reed, formerly editor of the *Columbus Medical Journal,* has accepted the position of superintendent and surgeon-in-charge of the Wyoming General Hospital at Rock Springs, Wyoming. Because of this change Dr. Reed has resigned as editor-in-chief and manager, but will remain with the paper as one of the associate editors. Dr. J. E. Brown will succeed him as editor and manager, and will be assisted by Drs. J. D. Dunham and T. L. Chadbourne.

"The International Medical Magazine."—Beginning with the new year Dr. Henry W. Cattell retires from the editorial management of this journal, being succeeded by Dr. Walter L. Pyle.

Examinations for the Marine Hospital Service.—A board of officers will be convened at Washington, D. C., January 25, 1898, for the purpose of examining for admission to the grade of assistant surgeon in the United States Marine Hospital service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. In addition to the physical examination candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on the cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examinations for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. When quarters are not provided, commutation at the rate of $30, $40, or $50 a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service, up to forty per cent. after twenty years' service. The tenure of office is permanent. Officers travelling under orders are allowed actual expenses. Those desiring further information or an invitation to appear before the board of examiners may address Dr. Walter Wyman, supervising surgeon-general of the U. S. Marine Hospital service, Washington, D. C.

The Late Dr. Joseph O'Dwyer.—At a regular meeting of the medical board of the Willard Parker and Riverside hospitals, held January 11, 1898, the following resolutions were unanimously adopted:

"*Whereas,* We have learned with profound regret of the death of Dr. Joseph O'Dwyer; and

"*Whereas,* This board has been frequently indebted to the wise counsel and unfailing courtesy of Dr. O'Dwyer in many difficult cases of intubation; and

"*Whereas,* An institution specially devoted to the treatment of diphtheria is under lasting obligation to the genius of Dr. O'Dwyer, and can best appreciate the life-saving character of his invention; therefore be it

"*Resolved,* That we feel we have lost by the death of Dr. O'Dwyer a friend who combined, in rare degree, modesty with great attainments.

"*Resolved,* That the medical profession has lost one of its most distinguished members, whose work on intubation of the larynx reflects lasting credit on American medicine, and has perhaps resulted in saving more lives than any one surgical invention of the century.

"*Resolved,* That copies of these resolutions be forwarded to the medical press of New York, and to the family of the deceased.

"Henry D. Chapin, M.D.,
"Henry W. Berg, M.D.,
"*Committee.*"

Obituary Notes.—Dr. Samuel H. McIlroy, of this city, died at his home in Alexander Avenue, on January 5th, at the age of fifty-eight years. He served as assistant surgeon in the Union army during the civil war.—Dr. Caroline M. Dodson died in Philadelphia, on January 9th, at the age of fifty-two years. She was a graduate of the Woman's Medical College of Pennsylvania in 1874. She was an active member of many women's associations for the promotion of temperance, public health, the suffrage, etc., and was also the founder of the Baptist Sisterhood.

The Thirteenth International Medical Congress.—Active steps are already being taken by a committee in Paris, of which Dr. Brouardel, the dean of the Medical Faculty, is chairman, to arrange the preliminary details of the International Medical Congress which is to take place in that city in 1900.

Relief for the Suffering in Cuba.—It is announced that after consultation with the authorities in the State department, the officials of the American Red Cross Society have arranged to open headquarters in New York for the reception and forwarding to Havana of contributions for the benefit of the suffering Cubans. Miss Clara Barton will be in charge of the New York office. The Ward's Line Company will furnish free transportation in their ships for all supplies sent to Cuba in response to Secretary Sherman's appeal. That there is urgent need of relief for the victims of Weyler's policy is clearly shown by an article recently published in the *Diario de la Marina*, of Havana. According to this article the population of the province of Matanzas on December 31, 1896, was 253,616 persons. The order of concentration compelled 99,312 persons to abandon their homes, and these were herded in the towns without any resources. Up to November 30, 1897, 20,044 of these people had died of starvation and 17,456 had disappeared. It is estimated that there are at the present time over 62,000 persons, 17,000 men, 20,000 women, and 25,000 children, in that province alone who are slowly dying from inanition and famine diseases. Taking these figures as a basis, it is believed that no less than 500,000 deaths from starvation alone are directly traceable to General Weyler's edict of concentration. The consul-general of the United States at Havana mentions the following articles as appropriate to be contributed, all of them, as he reports, being greatly needed. Summer clothing for women and children; quinine; hard bread, flour, cornmeal, cereal preparations, bacon, rice, lard, potatoes, beans, peas, salt fish; any canned goods, particularly nourishing soups; meat extracts, blankets, and especially large quantities of condensed milk. Contributions of money are also urgently needed to enable the purchase of immediate supplies of medicines and articles of prime necessity and to meet the expenses of local transportation in Cuba.

The English Typhoid Epidemics.—The total number of cases of typhoid fever during the recent epidemic at Lynn is reported to have been four hundred and forty-nine, with a death rate of just under ten per cent. The Maidstone epidemic was much larger, there having been eighteen hundred and eighty-nine cases.

The Care of Lepers.—A dispatch from New Orleans states that the Louisiana leper board, which has charge of the leper home at Indian Camp, Iberville Parish, has received a letter from New York, asking the Louisiana home to take charge of the lepers recently sent adrift in New York in a destitute condition by the action of the board of health. The Louisiana board replied that it could not care for pauper lepers from other States, but that it would accept the New York lepers if a guarantee were given that their board would be paid for regularly.

The Louisiana State Medical Society.—The next meeting of this society will be held in New Orleans on May 10, 11, and 12, 1898. No meeting was held in 1897, because of the uncertainties caused by the Mississippi floods.

Dr. Herman C. Evarts, of this city, has been appointed medical superintendent of the Kingsports division of the Long Island State Hospital. The appointment was made from the civil service eligible lists. Dr. Evarts was formerly an assistant physician at the Manhattan State Hospital.

The Central Texas Medical Association.—The semiannual meeting of this association was held at Hillsboro, Tex., on Tuesday and Wednesday, January 11th and 12th. The president of the society was Dr. W. C. Ballock, and the secretary Dr. M. L. Graves. This was the first time a meeting of the association has been held elsewhere than at Waco.

A Physician Shot.—A prominent physician of Memphis, Tenn., was fatally shot by a woman with whom he was driving, on January 7th. After mortally wounding her companion, the woman killed herself with the same weapon.

Sanatoria and the Law.—The managers of a sanatorium for consumptives have brought a motion on before Justice Beekman of the Supreme Court, to compel the department of buildings to approve its plans for remodelling two houses for hospital purposes. The department would not approve the plans because the building was not to be fireproof, holding that it was without discretion, as under the law of 1892 all hospitals over thirty-five feet high must be fireproof. To the casual observer there would appear to be no good reason why the laws should be changed to accommodate private hospitals or individuals.

Yellow Fever Serum.—Dr. Sanarelli has sent some yellow-fever serum to Surgeon-General Wyman, of the Marine Hospital service, and to Dr. Doty, health officer of the port of New York. It is rather too late to be of much service now, for even in Havana there is scarcely any yellow fever at the present time, only two deaths from this disease having been reported for the week ending December 25th. Concerning this serum, Dr. Sanarelli writes that he cannot offer it as a sovereign remedy for yellow fever, but believes that the serum would prove efficacious whenever administered during the early stages of the disease.

Obituary.

JOSEPH O'DYWER, M.D.,

NEW YORK.

Dr. Joseph O'Dwyer died at his home in this city on the evening of January 7th, after a brief though painful illness. He was born in Ohio in October, 1841, but passed his early life in Canada. His academic course was completed at McGill University, Montreal, and his medical course in this city, where he was graduated from the College of Physicians and Surgeons in the class of '66. After graduation he served a term as interne in the City, then Charity, Hospital, and afterward as examining physician at Bellevue Hospital. He was a member of many local and national medical societies, an ex-president of the American Pediatric Society, and was attending physician to the New York Foundling Asylum and to St. Vincent's Hospital, and consulting physician to the Seton Hospital. His family consisted of four sons, his wife having died over nine years ago.

For twenty years before intubation of the larynx was heard of, Dr. O'Dwyer was engaged in the practice of his profession, winning for himself the esteem of his patients, the warm affection of his friends, and the respect of his fellow-physicians. He was, however, of a most retiring disposition, anything in the way of "push," even of the most legitimate and praiseworthy kind, being utterly repugnant to his nature, and he would have lived and died among the unknown heroes of medicine had it not been for the invention which made him famous in spite of himself. He worked quietly but perseveringly in the development of his ideas, with the knowledge but not always the encouragement of his colleagues on the medical staff of the Foundling Asylum, until he had assured himself that the procedure was of life-saving value. Then he published it to the world, not from any desire for fame or for pecuniary reward, but against his own inclination, and simply because he believed that it was his duty to God and to his fellow-man to make known to others a means whereby so much suffering could be alleviated and so many lives saved. Afterward he learned to his great surprise that the principle of intubation had been advocated many years before by Bouchut in Paris. Dr. O'Dwyer's invention was, however, absolutely original with himself, for he had conceived the idea and had perfected his tubes, which differed from those of Bouchut as much as one cylinder can possibly differ from another, months before he had ever heard of the latter's method and its speedy condemnation by the leaders of the French profession of that day. To those whose privilege it was to know Dr. O'Dwyer intimately the mere suggestion that he was capable of appropriating another's idea and calling it his own was mirth provoking.

A few days before Dr. O'Dwyer's death a notice appeared in the daily papers to the effect that he was suffering from tuberculous meningitis, having diagnosed his own condition. The following brief sketch of his illness and of the post-mortem findings will show how incorrect was this report, which was, moreover, wholly unauthorized by the physicians in attendance. About five weeks before his death Dr. O'Dwyer suffered from a carbuncle on his chin, which healed kindly enough, but was followed soon after by a furuncle on the upper lip. Four days after the carbuncle appeared he was suddenly seized with intense vertigo, nausea, and vomiting, with severe tinnitus and absolute deafness in the right ear. There was no rise in temperature but the pulse was irregular and intermittent, as it had been, however, at times for a considerable period prior to this attack. The ear symptoms pointed to a sudden lesion of the labyrinth or auditory nerve. After these symptoms had continued for about two weeks there began to be pain in the head deeply seated on the right side, but later more generally diffused and described as of a band encircling the forehead. About a week before death, the pains increased in severity and symptoms of meningitis appeared. The temperature now rose rapidly, reaching 103° F., and exceeding 105° F. toward the end. The pulse was quite constant at from 60 to 68 until the last days. Five days before death a right-side paralysis of the face appeared, and four days later paralysis of the left arm and leg. Along with the rigidity in the neck and spinal muscles and other signs of meningitis there supervened delirium with increasing stupor, which passed into coma shortly before the end. Death came peacefully at ten o'clock on the evening of Friday, January 7th. The autopsy showed that death was due to thrombosis of the basilar artery with softening of the right lobe of the cerebellum and in the right half of the pons, together with localized meningitis.

And so died a man whose unassuming modesty, perfect charity, honesty of purpose, and nobility of character endeared him to all who were honored by his friendship. His place in medicine will be difficult to fill; the loss to those who loved him is irreparable.

ERNEST ABRAHAM HART, D.C.L., M.R.C.S.,

LONDON.

Mr. Ernest Hart, editor for thirty years past of the *British Medical Journal*, died on January 7th, after a long and patient struggle against a fatal malady. He was born in June, 1836, and received his early education at the City of London School. He studied medicine at the St. George's Hospital Medical School and was admitted to membership in the Royal College of Surgeons in 1856. He soon began literary work and was for a time assistant editor of *The Lancet*, later having editorial supervision of the *Sanitary Record* and of the *London Medical Recorder*. He was appointed editor of the *British Medical Journal* in 1866, and with brief interruption continued in charge of that periodical up to the time of his death. Mr. Hart was an earnest advocate of many sanitary and social reforms, and lived to see most of his plans put into force in spite of the bitter opposition. He was known as a strong believer in the theory that the poisons of cholera and typhoid fever are conveyed in the drinking-water, and he preached and upheld this doctrine before even it was known of what nature these poisons were. At the meeting of the American Medical Association in Milwaukee in 1892, Mr. Hart read a paper on "water-borne diseases," in which he adduced many striking proofs of the truth of this theory, and told in a most interesting manner of his early triumphs in forcing conviction upon unbelievers during the course of various epidemics of cholera in Italy and elsewhere. In the latest volume of the "Twentieth Century Practice" there is an article from his pen on the same subject. Among the social measures which he was instrumental in putting through was one leading to improvement in the condition of paupers in English workhouses. The passage of the infant-life protection act by Parliament was the direct result of his report on baby farming, and he was also mainly instrumental in the establishment of coffee taverns in the East End, from which much was hoped for in the diminution of intemperance. A few years ago he was led to investigate the condition of the Irish peasantry, the practical outcome of which was some legislation looking to the establishment of a peasant proprietary, together with the reclamation of certain waste land in Ireland, and also the establishment, with his wife's assistance, of the Donegal industrial fund for developing home industries, lace making, and the like, among the daughters of the Irish cottagers. He established a society for the abatement of the smoke nuisance in London, and as chairman of the parliamentary-bills committee of the British Medical Association he was active in promoting many measures of a more strictly medical nature.

For many years Mr. Hart had been in feeble health, but he remained in harness to the end, having only recently undertaken to edit a series of biographies of medical men of the past, he himself writing one of the early volumes. A few months ago he suffered an amputation of the leg on account of necrosis of the bones of the foot complicating diabetes, but he rallied well from the operation and his friends had every hope that his useful life might be spared for yet many years. But it was only the temporary mastery of the body by a strong will. The disease overcame him at last, and so went out from among us one who had done much for the good of his profession and of the community in which he lived.

Reviews and Notices.

A Treatise on Gynæcology, Medical and Surgical. By S. Pozzi, M.D., Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Broca, Membre de l'Académie de Médecine. Second American Edition, Translated from the Third French Edition, under the supervision of Brooks H. Wells, M.D., Editor of the *American Journal of Obstetrics*, Adjunct Professor of Gynæcology at the New York Polyclinic, Fellow of the New York Obstetrical Society and the New York Academy of Medicine. With Six Hundred Illustrations. Pp. xiv. + 936. New York: William Wood and Company. 1897.

As the editor states in the preface, the success of Professor Pozzi's work has been such as to justify a new translation of the third French edition, which is itself essentially a new book. The present American edition offers an important advantage over the former one, as it is included in a single volume, which presents even more features of excellence than its predecessor. The careful work of the editor appears in the numerous bracketed comments and references to American operations.

The preliminary chapters on gynæcological technique and methods of examination are still as attractive as ever. Under the head of "Metritis" are considered a number of pathological conditions which are usually treated separately in text-books. We have always regarded this portion of the work as the least satisfactory of all, though the chapter on treatment is excellent. Chapters viii. to xvi., inclusive, on uterine fibromata and carcinoma, and chapter xxiii., on uterine displacements and disorders of menstruation, are thoroughly up to date.

Diseases of the adnexa are exhaustively treated. The chapter on genital fistulæ and laceration of the perineum are full and richly illustrated. The index, like that in the former translation, is worthy of especial praise.

While there may be features of this admirable work not entirely in accord with American ideas, especially as regards pathology, and the arrangement is sometimes confusing, it still remains a model of its kind, and should be in the library of every special worker. As a book for the advanced student, and as a work of reference, especially in surgical gynæcology, it will be long before its superior appears. Those who have hesitated about purchasing the two-volume edition can hardly resist the new translation in its present attractive form.

A Handbook of Midwifery. By W. R. Dakin, M.D., B.Sc. Lond., F.R.C.P., Obstetric Physician and Lecturer on Midwifery and Diseases of Women to St. George's, etc. With 400 Illustrations, nearly all of which are original. Pp. xx. + 629. London: Longmans, Green & Co. 1897.

This is a fresh and decidedly interesting work, not the least attractive feature of which is the absence of the hackneyed illustrations which have been copied from the text-books of preceding generations. Moreover, the arrangement of the subject matter is somewhat novel and presents certain advantages for the student. There are two main divisions, the first (including thirty-four chapters) dealing with physiology, the second (forty-two chapters) with pathology. Under the former subject are included the physiology of pregnancy and labor, the mechanism of labor, the physiology of the puerperal period, and the physiology and care of the new-born; under the head of pathology are treated the pathology of pregnancy, obstetric operations, the pathology of labor and of the puerperal period, and, lastly, the pathology of the new-born. It will be evident that this sequence is not only a natural one, but is an important aid to the author in preserving the unity of his work. In a book of such general excellence it is not easy to select special points of merit. Clearness and conciseness, with a severe simplicity, are its distinguishing features. The author has been uniformly successful in his attempts to "avoid the waste of space and the confusion of the reader's mind which would be incurred by inserting all the most recent pathological speculations and the newest details of treatment." He has apparently no pet hobbies to ride, and, unlike most writers, does not devote a disproportionate amount of space to a detailed description of some pet operation. We note with especial approval the careful attention bestowed upon the mechanism of labor (chapters xvi. xxi.), with the numerous original illustrations. The sections on the management of normal labor and of the puerperal period are thoroughly practical and up to date. The chapter on abortion is a model of brevity and common sense. Ectopic gestation receives the attention which its importance demands. The chapter on hemorrhages concludes with an epitome (page 351), which will be found especially helpful to the student.

In the section on obstetric operations it will be noted by the reader with some surprise that the author prefers the old lateral position; also that he does not favor the use of the axis-traction instrument. No mention is made of the modern method of subcutaneous saline solution in hemorrhage. The paragraph on the management of occipito-posterior positions is rather vague and unsatisfactory. The description of the repair of perineal lacerations is hardly up to modern requirements, and we do not agree at all with the statement that hemorrhage from laceration of the cervix is "best treated by plugging the cervix for a few hours with iodoform gauze, for attempts at suture—which would, if feasible, be the correct treatment—are practically useless." Surely this is not the experience of American obstetricians. Under the head of eclampsia no reference is made to rapid dilatation, manual or after multiple incision of the cervix. The treatment of puerperal septicæmia is judicious and conservative.

The index is unusually full; there are also an index of authors and a list of illustrations. Especial mention should be made of the latter, which constitute an important feature of the book.

We take pleasure in commending this work, even though some of the author's dicta sound strangely to our ears. It is full of valuable practical suggestions, and is clearly the outcome of mature experience in the lecture room and at the bedside.

Experimentelle und kritische Studien über Säuglingsfäces bei natürlicher und künstlicher Ernährung. Von Dr. Magnus Blauberg. Berlin: Verlag von Hirschwald. 1897.

Blauberg in this monograph presents his valuable investigations with regard to the physiology of the infant's fæces. Their chemical composition under different modes of feeding has been thoroughly studied and the results have been made known.

A Manual of Obstetric Practice for Students and Practitioners. By Prof. A. Dührssen, M.D., late First Assistant in the Obstetric Clinic of the Charité Hospital in Berlin. Translated and edited from the sixth amended and enlarged edition by John W. Taylor, F.R.C.S., Surgeon to the Woman's Hospital, Birmingham, and Frederick Edge, M.D., F.R.C.S., Surgeon to the Woman's Hospital, Wolverhampton. With Illustrations. Pp. xviii. + 304. London: H. K. Lewis. 1897.

The excellence of this little manual is attested by the rapid appearance of successive additions in the original German. The author's name is so well known among obstetricians that the reader is assured that his work will be fully abreast of the times. Although the subject matter is necessarily much condensed, clearness is not sacrificed to brevity.

The sections in aseptic preparations (pages 53 to 60) are especially valuable, and should be mastered by every practitioner, especially the dictum that "before the examination the disinfected hand should touch nothing but the genitalia without being redisinfected." The advice to examine thoroughly under anæsthesia in every doubtful case before applying forceps is timely.

It cannot be said that the section on the management of occipito-posterior positions is particularly helpful to the student, but this is a subject on which most text-books are singularly vague. Abortion is thoroughly treated, as its importance demands. Under the head of uterine inertia (page 137), we note the somewhat contradictory statements: "In case delivery is undertaken for inertia, fifteen to thirty minims of ergot, or an injection of ergotin is given shortly before," etc.; and in the next sentence, "The practitioner should entirely give up the preliminary use of ergot in the first two stages of labor." The chapter on eclampsia is interesting, as it contains a description of the author's method of rapid delivery by incision of the cervix; that on post-partum hemorrhage by reason of the detailed account of his treatment by intra-uterine tamponade (pages 197, 198).

An appendix (including seventy-five pages) is devoted to operative technique, and contains a remarkable amount of information within a small space. The reader will find the paragraphs on dilatation of the cervix, version, and forceps of peculiar interest. In a concluding section the author describes the bold and ingenious procedure which he calls "vaginal Cæsarian section."

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, U.S.A. Authors and Subjects. Second Series. Volume II. B—Bywater. 4to, pp. 954.

THIS volume, uniform in size with the preceding one, includes 15,732 author titles, 5,744 subject titles, and 21,725 titles of articles in periodicals. It has been compiled under the direction of D. L. Huntington, Deputy Surgeon-General and Lieutenant-Colonel, United States army.

ESSENTIALS OF OBSTETRICS. By CHARLES JEWETT, A.M., M.D., Sc.D., Professor of Obstetrics and Pædiatrics in the Long Island College Hospital and Obstetrician to the Hospital, assisted by HAROLD F. JEWETT, M.D. Illustrated by 80 wood cuts and 3 colored plates. Pp. 358. Philadelphia and New York: Lea Brothers & Co. 1897.

It would seem somewhat ungracious to begin a review by asking the *raison d'être* of a book, but the question is a natural one on the appearance of a new manual of obstetrics, a branch of medicine which has already a voluminous "current literature." But in this instance the name of the author leads one to infer that this is not an ordinary quiz compend. It is in fact a compilation from recent text-books, but reinforced and enriched by the experience of an experienced teacher and accoucheur. We have no hesitation in stating that this manual accomplishes all that is claimed for it in the modest preface.

In chapter iii. the reader will note as especially valuable the paragraphs on obstetric palpation, the aseptic preparation for and conduct of labor, and the immediate repair of lacerations. In chapter iv. careful attention is paid to the subject of infant feeding, which is usually slighted in the larger text-books on obstetrics, to ophthalmia neonatorum, and to early intestinal derangements. In passing we note with approval the section on abortion and pernicious vomiting. The treatment of the occipito-posterior position receives considerable attention (pages 240–242), but one is surprised to find that no mention is made of version when the head is above the brim as a substitute for the equally difficult and less certain correction of the position by combined internal and external manipulation. The subjects of hemorrhage, eclampsia, and puerperal septicæmia are well handled. The concluding chapter on obstetric operations contains a brief but lucid description of symphyseotomy.

An excellent index concludes the manual, which is certainly one of the best and most scholarly that have yet appeared. The practitioner and the student will alike find it useful, not only as a means of refreshing his knowledge of facts once familiar, but as an epitome of the most recent advances in the obstetric art.

SLEEP: ITS PHYSIOLOGY, PATHOLOGY, HYGIENE, AND PSYCHOLOGY. By MARIE DE MANACÉÏNE (St. Petersburg). 12mo, pp. 335. London: Walter Scott (Limited). New York: Charles Scribner's Sons.

UNDER the different headings named in the title are collected some very useful and interesting facts connected with the phenomena of sleep. Physiologically speaking, it is rightly claimed as nature's restorer for wasted energies of body and brain, the whole being comprised in the temporary arrest of consciousness and that quiescence of organic processes which reduce tissue waste to the minimum and give freest possible scope to recovery of tone. The author accepts the apparently well-founded theory that physiological sleep is due to cerebral anæmia and gives some telling proofs in its support.

"The Hygiene of Sleep" presents a very graphic picture of several conditions of environment which influence it for good or evil, as well as the purely subjective ones, natural or acquired. Dual personality is discussed in a very interesting and instructive way, with leading illustrative cases. The chapter on dreams presents some very curious facts, which cannot fail to edify all such as are curious regarding the scientific explanation of psychic phenomena. The part of especial interest to the practitioner will be that which treats of insomnia and its allied conditions. He will be surprised and edified to learn how much can be accomplished without drugs when the fundamental relations of cause and effect are properly understood.

A MANUAL OF MEDICAL JURISPRUDENCE. By ALFRED SWAINE TAYLOR, M.D., F.R.S. Revised and Edited by THOMAS STEVENSON, M.D., London. Twelfth American Edition, with Citations and Additions from the Twelfth English Edition. By CLARK BELL, Esq., LL.D., President of the American International Medico-Legal Congress of 1889, etc. 8vo, pp. 832. Philadelphia and New York: Lea Brothers & Co.

THE well-established reputation of this manual and its long acceptance as the leading authority on the subject need not be told. This is the twelfth American with citations and additions from the twelfth English edition, and is admirably edited by Charles Bell, Esq., who is well known in medico-legal circles as a tireless student of the particular branches of forensic medicine of which this work treats. He has enriched the present edition by citations of nearly seven hundred new cases and authorities, which add an incalculable value to the intrinsic worth of the book as a whole. It is unnecessary to say that this jurisprudence is, as it always has been, a model of its kind.

A TEXT-BOOK OF GENERAL BOTANY. By CARLTON C. CURTIS, A.M., Ph.D., Tutor in Botany in Columbia University. 8vo, pp. viii. + 359, Figs. 87. New York: Longmans, Green & Co. 1897.

THIS work is divided into three sections, viz.: "Anatomy," "Physiology," and "Systematic Botany and Morphology." Under the first are described the plant cell—its contents, formation, and growth—and then the development of the perfect plant. The section on physiology is succinctly though clearly treated, while the larger part of the book is devoted to the classification and divisions of the vegetable kingdom. It does not profess to be adapted for the use of those who desire and have the time for but a general idea of the elements of the science, but for others, who wish to lay a broad and sound foundation for the study of botany, it is certainly a most clear and thoroughly scientific introduction. Its suggestions for laboratory work are suggestive, interesting, and practical. It is well illustrated with mostly original drawings, and superior in its general "get up" to most text-books upon the subject.

TEXT-BOOK OF MEDICAL AND SURGICAL GYNÆCOLOGY. For the Use of Students and Practitioners. By R. W. GARRETT, M.A., M.D., Professor of Obstetrics and Gynæcology in the Medical Faculty, Queen's University, Kingston; Gynæcologist to the Kingston General Hospital. Containing over One Hundred Illustrations. Pp. 419. Toronto: J. A. Carveth & Co.

THIS book is essentially a collection of clinical lectures, in the preparation of which the author has borrowed freely from modern text-books and systems. Considerable care and judgment have been exercised in the selection and arrangement of the subject matter, and the illustrations, though not original, are clearly reproduced. The subdivisions are rather unique. Under Part I. are included ten chapters on development, anatomy, operative technique, anæsthetics, and "gynæcological therapeutics." Part II. contains only two chapters, one on the disorders of menstruation, and another on the widely diverse subjects, sterility, nymphomania (!), and leucorrhœa. Under Part III. are grouped the diseases of the genito-urinary tract in the usual order, except that affections of the urethra and bladder follow those of the vagina. Part IV. (two chapters) deals with mammary diseases and neoplasms.

The descriptions of operations are clear and intelligent, and the sections on pathology contain just enough information for the student, without being too dry and dogmatic.

The index is carefully prepared. The book is evidently the work of a practical teacher as well as a thorough student of the literature of gynæcology, and is far superior to the ordinary manuals and quiz compends with which this branch of medicine is burdened. It should not be dismissed after a superficial reading, but deserves respectful consideration and a place as a real aid to the student in the acquisition of a working knowledge of this important subject.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 6, 1898.

EDWARD G. JANEWAY, M.D., PRESIDENT.

Annual Reports.—The membership of the academy is at present composed of eight hundred and fifteen resident and ninety-nine non-resident members. The committee has acted during the past year upon sixty-four applications for membership. It is pleasant to record that the only remaining indebtedness is a note for $7,000, and it is hoped that this will soon be effaced. The total number of books and periodicals in the library is 38,320, and, with the steadily increasing number of readers, the want of an adequate endowment for the library is felt more keenly than ever before.

Clinical Observations on Malaria, and Its Treatment.—DR. BEVERLEY ROBINSON read a paper with this title (see page 73).

What is Malaria?—DR. ANDREW H. SMITH said that before entering upon a discussion of malaria we should agree upon what was meant by the term "malaria." If we could not find the specific organism we should at any rate insist upon some degree of periodicity as a test for the presence of the disease. To attach this term to a protracted deterioration of the health, with or without more or less febrile disturbance, was a common mistake. In this city some of these cases might be attributed to the persistent influence of the inhalation of sewer gas. A case was cited in which a child of three years had suddenly become ill without any definite general or local symptoms. On careful inquiry it was ascertained that the child, while taking its daily bath in the tub, was allowed to stoop over the opening in the exit pipe and watch the water as it ran out. This practice was stopped, the further inhalation of sewer gas was prevented, and the little one's accustomed health was soon restored. The physician should be constantly on guard against making a diagnosis of malaria simply because of the presence of chills. Last summer he had seen a case that had been under the care of a number of medical gentlemen. A specimen of blood was examined, and although no plasmodium could be found there were some free pigment granules. This continued for some time, and then an ischio-rectal abscess suddenly made its appearance. Previous to this the patient had been repeatedly interrogated as to the existence of pain or tenderness in any part of the body, but had always replied in the negative. On evacuation of the pus from the abscess, the so-called malaria promptly subsided.

Prevalent at the Seashore.—He had seen again and again at the seashore, in a locality where malaria was not at all indigenous, the development of this disease, repeated on several successive seasons. It was a popular idea that, a person having once absorbed a heavy dose of malaria, relapses would occur over a period of many years. The malaria of certain localities seemed to be peculiarly persistent—he believed the southern and eastern shores of Staten Island had that reputation.

Susceptibility to Quinine.—The susceptibility to quinine exhibited by some persons could be nearly always overcome by giving the quinine with hydrobromic acid or the bromides—for example, twice as much bromide of sodium as quinine. He favored the use of the muriate of quinine instead of the sulphate. One reason for this preference was the very material difference in the alkaloidal strength, the muriate having eighty-one per cent. as against seventy-four per cent. for the sulphate. Again, one part of the muriate was soluble in twenty-two parts of water, while the sulphate required five hundred and eighty-one parts of water for its solution.

Large Doses of Quinine not Necessary.—It was beginning to be recognized that the enormous doses given in the past were not of any particular value. If we regarded the quinine as acting directly upon the malarial organism, inasmuch as that organism was contained in the blood and not in any part of the body, it was possible to influence the blood by comparatively small quantities of quinine. It had been estimated that five grains of quinine dissolved in the blood would represent a solution having a strength of 1 to 10,000, whereas 1 to 20,000 had been shown to be sufficient, as it were, to paralyze the plasmodium.

Double Infection with Malaria and Typhoid.—With reference to the coincident occurrence of malaria with typhoid fever, the speaker said that he had seen at least two cases within a short time, about which he felt certain as to the diagnosis. In these, careful and competent examiners had proved the presence of the plasmodium of malaria, and Widal's test had demonstrated the presence of typhoid fever. In each case the malarial infection had been at the beginning and the typhoid at the close.

Arsenic Slow but Sure.—While we could cure most cases of undoubted malaria with quinine, there might be some well-defined cases which would baffle us. Just in proportion as the periodicity is marked were we likely to be successful with quinine. While arsenic was much slower than quinine in producing its result, the effect was more permanent.

Quinine and the Bromides.—DR. LOUIS FAUGÈRES BISHOP said that when the Home for Consumptives was moved from Fordham to St. Luke's Hospital many of the patients were having chills, supposed to be due to a combination of tuberculosis and sepsis. A careful study of the temperature had shown a certain periodicity resembling malaria, and when quinine was administered the malarial part of the temperature curve was eliminated. A short time ago he had seen a patient in whom the chills had not been controlled by small doses of quinine, but when this drug had been combined with bromides the beneficial effect was much more marked, probably through the influence of the remedy on the nervous system.

Capsicum and Taraxacum Aid Quinine.—DR. ALBERT W. WARDEN referred to the peculiar depression and malnutrition exhibited by those suffering from malaria. It was for the latter condition, he thought, that arsenic was so beneficial, but if the secretions were much altered arsenic would not be tolerated. In his practice he had found it very useful to combine quinine with capsicum and taraxacum. It was useless to give much quinine until free catharsis had been produced, and it was important to increase the dose of quinine about the eighth or ninth day. The treatment for malaria seemed to be aided by allowing the patient to drink freely of lemon juice. He had not observed any benefit from the use of the bromides with quinine. For the more chronic cases the syrup of the iodide of iron was indicated, not only to hasten convalescence but to prevent recurrence.

DR. ROBINSON, in closing, deprecated the prevailing tendency at the present time to lay so much stress on laboratory research, as opposed to clinical observation.

Clinical Observations upon the Heart and Circulation in Diphtheria.—DR. HENRY DWIGHT CHAPIN presented a paper on this subject, but, owing to lack of time, read only portions of it (see page 77).

What is Heart Failure? DR. A. JACOBI asked what was meant by that term which was in everybody's mouth—"heart failure." When the muscular tissue was anæmic and emaciated there was muscular

failure, and whatever happened in the voluntary muscles, as of the extremities, would also happen in the heart muscle; and so without much anatomical change there might be even a dangerous weakness of the heart muscle. The result of the consequent enfeeblement of the circulation would be the formation, first, of small and then of larger thrombi in the heart. As these could not be gotten rid of, they constituted a cause of death. All this might occur in a heart which had undergone but little change, and such a weakened heart might be found in various infectious and inflammatory diseases, or even in cases of inanition. Another form of heart failure was that observed in the course of typhoid, scarlet fever, and even whooping-cough. Many physicians were too slow in recognizing the important part played by the myocardium in the circulation. In the infectious diseases the changes which might take place in the heart might be only interstitial, and the outcome would be the same as in other organs in which such change took place—first hyperplasia and later cicatrization. This form was not frequent in infectious diseases. In a number of bad cases abscesses would be found in the myocardium, and they might even rupture into the pericardium. Exceptionally they ruptured into the general circulation and caused death. Most of the cases of parenchymatous inflammation coming under observation were those in which granular and hyaline degeneration took place, sometimes to such an extent that the muscular tissue became quite friable. The technical term "fragmentation" had been applied to such cases. They presented all the symptoms of absolute failure.

Danger Signals.—The reader of the paper had called attention to the slowness sometimes observed in the heart action. This was the result of the incompetency of the heart. Sometimes the heart action was very rapid because it was only by such rapid action that the circulation could be sustained. Danger was imminent when the second sound of the heart became feeble or inaudible. If there was an equal interval between the two heart sounds, it should be looked upon as a sign of a weak heart, and of impending danger. Except in cases of "fragmentation," death almost invariably occurred.

Many Lives Sacrificed to Expectant Treatment.—What cannot be cured, Dr. Jacobi said, need not be endured—it ought to be prevented. We were on the wrong track when we spoke of the necessity of a so-called "expectant" treatment. This waiting, Micawber-like, for "something to turn up" was fraught with great danger, and had caused the sacrifice of many lives. It was far better to administer heart stimulants in the early stages.

Our Ignorance Regarding this Heart Failure.—Dr. Joseph E. Winters expressed the belief that we were in absolute ignorance regarding this very important subject of heart failure in diphtheria. He would like very much to know why the toxins of diphtheria at one time affected the inhibitory fibres of the pneumogastric, and at another affected the vaso-excitor fibres; why in one instance there would be an exceedingly rapid pulse, and in another an extremely slow pulse. It was a condition about which we knew absolutely nothing, and which we were almost powerless to treat.

Slow Pulse and Antitoxin.—The exceedingly slow pulse of diphtheria had received little or no consideration in the text-books, and was a phenomenon of diphtheria which he had not personally observed until within the last two years. There was another feature of it, *i.e.*, that the more freely the antitoxin was used the more frequently was this very slow pulse observed. Whether or not there was any connection between these conditions he did not know. In treatises on diphtheria in which any mention was made of this very slow pulse it was said to be of very rare occurrence, yet recently he had seen a great deal of it at the hospital, and it was a far more dangerous condition than extreme rapidity of pulse. He recalled only two cases of recovery when the pulse had been very slow, yet there were numerous instances in which recovery had followed upon a very rapid pulse. In the case cited in the paper, in which the pulse sank to 28 per minute, six thousand units of antitoxin had been administered. A year ago last December these very large doses of antitoxin had been begun in the hospital, and at this time there had been many of these cases of slow pulse. At present these large doses were not given so much, and the slow pulse was less frequently noted. For example, a young lady of seventeen, from one of the private schools, received three thousand units of antitoxin, and after three or four days, the local condition not being satisfactory, she was given another dose of three thousand units. In a short time the pulse fell to 26 per minute, in spite of all treatment, and the case terminated fatally on the following day. When to this cardiac depression vomiting was added, death was the invariable sequel.

Heart Failure Not Always Preventable.—As to the management of this condition Dr. Winters said he did not think we could do any more in the way of preventing this change in the heart beats than we could in the treatment of it when actually present. In some cases it would occur in spite of every care and precaution. In other cases in which there seemed to be reason to expect it, it did not occur. Probably the explanation was to be found in the fact that some of the patients were extremely susceptible to the toxin of the disease, while others were comparatively immune. In confirmation of this he called attention to the well-known fact that in these infectious diseases there was extreme fatality in some families, while in others it was extremely mild. This was true of scarlet fever as well as of diphtheria, so much so that when the first patient in a household died of scarlet fever there was good reason to expect that others in the family would also die if stricken with the disease. This was the reason why it was reported that sometimes in one family as many as five or six died, while in another family, in which there was just as much local evidence of the disease and just the same treatment was employed, most of the sick ones recovered.

Does Not Approve of Strychnine.—He had seen all sorts of treatment tried for both the slow and the rapid pulse of diphtheria. Strychnine was used very largely now in cases exhibiting a tendency to cardiac depression, yet he did not feel at all sure that it did any good. A few days ago he had had a conversation on this subject with Dr. W. M. Welch, of Philadelphia, a physician who had constantly studied diphtheria for nearly thirty years. This gentleman had expressed the opinion that strychnine did no harm, but he was equally sure that it did no good. Dr. Winters said that there was nothing in the physiological action of strychnine to warrant us in expecting any benefit from its use in these cases. In his opinion alcohol came first on the list, and when needed it should be given in very large doses. Alcohol was much less likely to cause vomiting when given alone, and in the later stages of the disease vomiting was as dangerous as the rapid pulse. If he added anything to the alcohol it would be camphor or caffeine rather than strychnine.

Dr. H. W. Berg said that fully eighty per cent. of cases of diphtheria showed nothing characteristic in the pulse. There were cases, however, in which a specific effect was seen—the cases of slow pulse occurring frequently as a complication in very severe attacks. Long before he had been connected with a diphtheria hos-

pital he had seen this slow pulse occasionally in bad cases of diphtheria. He recalled distinctly seeing such a case in consultation with Dr. Jacobi fourteen years ago—in other words long before the introduction of the antitoxin treatment. Although large doses of antitoxin had been used freely in the hospital during the past year, he could not say that he had met with many cases in which the pulse had been slow. He deprecated the apparent tendency shown to find fault and to pick flaws in such special methods as the antitoxin treatment.

Midwifery Legislation.—At the last meeting of the academy Dr. Brill moved that a committee of three be appointed to confer with similar committees from other societies regarding this matter. After some discussion at the present meeting the motion was carried without much opposition.

THE PRACTITIONERS' SOCIETY.

One Hundred and Thirty-fifth Regular Meeting, Held Friday, December 3, 1897.

DR. W. GILMAN THOMPSON, PRESIDENT, IN THE CHAIR.

Plastic Operation for the Relief of Deformity Due to Double Harelip.—DR. ROBERT ABBE presented a young man, twenty-four years old, upon whom he had recently operated for the relief of a disagreeable defect of the lower part of the face. (This case will appear in full in a future issue.)

Neuritis and Atrophy Following Acute Arsenical Poisoning.—DR. W. GILMAN THOMPSON presented a man, thirty-eight years old, who last February attempted to commit suicide by taking a large dose of arsenic, the exact quantity being unknown. The ingestion of the poison was followed by a severe attack of gastro-enteritis, and six weeks later the patient first noticed symptoms referable to the nervous system. There were at first numbness and pain in both feet, followed by a gradual loss of power until he was unable to stand. Later the arms and hands became affected in a similar manner. His symptoms persisted until the 1st of September, when he entered the Presbyterian Hospital. The pain is gradually diminishing. There is still a good deal of cutaneous anæsthesia, and he finds it difficult to pick up objects. There has been considerable atrophy of the muscles, especially of the interossei. He has a shuffling gait, dragging one foot after the other. The reactions of degeneration are obtainable in most of the muscles. No arsenic could be found in the man's urine at the time he entered the hospital.

The case was of interest, Dr. Thompson said, because the neuritis and atrophy had followed the ingestion of a single large dose of the poison, and because the man is evidently recovering. He is receiving the ordinary treatment, consisting of tonics and applications of electricity.

DR. ANDREW H. SMITH referred to a very similar case which had been under his observation about five years ago. The patient had taken the arsenic with suicidal intent. He developed a severe gastritis, and before he had recovered from this symptoms of neuritis appeared. The disease followed a long and severe course, and it was months before the patient was able to walk.

DR. GEORGE L. PEABODY also mentioned a similar case which he had seen at St. Luke's Hospital four or five years ago. The patient was a woman, who, after taking a single large dose of arsenic, developed a peripheral neuritis from which she recovered in time.

Recent Theories of Immunity, from the Clinical Standpoint.—DR. W. GILMAN THOMPSON read a paper upon this subject (see page 37).

DR. BEVERLEY ROBINSON said he could discuss this subject only from a clinical standpoint, not from a theoretical one. One point to which he desired to refer was the immunity from certain diseases, such as pneumonia or diphtheria, possessed by certain individuals. This difference in susceptibility to disease was sometimes found to a remarkable degree among members of the same family. The immunity possessed by certain individuals, the speaker said, was possibly due to the influence of heredity.

DR. ROBERT F. WEIR said that although this question of immunity entered into his domain only incidentally in his study of wound infection, he was hardly prepared, from his reading, to expect the conclusion enunciated by Dr. Thompson in regard to the low position to which the leucocytes should be relegated in the process of immunization. It is understood at present that so far as phagocytosis is concerned, the cells do not occupy the high position which they did formerly. That they do play an important part in the development of this immunity, however, most observers are agreed. The exhaustion theory and the saturation theory, which have been proposed to account for this immunity, are not satisfactory. The question is so complex that a perfectly convincing solution of it is yet to be attained. In our laboratory tests, an inoculation which may prove fatal under certain conditions may prove more or less harmless under altered conditions. Still, he would emphasize it as almost certain that the polynuclear cells provide the ammunition which destroys the germs primarily, and to a more or less permanent degree their toxins. In conclusion, Dr. Weir said that while there were still many points in connection with this subject which must be regarded as *sub judice*, the *résumé* embodied in the paper of Dr. Thompson was of great value.

DR. F. P. KINNICUTT said the exact mechanism of immunity, either natural or acquired, specific or general, must still be considered an unsolved mystery. Probably even the most enthusiastic bacteriologist will admit this. It is an interesting fact that in the injection of cholera embryos into the peritoneal cavity of protected animals we find an enormous number of dead embryos entirely outside the cells, which have been destroyed extracellularly. Again, when we inject antidiphtheritic serum and examine the faucial membranes, we find a vast number of bacilli that have been destroyed without any phagocytosis. Phagocytosis can be considered only as a phenomenon of natural resistance. In acquired immunity it is probable that the tissues and fluids are so affected that there are produced both antitoxic and germicidal porperties in them.

DR. ANDREW H. SMITH said that the theory of immunity most satisfactory to his mind was that of Pasteur, which is that there is an exhaustion of some material which is necessary to carry on the process which eventuates in the disease. The process of fermentation is the one most analogous to that embodied in this theory; when the sugar is exhausted, the fermentation ceases. We can add something that will prevent the fermentation from coming on—something that will stop the reaction between the ferment and the sugar. In this broad way, perhaps, the condition of immunity might be explained. The speaker said he could not understand how immunity could be explained on chemical principles, such as a change in the alkalinity of the blood. Why should such a change affect just one particular disease? For instance, if the patient has diphtheria and the alkalinity of the blood is changed, why should the diphtheritic material alone suffer? Why should it not act on the potentiality of any other infective disease as well?

A Series of Specimens Demonstrating Appendical Disease Prior to the Onset of Grave Attacks.—Dr. Robert Abbe exhibited a series of over fifty specimens demonstrating abnormal conditions of the appendix prior to the onset of grave attacks of appendicitis. The specimens were prepared by first distending them with alcohol, allowing them to harden, and then slicing them. They had been all removed from living subjects. While no two of these specimens, Dr. Abbe said, were alike, they all showed a strictured condition, more or less advanced. Many of the patients from whom these specimens had been removed gave a history of having had slight attacks of pain in the appendical region during the past two, five, ten, and even twenty years. During those periods probably the stricture process had been going on, and when such stricture becomes complete, then we have what is known as a frank attack of appendicitis. The latter, therefore, is really the climax of appendical disease and not a primary condition. In all the specimens shown by Dr. Abbe, the appendage had been removed before it became gangrenous or had ruptured. In some of the specimens the stricture was single; in others, multiple. In every instance in which the appendix contained a calculus, the latter was located behind the stricture. In only one instance was a foreign body—namely, a corn husk—found in the appendix; in the other cases the calculus consisted of exfoliated epithelium, which first forms a putty-like mass and then condenses into a small hard concretion, occupying the distal portion of the appendix. Dr. Abbe said the point he wished to emphasize was that latent appendicitis may exist for a number of years without giving rise to serious symptoms. The only symptoms of this condition may be slight occasional attacks of tenderness in the appendical region, or digestive derangement. In conclusion, the speaker said that in a large number of cases of appendicitis coming under his observation there was an antecedent history of grippe.

Dr. Weir said that the specimens shown by Dr. Abbe give a very clear demonstration of the pathology of the process which causes appendicitis. The speaker exhibited a number of colored casts, showing the appendix in various stages of stricture and gangrene.

A Case of Malignant Endocarditis.—Dr. J. W. Brannan reported this case. The patient was a coachman, fifty-three years old, who entered Bellevue Hospital on October 16, 1897. He had never had rheumatism or any serious illness up to the time he came to the hospital. About three weeks before his admission he began to cough, with moderate greenish expectoration. He had had no night sweats, but had lost about ten pounds in weight. His temperature when he was admitted was 103.8° F.; pulse, 108; respirations, 32 a minute. An examinaation disclosed some dulness over the base of the left lung posteriorly, with diminished respiratory sounds; there were a few râles scattered over both lungs. The heart was apparently normal. During the first two weeks after his admission the man did not seem to be very sick, in spite of the fact that his temperature ranged daily from 97.5° to 104.5° F. Repeated examinations of the sputum showed large numbers of streptococci and diplococci, but no tubercle bacilli. The blood was examined from time to time, and showed a varying amount of leucocytosis. The physical signs in the chest were limited to an area about three inches in diameter at the lower angle of the left scapula, at which point there were slight dulness and increased vocal fremitus, with distant bronchial breathing, voice, and whisper. The case was regarded as one of broncho-pneumonia due to streptococcus infection. The most marked symptom was the irregularity of the temperature, which frequently rose to 104.5° F., sometimes during the day and sometimes at night. A malarial element was suspected, but no plasmodia were found in the blood. The man was carefully and frequently examined, but there was no suspicion that he was suffering from any form of cardiac disease. The valvular sounds were normal throughout his illness. He gradually grew weaker, and died after he had been in the hospital about a month.

At the autopsy the lungs showed numerous areas of broncho-pneumonia, with one almost necrotic area in the left lung at the point referred to above. The left side of the heart was normal; on the right side the tricuspid valve was partially destroyed and was the seat of large vegetations. Streptococci were found in the lungs and various other organs, and also on the heart valves.

Dr. Brannan said that out of two hundred cases of malignant endocarditis on record he had found only nine in which the lesions were limited to the right side of the heart, as in this case.

Dr. Walter B. James, who had seen the patient and assisted at the autopsy, said the left lung showed a moderate amount of coagulation necrosis, with large numbers of streptococci, which were also present in the kidneys and in the vegetations on the tricuspid valves. Although the vegetations on these valves were very marked, yet they were so situated that they did not obstruct the flow of blood through the auriculo-ventricular opening, and this probably accounted for the fact that they gave rise to no murmur. The speaker expressed the opinion that the case was one of malignant endocarditis, with secondary pulmonary infection.

Dr. F. P. Kinnicutt said that a case very similar to the one reported by Dr. Brannan was observed in his service at the Presbyterian Hospital last winter. There was no heart murmur, and the diagnosis lay between typhoid, typhus, and malignant endocarditis. The patient died on the sixth day of his very acute illness, and at the autopsy a malignant endocarditis, confined to the right side of the heart, was found, with infarctions in the lungs and kidneys. The case was one of streptococcus infection. The speaker said that in cases of this character, he did not see how when there was no heart murmur a positive diagnosis could be made.

Dr. G. L. Peabody said he agreed with Dr. Kinnicutt that in a case of malignant endocarditis without a murmur, the diagnosis is difficult and perhaps even impossible. The possibility of that affection, however, should occur to one's mind in obscure cases of sepsis; but almost all of the members would probably admit, as he did, having failed to make the diagnosis in a considerable proportion of cases.

Dr. E. G. Janeway said he agreed with the previous speakers that it is a difficult matter to make the diagnosis of ulcerative endocarditis without a heart murmur, and yet it can sometimes be done. The presence of petechiæ or the occurrence of hemiplegia or of convulsions due to cerebral embolism may lead us to suspect that we have to deal with a case of malignant endocarditis. Such lesions sometimes exist in the mitral area without giving rise to a murmur, as they may cause no obstruction or regurgitation. Cases of ulcerative endocarditis may resemble remittent or typhoid fever, and *vice versa*; cases of remittent or typhoid fever may be mistaken for ulcerative endocarditis. Petechiæ may occur in the course of typhoid fever. Another point to be borne in mind is that the heart murmur in ulcerative endocarditis may disappear when the patient grows weak, or it may grow very faint after the patient has rested in the recumbent position for some time.

Dr. Kinnicutt said he had seen two cases of typhoid fever within the past year which were compli-

cated by the occurrence of petechiæ. One recovered: the other ended fatally. In the fatal case not only a very abundant petechial eruption was present but most profuse hemorrhages occurred from the nose, the gums, and the intestinal tract.

A Case of Bradycardia with Sudden Syncopal Attacks.—This case was reported by Dr. C. L. Dana. The patient, who had been under the care of Dr. Poucher, of Poughkeepsie, was a married man, fifty-two years old. He gave no history of any inherited heart or arterial disease. There was no history of syphilis; he did not use alcohol or tobacco. There was no rheumatic or gouty history. He had been in good health until the present illness, which began about two years before he had come under Dr. Dana's observation. He then had an attack of vertigo, followed by sudden syncope; he fell as though struck by lightning and remained unconscious for about thirty seconds, gradually recovering. Following that attack he remained in bed for several weeks on account of weakness, and during that period his pulse was found to average 40 per minute. Subsequent to this the man had similar attacks, sometimes four or five daily, sometimes as many as fifteen or twenty; these attacks either consisted of simple vertigo or they were accompanied by very sudden loss of consciousness. In some instances the attacks were preceded by an aura, which consisted of a flash of light before the eyes. The patient was seen by Dr. Dana in consultation with Dr. Poucher, in March, 1897. He was fairly well nourished. He showed no objective lesions connected with the nervous system or any other organs excepting the heart and arteries. The heart was somewhat enlarged, and there was a faint systolic murmur at the apex; the pulse was 36 per minute, regular, and of high tension. There was no nephritis. The patient was given at various times strychnine, glonoin, digitalis, and iodides, with careful attention to rest and food, but his attacks continued, and about six months later he died. During some of his later attacks Dr. Poucher found the pulse as low as 14 per minute. The autopsy was made by Dr. Poucher. He found the heart somewhat enlarged; the wall of the right auricle was quite thin and that of the right ventricle extremely so, almost like a piece of paper. Some calcareous deposits were found in the walls of the heart and on the tricuspid valves. No examination was made of the nervous system.

Dr. Dana said the case was particularly interesting because of the attacks of syncope which accompanied the bradycardia. They were not like ordinary fainting spells, but came on with lightning-like suddenness, which seems to be a peculiarity of such attacks in cases of permanent slow pulse. The bradycardia in these particular cases, the speaker said, is probably of nervous origin.

Dr. Janeway said he had seen a number of cases of bradycardia, but he had never succeeded in getting an autopsy. In one case, the patient's pulse averaged 28 per minute. In another case, in which there was aortic obstruction, the pulse sometimes ranged from 32 to 36 a minute for two or three weeks, and improved with rest in bed. The attacks in that case seemed to be brought on by fatigue and were associated with aortic trouble. In another case, that of a man aged seventy years, the pulse fell to 36 per minute, and remained so without giving rise to much discomfort.

Dr. H. F. Walker said that several years ago he met a man of remarkable vigor, who had never been ill, whose pulse habitually was 44 a minute. He afterward died of pneumonia. He had never suffered from attacks of syncope.

Dr. Robinson said that a number of years ago he had a man under his care whose pulse habitually ranged from 40 to 50, and who was subject to sudden attacks of syncope. His slow pulse rate was associated with great weakness and prostration.

Dr. Kinnicutt said that some time ago he reported a case of bradycardia associated with epileptiform attacks. At times the patient's pulse fell as low as 28 per minute. The bradycardia continued at intervals for a number of years, the patient finally dying of some intercurrent disease.

Dr. Thompson said that in three or four recent cases of bradycardia which he had seen there were no attacks of syncope. The most pronounced case was that of a man, sixty years old, whose pulse for a number of consecutive weeks did not go above 28 and frequently fell as low as 18 or 20 a minute. The man was well nourished and declared that he had known of his slow pulse for two years. He never had any fainting-attacks and appeared to enjoy excellent health. There was no demonstrable abnormality of the heart and no murmur. This man was lost sight of. Another case was that of a man, twenty-four years old, who had a pulse of 44 a minute. He had never had any attacks of syncope. His heart appeared normal and his general health was excellent.

Dr. Dana, in closing, said he did not wish to give the impression by his remarks that sudden attacks of syncope were necessarily associated with bradycardia, but rather that when such attacks did occur with bradycardia they indicated that the cardiac symptom was of nervous origin and not due to a structural lesion of the heart itself. Bradycardia might be the result of a number of different conditions, but this type which was associated with very sudden attacks of syncope seemed to be distinct, and probably depended on some lesion involving the pneumogastric nerve.

Dr. Janeway called attention to the fact that in the case reported by Dr. Dana the autopsy showed that the walls of the right heart were extremely thin.

Dr. Dana replied that equally thin walls had often been noted without the patient having sudden syncope.

The Widal Test.—In an editorial comment upon this test for typhoid fever the London *Lancet* says experience has taught that its value is not nearly so great as was predicted. The reaction is frequently not to be obtained until other signs place the diagnosis out of the realm of doubt. The test seems likely to have the same fate as the diazo reaction, of which so much was at first expected.

A New Splint for Fractures of Nasal Bones.—A No. 15 spring brass wire is bent into the form of a rectangular letter U, the arms of which are about one inch apart and long enough to extend from the upper lip to the crown of the head or beyond. Opposite the supra-orbital ridge a sharp angle is formed which enables the splint to enter the orbital cavity just below the orbital ridge; this angle fixes the splint against the supra-orbital ridge. The lower or transverse portion is carried forward away from the lip, for a distance of half an inch. Compresses placed between the splint and the side of the nose will correct deviations. If needed, a silk suture may be passed through the septum of the nose and tied to the transverse portion of the splint. For drawing down and firmly holding the point of the nose or its alæ this is the best appliance. If one wishes, he can add to the intranasal splint an intranasal wire, which should be covered with soft-rubber tubing. The splint is held in position by means of a strip of rubber adhesive plaster passing over the forehead and around the back of the head, like a hatband. The advantages of the splint are that it is simple, easily made and applied, and permits inspection of the nose without removing the apparatus.—Hawes.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PRINCE OF WALES' FUND—IMPORTANT SPEECH BY THE PRINCE ON HOSPITAL MANAGEMENT AND FINANCE—SIR HENRY BURDETT'S SCHEME TO ENLIST CHILDREN FOR HOSPITAL FINANCES—MAIDSTONE—PROFESSOR MACEWEN—ROYAL BRITISH NURSES—DEATHS OF TWO AGED VETERANS—EXPLOSION IN A CHEMICAL FACTORY.

London, December 24, 1897.

This being Christmas week, social functions are pushing medical matters into the background. Some excitement is experienced in the hospitals, where the residents and others are decorating and getting up amusements for the patients who are well enough to pay attention to them.

On Monday the Prince of Wales presided over a meeting of the council of his hospital fund, when Lord Rothschild, as treasurer, made a financial statement. The amount in the bank was stated as £180,000, of which £99,000 is invested. It is expected that the hospital stamps initiated by the *Daily Mail* will bring in from £38,000 to £40,000. The prince, who seems to have a firm grasp of the hospital question, said he was anxious to spend all the income, but would reluctantly part with the capital. At the same time he was willing to use the amount from stamps, as that was something apart from other sources and intended as for the jubilee year. He recognized that what another year might produce was problematical, and partly dependent on the use made of this year's income. His own view was that full inquiry should be made in every case before granting assistance, so that all sums should be wisely spent. "Unfortunately," continued His Royal Highness, "as you must be well aware, in many cases wings and wards are now built when the hospitals can only hope that future charity by means of dinners and bazaars may give them the pecuniary assistance necessary to defray expenses; and if they do not receive as much money as the managers hope from these bazaars and dinners they are ultimately obliged to close the very wards which they recently opened. It is this extravagance in the maintenance of hospitals which this fund should endeavor to discourage." The prince's speech has given much satisfaction; so has the decision arrived at by the meeting, that in view of the controversial character of the proposal of the Charity Organization Society for a central hospital board it is not expedient for the prince's fund to be associated with the movement. If the prince's fund is kept equally clear of the Sunday and Saturday funds, it will secure more confidence than either. The mistakes of the Saturday and the prejudices of the Sunday funds need not be repeated. With regard to the former, it has been decided to discontinue the street collection, which was so objectionable.

Sir H. Burdett is doing his utmost to create a boom for his hospital stamp albums. He wants all the children to have these albums instead of Christmas presents, and a number of society people are supporting him. It is proposed also to send them out in place of Christmas cards, but it is doubtful if they will displace that growing industry. There is an enormous capital invested in it, and thousands of designers and printers find employment in it. Sir Henry has got photographers to give a free portrait to every child who will go for a sitting and put his or her portrait in the album. It is hoped to enlist the infant of the Duke of York in the plan. Medical men look rather askance at Sir Henry's scheme, from the fear that it may increase hospital abuse and give the owner of a shilling's work of stamps a notion that he has purchased a right to free treatment at the hospitals.

The epidemic at Maidstone is not quite over. Five more cases have been notified since I reported, bringing the total up to eighteen hundred and ninety. The official inquiry is expected to begin in January. The town council wishes to restrict the inquiry to the cause of the epidemic, but the water company desires all matters to be dealt with, in the hope that drainage and other defects may be held to share the blame.

I am glad to hear that the difficulty at the Glasgow Infirmary is being arranged, and that Dr. Macewen will be able to retain the ward which it was proposed to transfer to other purposes.

The Royal British Nurses' Association has had another stormy meeting. A small minority opposed the new code of bylaws in a manner scarcely to be expected with the Princess Christian in the chair. It was hinted that the privy council would not sanction the changes in rules which were so obnoxious to some. The minority declares that nurses ought to be left to manage their own affairs—though the last two meetings do not say much for their capacity to do so. Certainly the doctors who have tried to help them have found no gratitude, and the wonder is that they consent to take further trouble in the matter.

The death is announced of Deputy Inspector-General of Hospitals James Kellie, in his ninety-second year. He retired from the Madras army in 1859.

The death is also announced of the senior coroner in England, Dr. Henry Churton, who held that office for Birkenhead. He had reached the age of eighty-four.

A young chemist was killed the other day by an explosion of erythrol tetranitrate, which he was manipulating to make tablets.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE NEW HEALTH LAW—THE LATE PROFESSOR TARNIER—INAUGURATION OF HOSPITAL BOUCICAUT—PROFESSOR ROBIN AND VENESECTION—PHLEBOTOMY IN URÆMIC INTOXICATION.

Paris, December 23, 1897.

The French authorities are just giving another evidence of their zeal in looking after the health of their citizens. To be precise, the senate has taken up the discussion of a law having for its object the protection of the public health. Drs. Brouardel and Cornil are its framers, and it cannot be otherwise than productive of great good from a sanitary point of view.

This law has one especial characteristic, and that is, it defines exactly the powers of the municipal as well as those of the prefectural authorities in questions of sanitation—not only determining the sanitary measures to be taken in cases of endemic or epidemic diseases, but obliging the communes to conform without delay to the regulations on public hygiene. And this is a trouble with laws in our own country. How frequently do we not see the State and city authorities clashing in matters of quarantine, sanitation, and others touching the public health. It is here that politics and bureaucracy or red tape interfere often very seriously with the execution of an essentially good law, to the detriment and inconvenience of the public for whose protection against disease it was made. The new French law is in sum as follows: When the sanitary condition of a commune requires bettering—especially when a commune is not provided

with drinking-water of good quality or in sufficient quantity, or when the waters used remain stagnant in the midst of habitations—the prefect, upon the report of the sanitary inspector having been previously communicated to the municipal council, shall invite the council of the department or county to deliberate upon the utility and nature of the work judged necessary; the mayor shall be prepared to present the observations to the council of hygiene of the department. In case of an opinion contrary to the execution of the works or demands on the side of the commune, the prefect shall transmit the deliberation of the council to the minister of the interior, who shall, if he sees fit, submit the question to the consultative committee of public hygiene of France. If, at the expiration of three months, no measures have been taken regarding the execution of the works, a decree of the president of the republic, given in a council of State, shall order their execution.

These measures and others analogous will assure, in a much larger measure than exists to-day, the protection of the public health.

A tribute has been paid by the Academy of Medicine to the memory of the late Professor Tarnier, who had been its president. Before adjourning its sitting as a mark of respect, the academy had previously listened to the oration, so simple and so just, pronounced by Professor Budin, the accoucheur of the Maternité, at the obsequies of his old master. It has also been decided that the clinic of accouchements shall in future be known as and called the Clinique Tarnier. Moreover, it is probable that the municipal council of Paris will accede to the wishes expressed the other day by the medical collaborator of *Figaro*, in giving to a street of Paris near the Maternité the name of this great physician, thanks to whom the mortality of women in childbirth has fallen from ninety in one thousand to one-half in one thousand.

The Hospital Boucicaut has been at last formally and officially inaugurated, and M. Felix Faure, president of the republic, was there with a numerous cortege. This hospital, which is considered one of the finest in Paris, and is now functioning, consists of eight pavilions, resembling each other exteriorly as regards the style of architecture. Four of the pavilions are reserved for medicine, two for surgery, and two for lying-in and obstetrical cases. Three other pavilions of different forms are assigned as follows: the first to external consultations; the second to the administration; the third, which is the prettiest of all, is to be the rendezvous for patients of the Bon Marché, for whom twenty-one beds are reserved. A bust of Madame Boucicaut, in the middle of a pretty garden before the Bon Marché pavilion, will serve to remind visitors that she was the founder of this magnificent hospital, and that of the millions she left many were devoted to the relief of human misery and suffering. Beauty has been made quite a prominent feature, and it seems to have been realized that the pleasure of the eyes aids the cure and makes convalescence the shorter.

Dr. Albert Robin, the savant professeur at the Hospital de la Pitié, has just given us the practical results of his studies in bleeding, which throw a new light upon a time-honored therapeutic procedure. The conclusions he reaches are these: "Beside the depletive action of bleeding already known, there is another not sufficiently put in relief, namely, that which favors oxidation, thanks to the superactivity that it gives to nutrition."

Venesections are therefore a powerful agent to employ against diseases accompanied by decline of the nutrition or slackening of the oxidations, and not as a means in a given disease or a particular morbid entity. Bleeding has consequently, in Dr. Robin's opinion, a double action mechanical and chemical. The diseases in which he has recently bled were cerebral hemorrhage with ventricular inundation, acute nephritis with uræmic respiration, saturnine Bright's disease with epileptiform crises and enormous dyspnœa, cardiac asystolia with cyanosis, uræmic coma with left hemiplegia, uræmic dyspnœa with hydrothorax, asystolic aortic insufficiency and pulmonary congestion, arterio-sclerosis with mitral lesion; as well as others with œdema, anasarca, and dyspnœa. The quantity of blood taken varied from one hundred and fifty to two hundred and fifty and three hundred grams—in some instances with rapid relief. Of fourteen cases treated by bleeding, ten gave good results, and in four the treatment was not successful. These clinical examples confirm what has been ascertained by experimentation. It is true, however, that bleeding has been abused; but it should not on that account be made to disappear from therapeutics altogether.

Phlebotomy is advocated by Lépine and Bouchard in uræmic intoxication. They attribute that complication to the potassium salts contained in the blood. It is not so much the quantity of potassium salts taken away by bleeding, as the oxidation that follows, that is efficacious.

"SPONTANEOUS" FRACTURE OF THE CLAVICLE.

To the Editor of the Medical Record.

Sir: The "Somewhat Unique Case of Spontaneous Fracture of the Clavicle," reported in the Medical Record, December 25th, by Dr. T. H. Manley, of this city, is so unique as to justify one in making a query and also a suggestion.

That a man, thirty-four years old, in good health, should retire at eleven o'clock at night and wake up at 3 A.M. with a fractured clavicle, is indeed mysterious; is, in fact, a rather flagrant violation of the laws of nature.

His occupation, that of a billiard player, calls at times for rather active exercise on the left side, such as springing on or off the edge of the table. We are told that he was not addicted to "excesses" of liquor.

Did he at any time from four hours to seven days previous to discovery of the fracture "sprain" his shoulder, indulge in any severe exercise, or in skylarking? It is very easy for the average dispensary patient to forget a knock or bruise.

A person may have a fracture of the clavicle following a rather slight injury, without deformity and without pain. Such a fracture, being either incomplete or subperiosteal, may very easily become complete with sudden onset of pain and the typical deformity. I have also seen fracture of the clavicle with slight overriding, no pain and no dropping of the shoulder, causing the patient slight or no discomfort.

We should consider Dr. Manley's case as one of more or less complete fracture of the left clavicle, rendered complete by the patient rolling over on his left shoulder. This conclusion is all the more reasonable, as it seems there is not a case on record of spontaneous fracture of the clavicle—Dr. Manley, in his report, stating: "In an examination of the literature on fractures by American and foreign authors, I am unable to find a record of any similar case."

James Porter Fiske, M.D.

[illegible] West Forty-Seventh Street.

Malarial Fever is said to be now unusually prevalent in the lower Mississippi Valley on account of the subsidence of the great floods.

Therapeutic Hints.

Strophanthus.—In a clinical study of this drug Dr. Reynold W. Wilcox (*The American Journal of the Medical Sciences*, May) summarizes as follows: "We may say that success in the administration of strophanthus requires: 1. An active, well-made preparation from a reliable source. 2. Avoidance of its use in fully or overcompensated hearts, in those which present advanced muscular degeneration or mechanical defects of high degree. 3. The use of not too large or too frequently repeated doses. From my own observations, the dose of five drops of a reliable tincture three or possibly four times a day is sufficient. In conclusion, I believe that, considering the limitations just enumerated, strophanthus is the drug of choice in: 1. All cases in which we wish to establish compensation. 2. All cases of arterial degeneration in which a remedy which causes more energetic cardiac contractions is required. 3. All cases of cardiac disease when diuresis is necessary. 4. All cases of weak or irritable hearts. 5. All cases of cardiac disease in childhood or old age."

A New Local Anæsthetic.—Orthoform, a white odorless powder slightly soluble in water, anæsthetizes when brought into contact with nerves, as in burns, ulcers, etc., or when used on mucous membranes. It is antiseptic, and has given good results in gastric ulcer and carcinoma. For internal use a soluble acid salt is used. It is said to be non-poisonous and non-hygroscopic.—*Münchener med. Wochens.*, August 24, 1897.

Guaiacol.—This is the active principle of creosote. The latter itself is not a definite product, but a mixture containing, along with guaiacol, toxic cresols and toxic derivatives of pyrogallol. Liquid guaiacol is never quite pure, as it contains only seventy-five per cent. of the pure substance. Chemically pure guaiacol is a pharmaceutical possibility, but, like all the phenols, it is too irritating to be used except in very small doses. Moreover, it has an offensive odor and a burning, bitter taste.—James E. Newcomb.

Gastric Ulcer.—Rest in bed, hot poultices, Carlsbad water. The poultices should be very hot and changed every ten minutes. The pain disappears in about five days; then Priessnitz bandages should be substituted for the hot poultices. Strict regulation of the diet. Surgical treatment should be resorted to under the following circumstances: 1. When there are repeated hemorrhages which make the patient anæmic. It depends on the nature of the individual case whether an operation should be performed or not when there has been only a simple profuse hemorrhage, for it may be so abundant that surgical aid comes too late. On the other hand, patients often recover from the acute anæmia caused by a single hemorrhage. 2. When long-continued medical treatment has proved ineffectual to relieve the pains, gastro-enterostomy may be tried. 3. When there is perigastritis caused by adhesion of the stomach to other organs, especially when a subphrenic abscess has formed. 4. When there are perforation of the ulcer and an opening into the abdominal cavity. The chances of a perforated ulcer healing are of course very small.—Professor von Leube.

Bilious Headaches.—In all cases of sick headache there seem to be two factors: the general condition of the body and the local cause determining the pain to the head rather than to any other part of the body. One of the most common of the local factors is disturbances of the eyesight. I should say in nineteen cases out of every twenty—perhaps I ought to say in forty-nine out of fifty—the exciting cause of so-called bilious headaches is irregular vision due either to inequality of the two eyes or to astigmatism.—T. Lauder Brunton, "Lectures on the Action of Medicines," p. 167.

Surgical Suggestions.

Rectal Fistula.—The following important points should be observed: 1. A careful physical examination of the lungs as well as of the entire rectum is to be made in every case. 2. Pulmonary tuberculosis is not necessarily a contraindication. 3. Do not put down the knife until certain that every sinus has been divided. 4. Remove all diseased tissue. Large wounds are not to be feared. 5. Caution: the sphincter is to be divided only once and at right angles. 6. Special attention is to be given to the mucous opening. 7. Invasion of the perineum must be avoided, especially in females. 8. Systematic antisepsis is necessary if good results are desired. 9. Care and patience are required in the after-treatment. Dressings are not to be left to the family nurse. 10. In the after-treatment two warnings are to be heeded: complaints of unusual pain by the patient and increase of the discharge. Either of these may mean the formation of another abscess. 11. Hemorrhage and incontinence of fæces are the chief danger. Both are amenable to treatment and should not deter from the operation.—Cooke, *Medical News*, November 21, 1896.

Golden Rules.—The following suggestions in abdominal surgery are said to come from a celebrated London surgeon: Always avoid purgatives in treating a patient who has swallowed a foreign body. Give opium and constipating food—boiled eggs, cheese, puddings, potatoes, etc. Never close any wound of the abdominal wall till all hemorrhage has ceased. Never, under any circumstances, apply pressure to a wound of the abdominal wall to arrest hemorrhage. Never mind increasing a superficial wound of the abdomen in order to remove a foreign body or to secure a bleeding point. Never probe any wound in the abdominal wall. Never forget that all abscesses of the abdominal wall should be opened freely and at once. Never hesitate or delay to open and drain an abscess in the loin due to rupture or injury to the kidney. Never procrastinate in strangulated hernia. It is not usually the operation which will prove unsuccessful in herniotomy; the danger lies in your allowing the bowel to become irrecoverable. Never be deceived by an opiate masking the acute symptoms of hernia, obstruction, peritonitis. Never tap a suspected renal tumor through the abdominal parietes, *i.e.*, through the peritoneum. Always relax the abdominal wall after suturing. Never ligate *en masse* in cutting off omentum; do it piecemeal; the constricted edge of the apron of omentum may unravel, and fatal hemorrhage result. In protrusion of the viscera never neglect to pass your finger fairly through the wound to make sure that the reduction has been complete. And be careful never to push the bowel into an interstice between the muscle or into subperitoneal tissue.

Acute Osteomyelitis.—Rapidly increasing pain in an arm or leg, accompanied by swelling without redness or fluctuation, together with high fever and chills, is a typical picture. This is one of the emergencies of surgery. Free incision to the bone with chiselling into its marrow should be at once performed. There is no pus, as a rule, in early cases, but the periosteum is easily peeled from the bone. Timely operation

prevents necrosis. Any bone may be the seat of osteomyelitis, but it is commonest in the long bones.—*International Surgical Journal.*

Suppurating Wounds should not be packed so as to occlude the opening or impede the flow. A narrow strip of gauze passed well down to the bottom and loosely bunched about the external opening will serve every purpose of drainage.

Treatment of Spasmodic Lockjaw.—Woman, aged twenty-eight, for years suffering from firm closure of the jaws, varying in degree from day to day, but gradually getting worse. The temporo-maxillary joint and a displaced cartilage were excised, with benefit lasting only for two or three days: other methods of treatment failed. At last, after one each of the insertions of the masseter and the temporal and internal pterygoids were detached, the spasms disappeared and remained absent for six years, when they returned, necessitating a similar operation.—Kocher, *La Sem. Méd.*, December 18, 1896.

Fractures of the Base of the Skull.—I have seen such cases recover, although some days later I have been aware that there had really been a fracture, and for this reason: The fracture may run through the temporal bone and involve in some way the aqueductus Fallopii, through which the facial nerve passes, and the proof of the fracture having occurred is that ten days or so afterward the patient has paralysis on that side of his face. The fissure, if it runs through the temporal bone, becomes repaired, and repair may occur with an excess of callus which causes compression of the facial nerve in the canal and produces paralysis. In another fortnight, when the callus is absorbed, the nerve resumes its function and the patient gets well.—Heath, *The Clinical Journal*, June 16th.

To Prevent Disagreeable After-Effects of Chloroform and Ether Narcosis.—

℞ Morphin. hydrochlor. ..... gr. ii¼.
Atropin. sulph. ..... gr. ¼.
Chloral. hydrat ..... gr. iii¾.
Aq. dest. ..... ʒ iij.
M. S. Give ♏ xxiv. hypodermatically a few minutes preceding the administration of the anæsthetic.

Do not use this mixture in cases of heart lesion.—Fraenkel.

Abscess of the Liver.—The exploring needle is unreliable in finding small abscesses, and the use of the knife is recommended even though the needle fails to locate the abscess to which the symptoms point.—John O'Conor.

Dislocation of the Semilunar Cartilage.—The lesion is always caused by traumatism; it is the result of exaggerated flexion with either external or internal rotation; the inner cartilage is most often displaced; the anterior end is more apt to be dislocated than the posterior; the symptoms may be reduced to localized pain; the author prefers Croft's method (arthrotomy with ablation of the disc) to meniscopexy, as practised by Annandale; arthrotomy has given the most complete cures without any deaths.—Rosa.

Cholecystotomy.—The indications for operation are: 1. Infrequently recurring biliary colic without jaundice and with or without enlargement of the gall bladder. 2. In enlargement of the gall bladder without jaundice, even if unaccompanied by great pain. 3. In persistent jaundice ushered in by pain and when recurrent pains with or without ague-like paroxysms render it possible that the cause is gall stones in the common duct. 4. In empyema of the gall bladder 5. In peritonitis starting in the right hypochondrium. 6. In abscess around the gall bladder or bile ducts, whether in the liver, under the liver, or over the liver. 7. In some cases when, although gall stones may have passed, adhesions remain and prove a source of pain and illness. 8. In mucous, muco-purulent, or biliary fistula. 9. In certain cases of chronic jaundice, with distended gall bladder dependent on some obstruction in the common duct, although the suspicion of malignancy be entertained. In such cases the increased risk must be borne in mind, as malignant disease may be the cause of the obstruction, and operation in such cases is attended with greater danger than ordinarily. 10. In phlegmonous cholecystitis and in gangrene, if the case has been seen and recognized at a sufficiently early stage of the disease. 11. In gunshot injury or in stab wounds over the region of the gall bladder. 12. In suspected rupture of the gall bladder without external wound. 13. In some cases of chronic catarrh of the gall bladder or bile ducts. 14. In suppurative cholangitis.—Mayo Robson.

Injections of Alcohol in Carcinoma.—Alcohol favors cicatrization in all growths like struma, angioma, cysts, lymphatic-gland tumors, sarcoma, carcinoma, and especially carcinoma of the breast and cervix uteri. Under its use, in fifteen out of eighteen cases of carcinoma of the breast, the growth gradually dwindled away, until in a year there was nothing left but the connective-tissue stroma, and there has been no return. Five cases of carcinoma of the cervix also recovered completely, and the patients are still living and in good health. The effect on the general health is even more surprising. The pains and uneasiness pass away, and sleep, appetite, assimilation, and strength return in a most remarkable manner.—Hassel.

Tonsil Tumor.—A recently developed unilateral non-inflammatory new formation in a subject past middle life is suggestive of malignancy, especially if the growth is hard, dense, and of rapid progress.—Newman.

Pruritus Ani.—

℞ Menthol 4
Alcohol 30
Distilled water 60
Dilute acetic acid 15
For external use only.
℞ Carbolic acid 5
Hydrated potash 2
Linseed oil 30
Bergamot oil ..... q.s.
Apply at bedtime.

In very severe cases deep cauterization of the parts with nitrate of silver or the thermo-cautery may be employed. Section of the nerves gives good results in pruritus of the anus, vulva, and scrotum, when the affection is very intense.—Cumston.

Acute Cystitis.—A very frequent cause of acute cystitis is the decomposition of residual urine. This may quite readily be cured without washing the bladder and without internal medication, simply by drawing off every drop of urine by the catheter every three hours. The catheterization must be done punctually every three hours, day and night, whether the patient urinates or not. Five minims of the oil of wintergreen twice daily, and the ingestion of a gallon of water every twenty-four hours, will contribute to the cure and will greatly hasten it.—*International Journal of Surgery.*

Hemorrhage in Brain Surgery.—For arresting bleeding from the diploe use Horsley's antiseptic wax. As regards the dura, if it be found necessary

to ligate a vessel in its continuity, this is best done by passing a small semicircular Hagedorn needle, armed with fine silk or catgut, round it, care being taken to avoid injury of the subjacent brain and cerebral veins. When an artery bleeds in the divided dura it may be seized with forceps and ligatured; veins are best secured by an armed needle being passed round them, as the forceps are apt to lacerate and tear the vessel. This is also true of cerebral veins.—KEEN.

In Shock following abdominal operations, the following axiom is laid down: When a patient is put back to bed with a pulse of 140 and the heart shows no tendency to quiet down in twenty-four hours, the patient almost invariably dies, apparently from prolonged shock.—KEITH.

Obstruction of the Large Intestine most commonly takes a chronic course (as an exception to this must be mentioned volvulus of the sigmoid flexure). The pain is not so intense. Vomiting is late to appear, is scanty, may diminish, and is rarely feculent until after a considerable interval. Meteorism appears early, and is apt to be marked.—FREDERICK TREVES.

New Instruments.

A NEEDLE FOR THE REPAIR OF THE CERVIX UTERI.

BY FRANK H. CLARK, M.D.,

BROOKLYN, N. Y.

ONE of the ever-present annoyances attending the operation of trachelorrhaphy, in my experience as well as in that of others with whom I have been associated in the past few years, seems to have been the selection of the needle best adapted to the liking of the operator and the needs of the work in hand. If the cervix to be repaired be thickened or hypertrophied, the needle used must be long enough to transfix both lips fairly to insure correct approximation, or else the operator must introduce his needle through each lip separately, which necessitates the catching and uncatching of needle forceps at least twice. If the needle is long, its butt is constantly engaged in the more or less lax vaginal tissues, thus preventing the necessary sweep of the forceps required to place the sutures in the proper positions.

Then, again, the style of needle is a question of some importance—one preferring a short, straight article, with or without a cutting edge; another will select a full-curved, round, pointed needle; while still a third will elect to use a half-curve, twist, or something else to his fancy. Whatever needle is used, however, is subject to the annoyances noted, which are worthy of notice from the fact that they consume a deal of time, and time is of great importance when a patient is under an anæsthetic.

With the object of relieving the operator of the usual embarrassments consequent upon the use of the various needles in vogue, I have had Messrs. Haslam & Co., of Brooklyn, make for me a needle which at this time seems to answer every purpose and do the necessary work in less than half the time required by the use of separate needles. Its construction is so simple that a glance at the cut is sufficient to note its character as well as its mode of operation.

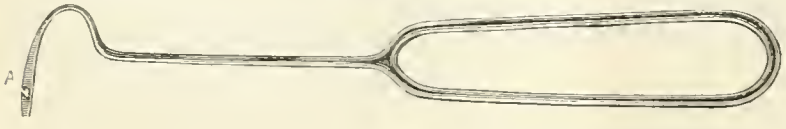

FIG. 1.

Perhaps a word, however, relative to its use may be *à propos*. The parts having been properly denuded and brought into view by means of volsellum forceps and approximated, the operator transfixes both lips of the cervix close up to the angle, and, depressing the handle of the instrument, brings the point of the needle toward him, thus exposing the open eye, into which an assistant immediately places a suture, holding lightly the short end, which is drawn through the parts as the needle is withdrawn. The suture is at once tied, and a second placed in the same manner.

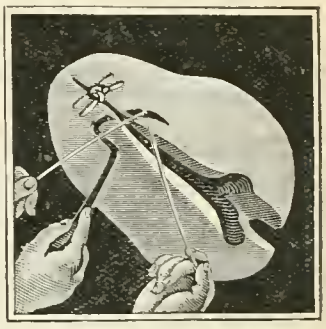

FIG. 2.

By this means I have introduced six sutures and tied them in less time than it usually takes to place two. Hence the amount of time and labor saved is obvious. Several physicians who have tried this little instrument have pronounced it as highly satisfactory.

A glance at the cut presented will at once make its mode of operation clear to the most casual observer.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 8, 1898:

	Cases.	Deaths.
Tuberculosis	128	126
Typhoid fever	15	1
Scarlet fever	222	24
Measles	398	13
Diphtheria	182	21
Laryngeal diphtheria (croup)	6	0
Chicken-pox	36	0
Cerebro-spinal meningitis	0	3
Small-pox	1	0
Erysipelas	1	0

Alcohol Consumption in the United States.—A gratifying sign of the times, and one which should give us great encouragement, is the marked decline in the consumption of alcohol throughout the world. It has been greater in America than elsewhere, and since 1888 amounts to about thirty per cent., nearly one-third. That is, as compared with 1888, the total consumption of alcohol in the United States in 1896 is one gallon *per capita* less. Think, a moment, what this means. There are 70,000,000 population in the United States. That indicates that 70,000,000 gallons of alcohol less was consumed in 1896 than in 1888. Suppose that there is one man to every seven of the population. It means that each man drank in 1896 seven gallons less than formerly. It means that 70,000,000 gallons of alcohol (absolute, "proof spirit," from which liquors are made, diluted), at, say, $2 per gallon, represents a saving on this commodity of $140,000,000, a sum sufficient to build thirty granite palaces like the capitol at Austin; a sum sufficient to

support every Christian minister in the world.—Dr. F. E. Daniel, *Texas Medical Journal*, November, 1897.

A Curious Origin of Phosphorus Poisoning.—Dr. Delobel relates, in the *Gazette Méd. de Paris*, November 20th, the history of a shoemaker who developed necrosis of the superior maxillary bones, due indirectly to the habit of smoking. Many cigars were consumed daily, and in such a manner that the butt required frequent relighting. The matches thus used exceeded one hundred daily, each giving off a certain amount of the vapors of phosphorus to be inhaled.

When Called to a case to supplant a brother practitioner, do you inquire whether his fees have been paid him in full to date of discharge? This is one of the ways of securing for the profession of medicine the respect which is so richly deserved but so rapidly disappearing.

Kaiserling's Method for the Preservation of Specimens with their Natural Colors.—Slices of organs from 3-5 cm. thick are placed for from three to five days in—

1. Formalin	200 c.c.
Aq.	1,000 c.c.
Nitrate of potassium	15 gm.
Acetate of potassium	30 gm.

They are then removed, the fluid is allowed to drain off, and are placed in—

2. Alcohol 80% for 6 hours, then
" 95% for 2 hours.

From this directly into—

3. Aq	2,000
Acetate of potassium	200
Glycerin	400

for permanent preservation in a dark place. Further details for the preservation of whole organs, etc., should be studied in the original article (C. Kaiserling, *Virch. Arch.*, Bd. 147, S. 389). The results thus obtained are certainly wonderful and promise to be one of the greatest of this generation's aids to teaching. —*Journal of the Boston Society of Medical Sciences*, March, 1897.

Roman Table Manners.—If any of you have been to Rome you will have seen in the palace of the Cæsars a small room adjoining the banqueting-hall; this is pointed out as being the place in which the Romans used to empty their stomachs when they had eaten so much they could eat no more. Then, having emptied their stomachs, they went back and finished the feast. In these Roman feasts the food was admirable in regard to quality, and was objectionable only in regard to quantity.—T. Lauder Brunton, "Lectures on the Action of Medicines," p. 399.

Leprosy in Constantinople.—Dr. Zambaco (*Lyon Médicale*, August 29, 1897) does not think leprosy contagious. He relates that more than four hundred lepers circulate freely in the streets of Constantinople and are engaged in all kinds of trades, yet they do not appear to give the disease to the inhabitants of that city. Among these four hundred lepers some have come from the regions of the Turkish empire, where leprosy always exists, and others are Spanish Israelites who have settled there since the time of the Inquisition in Spain.

Bellevue's Early History.—Mr. Robert Lenox, in behalf of the board, concluded the purchase in 1794. This plot was about five acres in extent, and had been once a part of the Kip's Bay Farm. It was conveyed by Jacobus Kip about the year 1765 to Peter Keteltas, by him to Martin Hoffman, and by him in turn to Robert Leake. In 1772 Leake gave to the place the name of Belle View. In 1781 it was again sold, and in 1783 it came into the possession of Lindley Murray. The latter gentleman, while residing in England in 1793, whither he had retired at the close of the war of independence, conveyed this property through his attorneys to Mr. Brockholst Livingston, who retained the name, but with a different spelling —Belle Vue—and this is the genealogy of the name. —Carlisle's "History of Bellevue."

Thermometers.—Not until 1603, when the researches of Sanctorius gave to the world her first thermometer, did the study of bodily heat become more than a subject of guesswork. As a matter of course, Hippocrates recognized the variations of surface heat in health and disease, but it was with him, as with many of his successors, a mere matter of the laying on of hands.—Dr. Mark A. Brown.

Insomnia Cured.—It is a matter of record that more than one New Yorker has been cured of insomnia on listening to the prosy stories to be heard in a certain club in Washington. I may quote the simple and trite observation of the sable Virginian who fetches my breakfast, which led him to remark, in contrasting this with other cities he has visited, that "every day here 'pears like Sunday, even after coming from a place like Philadelphia."—Dr. Irving C. Rosse, *The Atlantic Medical Weekly*, August 21st.

In Moscow physicians are paid from three to five roubles for ordinary visits; this is equivalent to $1.55 to $2.60. All visiting as well as resident surgeons and physicians to hospitals are paid moderate salaries. —*New Orleans Medical Journal.*

In Paris the physicians have sufficient sense of the proper mutual protection which is their right to publish a "black book" containing the names of would-be swindlers, and to refuse attendance upon those who treat medical men disgracefully. Inhumanity cannot be brought forward as an argument in a large city well supplied with public charities, night service, quick ambulance system, and all other means of succor for those too poor or too mean to pay a doctor's fee.

Photographs of Authors.—Some of our exchanges are making quite a specialty of publishing the photograph of each author with his communication. Some of these authors have been known to us through their writings for many years, and we regret exceedingly that they have consented to this new departure of things. A young acquaintance of ours once operated on an old gentleman for double cataract. When sight had been restored, out of the thankfulness of his heart our aged friend called for the surgeon who had given him back his sight. Upon looking at the countenance (anything but prepossessing) which appeared before him, he exclaimed: "Lucky for you, young man, I did not see you before you operated, or I would never have given my consent." We are bound to exclaim in some of these recent cases that our opinion of the value of some of these contributions has greatly changed since we have gazed upon the oil-soaked hair, the waxed mustache, and the sickening smile which too plainly says, "Don't you think I'm sweet?"—*The Medical Review.*

Vital Statistics in Russia.—The natural increase of the population is kept down to a relatively low figure by an abnormally large death rate, which is mainly due to avoidable causes. Infectious diseases and insufficiency of medical help are among the most obvious. A few years ago it was stated by the Russian medical department that in the Caucasus there was

but one hospital for 309,000 persons and one bed for 12,000. In no country in the world are infectious diseases so frequently mortal as in Russia. Children especially suffer, and diphtheria, measles, scarlatina, small-pox literally decimate villages and country towns. It has been stated by the statistician Ekk, with the help of official figures, that about 1,900,000, chiefly children, die every year, who might with a little more care be preserved to the empire.—*Contemporary Review.*

Vaccination in Japan.—In 1870 Japan was visited by a terrible epidemic of small-pox, which almost decimated Yokhama. Vaccination was made compulsory in 1896. The Japanese are said to have been struck with the fact that pockmarked foreigners were rarely seen in Japan.

Chloroform in Obstetrics.—In a paper read before the Obstetrical Society of Boston, Davis (*Boston Medical and Surgical Journal*, August 22, 1897, p. 193) expresses the conclusion that the most recent experimental study indicates that the evil effects of chloroform result from vasomotor paralysis, causing the accumulation of blood in the abdominal viscera and bringing about partial or complete cessation of function in the nerve centres from acute anæmia. Pregnancy increases vasomotor tension and thereby renders the pregnant woman less liable to the injurious effect of chloroform. In normal labor the actual expulsion of the child may be safely rendered painless, dilatation of the birth canal furthered, and laceration diminished by light and transient narcosis from chloroform. In tetanus of the uterus, eclamptic convulsions, and maniacal labor, chloroform is to be preferred to ether, and is most useful. Profound narcosis from chloroform is seldom if ever necessary in obstetric practice, and, like this condition under ether, is attended by risk.

Germs.—Mikulicz has also found that germs are disseminated in the air from the mouth in speaking or coughing, floating on tiny bubbles of moisture. As moist germs are much more dangerous than dry ones, to reduce this evil to the minimum he limits the persons present at an "asepsis operation" to the smallest number possible, not even admitting more than six to ten students at most, and all present wear a sterilized piece of mull over their mouth, fastened to their sterilized cap; it can also inclose the beard if there is one. They soon learn to breathe through it as comfortably as a lady through her veil. Gestures take the place of words as much as possible. Flugge, the bacteriologist, considers that a surgeon with a cough or tendency to sneeze has no right to attempt an "asepsis operation."—*Southern Practitioner*, August.

Lumbricosis.—The typhoid condition which is at times noted after the administration of anthelmintics is thought from certain experiments by Tauchon (*Jour. de Méd.*, December 10, 1897) to be due to ptomains developed in the body of the ascaris by putrefaction. It has also been shown that the diseased worm, whose vitality has been decreased by certain substances, excretes a much more toxic product than in the normal state. Irregularity of the temperature curve is one of the salient characteristics of the condition.

Effects of Sulphur on the Urine.—Dr. Yvon (*La Méd. Mod.*, December 8, 1897) has found that sulphate of magnesium in doses of twenty grams increases the quantity of sulphuric acid in the urine by forty-seven per cent. Elimination is rapid and the urine is diminished. Natural sulphur in the proportionate dose of two grams and sixty centigrams is absorbed more slowly. After the subject ceases taking the drug the excreted sulphuric acid remains in excess for one or two days. The association of sulphur and sulphate of magnesium greatly increases the sulphuric acid of the urine.

A Story with a Moral, but indicating such a lack of morals as we hope cannot be frequent in England, is the following, sent by a correspondent to *The Lancet*: "SIRS: I make no comment on the following case, which I have fully investigated and every fact of which I can prove and have proved in conjunction with a colleague. A child of eleven years was suffering from a purulent vaginal discharge which was found to be gonorrhœa. On investigation it was discovered that this child had contracted it from her uncle; she had given it to her brother, aged seven years, who in turn had passed it on to his sister, aged three years. The boy of seven years had a very bad attack with phimosis and the girl of three years had it somewhat severely. On further investigation the following sidelights were discovered: The girl of eleven years felt no discomfort through connection with an adult man of about thirty years; rather the contrary. She gives a graphic and evidently truthful account of her seduction, at the age of eight years, by a boy four years her senior, since which time she has been living in frequent sexual intercourse with boys. The mother of this child three years ago gave the father syphilis and was turned out of doors, since which time she has not been back and is believed to be living the life of a common prostitute. The uncle was confronted with the girl, who accused him of having given her gonorrhœa, and on being pressed confessed in the presence of the girl's father and the husband of his own sister that it was true, and that he had done it to get rid of his own disease, having succeeded in doing so in this way on four other occasions. Meanwhile the girl's father and the other man, who were present when the remark was made, stood placid and indifferent, expressing neither indignation, disgust, nor surprise."

Diabetes Insipidus.—The syphilitic origin of diabetes is discussed in an article by Dr. Victor Bandler (*Archiv f. Dermat. und Syph.*, October, 1897). It is often a delicate question to decide whether the association of the two conditions is accidental or if the specific disease has a causative effect. A case is related which goes to prove the latter alternative.

Health Reports.—The following statistics concerning cholera, yellow fever, plague, and small-pox, have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended January 8, 1898:

CHOLERA.

		Cases.	Deaths.
India, Bombay	November 24th to December 7th.	..	8
Calcutta	November 14th to 27th.	..	28
Madras	November 20th to December 3d.	..	3

YELLOW FEVER.

Brazil, Para	December 12th to 18th.	..	15
Rio de Janeiro	November 21st to December 4th.	1	
Cuba, Cienfuegos	December 20th to 26th.	..	1
Havana	December 17th to 30th.	..	6
Matanzas	December 15th to 22d.	..	1
Sagua la Grande	December 18th to 25th.		
	Yellow fever prevailing, but impossible to obtain statistics.		

PLAGUE.

China, Hong Kong	November 7th to 20th.	2	2
India, Bombay	November 24th to December 7th.	..	253

SMALL-POX.

Brazil, Rio de Janeiro	November 21st to December 4th.	10	
China, Hong Kong	November 7th to 27th.	5	4
Cuba, Cardenas	December 19th to 25th.	..	4
Cienfuegos	December 20th to 26th.	..	3
Havana	December 17th to 30th.	..	6
Sagua la Grande	December 19th to 25th.	31	4
Gibraltar	December 6th to 12th.	1	
Italy, Messina	December 12th to 18th.	..	2
Netherlands, Amsterdam	December 12th to 18th.	1	
Rotterdam	December 12th to 25th.	2	1
Russia, Moscow	November 28th to December 11th.	2	2
Odessa	December 5th to 18th.	34	7
St. Petersburg	December 4th to 11th.	11	4
Scotland, Glasgow	December 5th to 18th.	2	
India, Madras	November 27th to December 3d.	..	1

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Original Articles.

ON SURGICAL AND OTHER HOSPITAL SERVICE. A TENTATIVE AND CRITICAL ESSAY ON HOSPITAL MANAGEMENT.[1]

By ARPAD G. GERSTER, M.D.,

SURGEON TO MOUNT SINAI HOSPITAL, CONSULTING SURGEON [illegible] HEBREW HOSPITAL, NEW YORK CITY.

Introduction.—It is proper that a fair and adequate justification should be offered by me for the introduction to this society's consideration of a subject not entirely surgical. The reasons are sufficient, I think. First and foremost of them is the fact that the New York Surgical Society is one whose membership is exclusively composed of medical men holding active service in and having a close affiliation with one or more hospitals. No body of medical men in this city is better fitted to appreciate the burden of my arguments than are you, whose intimate contact with the inner workings of our hospitals during a more or less extended period of time, in not a few instances embracing several decades of zealous and efficient work, certainly gives your opinion and judgment the stamp of highest expert authority.

The wonderful development of our branch of medicine—involving not only the command of a difficult and exacting technique, but, what is more difficult and just as essential, a thorough knowledge of pathology and of the noble art of diagnostics—would never have reached its present height without the fundamental aid the hospital has afforded to the great pioneers and discoverers by whom surgery was made what it is. What untold blessings humanity has derived from the hospital work of medical men, not only through immediate and personal service to the individual sick, but especially through fundamental acquisition of power over sickness and death through scientific discovery, need not be told here.

With the development of surgery went naturally the development of surgical hospital routine and usage, so essential to humanitarian, scientific, and economical success. Everywhere but with us this development kept pace with the increasing necessities of modern surgery. With us only is surgery hampered by forms of hospital government and polity which have become an anachronism. All the lay powers governing the concerns of the civilized nations have accorded to their medical experts that position and authority to which special knowledge and usefulness to society surely entitle them. England even has gracefully bowed to the new state of things, by the elevation of Lister to the British peerage. Only here, in America, in the most enlightened and progressive of all nations, are to medical expertness and to medical work denied consideration and deference—is denied co ordinate influence in the management of curative institutions, the chiefest work of which is performed by medical men.

My object is to expose and to brand this barbarous and disgraceful anomaly. But the argument is not to be purely one of the *pro domo* character. I intend to show that the unwise and illiberal repression and neglect of the most—in fact, the only—essential part of hospital work have been and still are damaging the interests of the patient. The enormous increase in the bulk of surgical work falling to the lot of the hospital surgeon has invested the production of what may be called the surgical apparatus—that is, the proper schooling and technical training of assistants and nurses—with the greatest practical importance, and has imposed upon the surgeon a task of great difficulty, which might be termed an art in itself. Under existing conditions high excellence in these primitive postulates of surgical success is simply a matter of happy accident, not a necessary result of the system; and, whatever shortcomings are observable in our work, they cannot be laid at the door of the visiting medical men.

Surely no extended apology is needed to bring this matter before a society exclusively composed of hospital surgeons.

Favorable First Impressions.—At the first glance, or even on closer inspection of external appearances, most of our metropolitan hospitals will, as a matter of course, make a favorable impression upon the layman. Even the more critical eye of the expert visitor will be captivated by a magnificent, often sumptuous exterior, as well as by splendid internal appointments, admirably planned for cleanliness, comfort, and convenience. The orderly, smooth, and quiet running of the complicated but well-oiled machinery of the economy of a modern large hospital can nowhere be seen better exemplified than with us. But excellent and admirable, nay, indispensable as these external characteristics are, they do not constitute the main object and purpose of the existence of a hospital.

The Medical Service is the Soul of Hospital Work.—The *punctum saliens*, the very soul of the hospital, is the curing or alleviating of disease—that is, the medical work. The more or less liberal providing of means by the community, either through taxes collected by government for the support of municipal institutions or through funds voluntarily contributed by humane benefactors, which funds are managed by boards of directors—as in the case of private corporations owning and conducting our large non-municipal hospitals—has resulted in the rise of a fine array of sumptuous, in some cases luxurious buildings, remarkably well appointed inside and outside in what appeals to the outer senses. But the very soul of these fine mechanisms, the organ around which are grouped and for the sake of which alone exist all the other members of the machinery—that is, the medical service proper, or the provisions for the immediate medical care of the patients—is in a shamefully rudimentary and neglected state. The city and nation have attained their majority, have long since ceased to be colonial and provincial. Compared with what they were fifty years ago, the dimensions of our hospitals have enormously increased; but the imperfect, make shift provisions for the medical service, adopted under the stress of penurious necessity in times of first settlement and of colonial infancy, have been retained intact to this day.

[1] Read before the New York Surgical Society, December 22, 1897.

This arraignment of existing conditions may at first appear to be too sweeping and even unjust, but I hope to show that it is based on facts which no one familiar with our hospitals can controvert. It does not imply an accusation against the zealous laymen who sacrifice time and money in managing the external mechanism of these institutions—I mean the boards of directors; nor will it detract from the unselfish and, on the whole, excellent work done, in the face of much discouragement, by the medical men connected with our hospitals. Its object is an unsparing but a just criticism of that part of the system which has outlived its utility, and, having become effete, ought to be declared dead and be cast off.

The Prevailing System of Medical Hospital Service is Effete and Must be Reformed.—First of all, the assertion must be made good that the provisions made for the medical care of our hospital patients are inadequate and unworthy of a wealthy and civilized community. This I propose to show in two separate ways: first, by a direct examination of existing methods; and second, by instituting an appropriate and fair comparison between our ways and the ways in hospital matters of the other civilized nations.

Genesis of the American Hospital.—In every community, as it emerges from the state of a village and becomes a town, there soon must arise the necessity for a provision to take care of the poor man when he is overcome by sickness. In a newly settled country thousands of instances of this interesting process of conception and birth of small institutions devoted to the care of the indigent sick can be observed. Whether the effort be private or public, the essential factors of the process are nearly identical. Small, usually inadequate provision is made for building, instalment, and maintenance, the zeal of a few sanguine enthusiasts dragging along a reluctant train of well-to-do but sluggish and more or less selfish taxpayers or patrons and protectors. As to the medical service, there is not the slightest difficulty. In a primitive community, medical services go cheap; and as the wherewithal was generously provided by the council of the struggling young town, or by a number of magnanimous donors, it is only fair and just that the medical profession should contribute to the good work its gratuitous services.

The inducements for accepting an office on the visiting staff of the new institution are many, the objections very few. True, that the work will or rather may consume much time, and that it does not bring anything to the larder. But it confers an honoring distinction, tempting to ambition, or flattering vanity, and to the seriously disposed it offers coveted and valuable opportunity for clinical observation and therapeutic effort. The services being gratuitous, the authorities feel that it would not be fair in an intensely practical society, thoroughly dominated by mercantile conceptions of life, to expect one set of men to bear the entire burden of the work. Relief is provided by the appointment of two, three, or more men to take charge of the service in alternation, each being on duty a few months only during the year. Thus the amount of work falling to the share of each of the incumbents is reduced to a minimum, and jealousy and envy are in a manner allayed. While there are a few patients only to take care of, work is scanty and much divided; on the other hand, the honors to be reaped from the arrangement are fairly and equally distributed and everybody is apt to be satisfied. In the beginning there is no segregation of patients into a medical and a surgical group. As to the house staff, not the slightest difficulty is found in filling vacancies by recent graduates from the medical schools. They get board and lodging; as a matter of course, no pay; and their terms of incumbency are short.

The marvellous development and growth of towns and cities within the last three or four decades necessarily led to the enlargement of existing hospitals and to the foundation of new ones. And thus it happened almost everywhere that, while the size and scope of these institutions have attained first-class importance, the mode of providing for the medical service has remained in its primitive state.

Governing Bodies, Municipal and Non-Municipal. Their Composition and Character.—Let us now examine what the actual working of this system is like. As to the governing bodies, they may be divided into municipal, ruled by political influences, and non-political or private corporations. The material composing the latter consists in the main of wealthy men, still active in or retired from business, with a sprinkling of clergymen and lawyers, more or less dominated by and subservient to wealth and social influence.

While it must be admitted that the character of the men who enter into the managing bodies of our private hospitals leaves nothing to be desired as to personal integrity and business capacity, the same cannot be uniformly maintained as regards the politicians to whom the conduct of our large, costly, and most important public institutions is intrusted by party.

The modern hospital is an institution in which the sick are to receive medical treatment, which is work of a scientific character of the highest order. To enable the medical men to do this work properly and efficiently, the external and material aid of a business management is necessary, the only *raison d'être* and duty of which is to provide those external conditions of shelter, food, order, cleanliness, and whatever is implied in the term of "ways and means," without which no scientific or charitable work, or, in fact, no important work of any kind, can be successfully conducted.

No Provision for a Co-ordinate Representation of Expert Knowledge in Hospital Governing Boards.—With the growth of the scope and scientific intensity of modern hospital work, the management, both business and scientific, of these institutions has become more and more complicated and difficult, and requires special knowledge and experience in those who are at the helm. Do existing conditions give any guarantee of the presence of this special knowledge and experience in those to whom the government of our hospitals is intrusted?

The answer must be, No. The fact is notorious, and need not be proven, that among the powers that direct the destinies of the nation through existing political parties fitness to fill office is looked upon as secondary to partisan efficiency. This applies, with rare exceptions, to the material from which are selected the various boards of charity. Hence we see it occur with deplorable frequency that the men managing our vast public charities neither possess capacity for business, nor have they more than a most shadowy and crude understanding of the scientific problems, the daily solution of which is the very life and heart-beat of modern hospital work. The substantial truth of this assertion is amply verified to the expert by the defective feeding and housing, by the inadequate provisions for medical and surgical instruments and apparatus, and by the generally forlorn and poorly cared for appearance of wards and patients in the overcrowded municipal hospitals.

In striking and favorable contrast with all this, we see proofs of high business efficiency in the appearance of most of those institutions which are under the care of private corporations. External solidity, internal order, cleanliness and comfort, a plentiful supply of the necessaries in the way of food, heat, lighting, of medical and surgical supplies without waste, give evidence of admirable husbanding and care. But as

soon as we enter into a close examination of the manner in which the scientific part of the work is done, here too serious defects become manifest.

Prevailing Circumstances Not Favorable to Highest Medical Efficiency.—It is only proper to state that while the vast majority of the medical men composing the medical boards of our hospitals is both capable and willing to do the best that can be done under the circumstances, the circumstances themselves are not favorable to highest efficiency. That, none the less, so much remarkably good professional work was and is being done in our hospitals, redounds to the greatest credit of the medical hospital corps, and is owing to the humane zeal and ready self-sacrifice of the American medical man.

As to individual professional achievement, we stand as high as any nation; but that all hospital work does not show uniformity and continuousness of highest excellence is not due to the lack of talent and zeal on the part of the medical men, but is the direct consequence of the crude views on and lack of appreciation of modern requirements on the part of those political and non-political managing bodies which fashion the polity of our hospitals.

In the Choice of Hospital Governors a Test of Fitness Does Not Exist.—The system now prevailing and strenuously upheld by interest, by prejudice, by self-sufficiency, by lack of knowledge of what goes on in the hospitals of the rest of the civilized world, and, let it be also said, by that wholesome inertia we call conservatism, that detests rash and unprepared change and revolution—the system is wrong, as well as are the men who consider it their duty to uphold it. Their lack of understanding of the cardinal points of medical hospital activity is due again to the faulty system which does not provide us with properly schooled and trained managers. Serving on hospital boards of management is a burdensome duty, and it is not easy to persuade men of business or leisure to assume it. Hence the range of choice is not great, and the question of special fitness is seldom if ever considered. In fact, I may state that in a conversation held on this subject with a well-known hospital manager, possessing more than the usual amount of intelligence in and understanding of matters not strictly pertaining to his occupation, great amazement was manifested when special training and technical fitness were pointed out to him as indispensable qualifications for the successful management of hospital matters. He thought that "anybody could run a hospital, it being very much like a hotel visited by medical men."

But let us see what the defects of the existing medical service are. They constitute a true "vicious circle," and it is difficult to decide where to begin.

Principles Obtaining in the Management of Public and Private Hospitals in Europe. They are Well Tested by Long Experience.—The care for and responsible direction of a large hospital service is an office of the highest dignity, and is recognized as such in all civilized nations except ours, by granting to the medical men holding it both security of position and ample remuneration, together with that influence in the responsible but independent management of the service as to appointment of assistants, ward discipline, the initiation of necessary changes and improvements, that is inseparable from thorough responsibility. No novice ought ever to be intrusted with such a position, and candidates ought to be men of professional excellence and efficiency universally acknowledged by profession and laity. To the layman, "professional excellence" very often signifies a large or lucrative private practice, which does not by any means insure success in hospital work. In a certain sense it impedes it, as it demands indispensable time and close attention, both needed for every kind of good work.

Long service as an assistant, literary and scientific work, and independent service in a smaller hospital, are the legitimate stepping-stones to such a position, and though personal favor and individual attractiveness of manner and disposition ought to receive decent attention, they ought not to overshadow those qualifications which are acquired only through long and faithful service.

Present Manner of Appointment of Visiting Men Improper and Humiliating to Medical Men. Undignified Scramble for Vacant Positions. A Call Should be Extended to the Preferred Candidate.—Positions of this character and weight cannot and ought not to be filled by the undignified scramble witnessed here whenever a hospital appointment becomes vacant. Men of acknowledged ability and position ought not to be expected to hand in an application to the appointing powers, humiliating to the candidate and unworthy of an enlightened body of managers; but a wise choice among available men of the proper weight ought to be made concurrently by the medical and lay boards of the institution in question, a call being extended to the first choice, as is done when a clergyman is to be appointed. Preferment of this kind is a real honor, and can be accepted or declined. In the latter case, a second or third choice might be available.

The appointment made, the solidarity of the new officer with the institution and its welfare is absolute. He has permanent and sole charge of a large and attractive service, and by dint of an adequate salary is, in proportion to its size, more or less independent of the necessity for earning his bread outside of the institution. His duty is first and foremost to the service of the hospital, and includes the daily and minute personal supervision of the treatment of every patient intrusted to his care. Permanency of service and the obligation entailed by financial remuneration create a responsibility and strictness of official obligation entirely different from what can be fairly and reasonably expected when services are gratuitous.

Scientific work and literary activity naturally thrive in such an atmosphere, and will inevitably redound to the direct benefit of each individual patient treated and, by scientific discovery and progress in methods of practice, to the gain of suffering mankind in general.

The training of assistants, who also ought to be attracted by moderate pay and longer tenure of office, will be much more satisfactory than at present, and will provide a corps of candidates thoroughly competent to advance to and creditably fill higher positions. Absolute regularity of hours for visits and for operations, and an orderly routine of daily work, secure order and regularity down to the duties of the last scullion, and insure the comfort and welfare of patients, by eliminating haste, disorder, hollow excuses for neglect of duty on the part of nurses and house staff, creating an air of promptness and serene precision.

An arrangement like this, not imaginary, but yielding excellent results on the continent of Europe and to a respectable measure in Great Britain, has other attractive sides of an economical character. Waste of food, drink, surgical and medical material, is readily noticed and checked by the chief of the service, who can be and is made responsible for it.

Description of Present State of Hospital Medical Services. Parcellation. Irregular Visits of Attending Men. The Bulk of the Work Done by an Inexperienced House Staff.—What do we see instead of all this? As the concentrated and undivided attention of the visiting man, who must earn his bread in outside practice, cannot be given to his hospital appointment during the entire year, two, four, or even

five and six men are invested with the care of, for instance, sixty or eighty patients—the usual size of a hospital department. Either they serve in alternation, or two or more serve simultaneously, dividing the number of beds among them. Each visiting man comes when he can or when it pleases him, rarely twice in succession at the same hour: a systematic and detailed visit of each patient daily is out of the question, and is not only unnecessary but even irksome, especially to surgical patients who are in any way attended to and dressed at morning rounds by the house surgeon.

As a rule, only patients who, in the opinion of the house surgeon—*sit venia verbo*—are not doing well are presented to the visiting man, and the inclination to get through with as little bother as possible is natural, and the direct consequence of the fact that the real and detailed daily and hourly treatment is entirely in the hands of an enthusiastic but inexperienced, often indiscreet, and occasionally vicious and incompetent house physician or surgeon. I shall presently recur to the house staff.

With the increase of large reputations and large practices, we have finally arrived at a state of affairs wherein the visiting man of a hospital has often virtually ceased to be the man "in ordinary" that he ought to be—and that decent hospital management of this day ought to provide and owes to the patients it undertakes to take care of—and has instead become practically a consultant to the house staff. The tendency is natural, and the blame for it does not rest with the visiting staff so much as with the vicious system. That the tendency is real is manifested by the rule found in the bylaws of almost all of the various city hospitals, where it is expressly ordered that the visiting men on duty must see personally every patient in their service at least twice a week.

Demoralization of the House Staff. System Great Peril to Patients. Confusion of Ideas Caused in the House Staff by Frequent Changes of their Medical Superiors. Operating Mania.—With the multiplicity of medical officers simultaneously on duty; the irregularity of their visits: in the surgical branches with the weight of the work unduly thrown into the operating-room, a pernicious state of demoralization of the house staff is indissolubly connected. This is still more intensified by the circumstance that the unformed, crude notions of the young medicos are continually shaken and upset by real or mostly seeming contradiction in the principles enunciated by the various visiting men who serve at the same time or in quick and merry succession. Hardly has A broken them in to the observance of a modicum of surgical cleanliness in manipulations at the bedside or in the operating-room, when B enters, and, presto! the whole structure of aseptics is declared to be rubbish, and sparadrap, balsam Peru, and the smells of suppuration and sloughing pervade the air.

So it happens that, instead of honoring and respecting their leaders, they criticise and ridicule them, throw overboard much that is important together with rubbish, do only what they in their raw infantility consider to be proper, neglect at the bedside the painstaking observation and recording of the inconspicuous but important features of disease, strive after showy operations in the surgical service, without learning to make a decent diagnosis or knowing or caring for decent, painstaking after-treatment. So it happens that the medical histories, if at all in existence, present a mixture of truth and pleasing fiction; that abuses of the grossest kind creep in and have to be suppressed by draconic enactments. For instance, I may mention what recently happened in a large metropolitan hospital, where the house staff, on their own hook and against the wish of the visiting physician, subjected systematically, and of course secretly, patients suffering from typhoid fever to most heroic treatment by cold-water plunge baths and cold packs.

Competitive Examinations of Candidates for House Staff No Test of Fitness.—If only the welfare of the patient is to be considered, the present cheap and wretched method of providing hospital assistants ought directly to be abolished. They are the very men to whose immediate care is intrusted the patient, and who, with rare exceptions, are not fit to carry such responsiblity. Without practical training, they secure their hospital appointment by means of a necessarily theoretical examination of very questionable value in determining executive ability, discretion, and soundness of character. Honor men, and those who pass written and oral examinations with flying colors, often turn out to be perfectly worthless in service; and no wonder, since a course of intense cramming of a receptive memory offers not the least security against practical incompetence.

As far as the house staff is concerned, the zealous and earnest hospital man is in the perennial position of maintaining a sort of medical kindergarten, where A B C is taught year in and year out. By the time that the better men on the house staff become undoubtedly useful, and are ready and fit to be of real assistance, they pack their trunks and depart.

Unwarrantably Great Scope Given to House Staff in Hospitals. A Systematic Activity of House Staff Impossible under the Present System.—Much more glaring than in the hospitals managed by private corporations are the abuses in the institutions governed by the boards of charity; abuses dependent upon the unpaid, subdivided, cut up, unregulated, and generally makeshift character of the visiting medical service, and also dependent upon the logical outgrowth of such a crude system of service—that is, the inevitable circumstance that too much scope is given to an unavoidably immature and to a great extent irresponsible house staff. But this is the only kind of a house staff that can be had under existing beggarly provisions.

Assuming, on the other hand, that the house staff were thoroughly trained, competent, and mature, even then the lack of system and order in the medical service, as far as the visiting staff is concerned, would hamper efficiency to a fatal degree. To any one familiar with the ways of our city hospitals, the fact is well known that no rounds, no operation, in fact hardly any work requiring time and care, is ever allowed to go on uninterruptedly. The visiting men, with few laudable exceptions, maintain no fixed days or hours for their visits or even for their operations; hence the house staff is kept in a state of unceasing *qui vive*, extremely fatal to good, conscientious work on the part of those who are willing, and offering an inexhaustible source of real and imaginary excuses for neglect of duty on the part of the shirkers.

The Present Beggarly System Inexcusable in the Hospitals of One of the Richest Cities of Christendom. A Well-Organized and Decently Paid Medical Service a Necessity.—There is not the slightest excuse for the maintenance of this uncivilized state of affairs in the public hospitals of one of the largest and richest cities of Christendom, and it is time that the disgrace of the thing should be unsparingly laid bare. It is the duty of medical men to hammer away at the existing condition of things, and to insist that the community has a moral obligation to take care decently of its indigent sick, as it is fully able to do, in a manner required by modern exigencies. Every large town and city of Europe has its admirably equipped hospital, served by paid medical men from the top to the bottom of the ladder, and there is no valid excuse from the plain duty of New York City to provide its hospitals with a well-organized and well-paid, there-

fore efficient medical service. The present beggarly makeshift is an unjust burden upon the profession, and cannot yield more even at its best than a surrogatum for the real thing.

The Attending Staffs.—The modern and civilized postulates for a decent care of hospital patients require:

First, daily personal attendance of one competent and permanent medical chief to each hospital department of about one hundred to one hundred and fifty beds, which should take place at regular hours, preferably in the morning. This would at once result in a natural systematization and regularity of all the subordinate factors, such as are the assistants, nursing, kitchen, drugstore, etc., and would be followed by the greatest benefit to the patient. The chief of each municipal hospital service should receive adequate compensation, should be irremovable up to a certain age during good behavior, and should be permitted to practise in the afternoons. The chiefs of the various hospital services ought to have an official and effective representation in the board of charity in the person of a medical man. The wardens of all hospitals should be medical men possessing requisite and proven business capacity.

Staff of Assistants.—Secondly, on the house staff the term of service should not be limited, and, to encourage long service, the assistants in the higher grades should receive a modest salary and board and lodging. To enable young graduates to gain hospital experience, a limited number of dressers or volunteers should be admitted to each service without pay, who should have all the privileges now enjoyed by juniors, assuming, on the other hand, all the duties and obligations of such for one year. Vacancies in the corps of dressers or volunteers should be filled by examinations held by each chief for his own department—the permanent assistants to be selected from among the volunteers or dressers, whose practical capacity and value could be excellently tested during their service embracing one year.

These are the changes, radical but feasible, that ought to be aimed at in our public hospitals. Their acceptance would work marvels, and would promptly effect the transformation of a department long mismanaged through lack of competence into one that would be the just pride of every humane citizen of New York.

Private Corporations. Timber of Their Boards of Management. Excellencies and Defects. Suspicious Jealousy of Laymen toward the Expert.—As regards the management of the hospitals owned by private corporations, this can be said: that while most of the timber of which the typical board of directors is composed is just as unqualified in matters of expert training and knowledge as the political *personnel* of which our charity commissions usually consists, the former rarely if ever contains names not of unquestioned standing and integrity, which cannot be said to be uniformly the case with political office holders.

This advantage on the part of the hospital boards based on private charity is somewhat counterbalanced by the fact that, with few exceptions, they constitute close corporations, irresponsible to the members of their respective institutions, hence inclined to be narrow in the conception of their rights and duties, and not rarely inconsiderate and despotic in the exercise of their prerogatives. Not overtolerant of criticism, they too often exhibit the suspicious jealousy of the layman toward experts of all kinds. To this attitude, so often exhibited by lay directors toward their medical co-workers, is attributable the barbarous anomaly that, with the exception of two, none of our private hospitals admit any medical man to their boards of directors. The honorable exceptions are St. Luke's with one member and the German Hospital with three medical members in the board of trustees.

Humiliating Conditions under which Medical Appointments are Made.—To this narrow-minded, thoroughly petty, and illiberal spirit is due the fact that the men who, by professional training, expert knowledge, and skill, are most competent to mould the understanding of unskilled laymen as to hospital matters, are excluded from any but an apologetically advisory influence upon the polity of those institutions, the essential work of which is performed by them at the expense of much labor of mind and body. Whoever wishes to become a member of the visiting staff to a hospital in New York must send in a humble application, like a butler seeking a desirable position. Appointments of medical men are either made annually—just like underservants—or are held "at the pleasure of the board;" in short, the tenure of a hospital position can be made and unmade without due process or even a decent explanation—a state of affairs equally humiliating to those who exact and to those who submit. And yet, in spite of all this, the very pulse beat of these hospitals is furnished, not by the overbearing managers, but by the medical men. Likewise, the good or bad name of a hospital depends not upon the managers, but upon the work of the medical men.

Representation of Expert Knowledge in the Management ought to be Obligatory.—Not only fairness, but the plain interest of the patients committing themselves to the care of a hospital—in short, the welfare of the institution, demand that expert knowledge be represented in the lay, hence in technical matters more or less uninformed, boards of management.

As to the appointment and tenure of the visiting staff of private hospitals, the same principles ought to prevail which were proposed for our municipal institutions. Abroad, no private charity of this kind can receive the sanction of government without the proof of ample and secure provision for maintenance, which of course includes the salaries of all medical officers. Here, in some well-known instances, with the reckless expenditure of money upon magnificent buildings, far in advance of existing necessities, no available funds are left for even that maintenance in which the work of the medical men remains unpaid. Hence it would be hopeless at the present time to clamor for medical salaries in private hospitals, however just and politic such a thing might be. But much improvement is possible even in the medical service of these impecunious hospitals. Let the superintendent be a medical man; let each department have a single, permanent head, irremovable during good behavior, or appointed for a term of, say, ten years, aided by one or two assistant or adjunct visiting men. Roosevelt has taken the initiative in this direction, and her liberal and enlightened management has every reason to be satisfied with this step in the right direction. Mt. Sinai bids fair to follow suit, and as a proper appreciation of medical matters and of the interest of the patients penetrates the fog surrounding some of our managing boards, so the defects of the present many-headed and interrupted services will disappear. No crops of wheat can be raised on the turnpike road.

Methods of Agitation to be Pursued to Bring about Needed Reform. United Action of the Profession Chimerical on Account of Severe Competition. Success must Come through Conversion of those who Furnish the Money. Now, as to the possibility and means of bringing up hospital activity in this city to the modern level of efficiency, to the standard long accepted by all other civilized metropolitan communities, and the only one worthy of New York, I have to say this: the remedy so often urged by medical men as a panacea, namely

a firmly solidary and united profession, is chimerical for many reasons. First of all, entrance to the profession is still too easy, hence competition extremely acute. With the inrush of promiscuous elements from the various trades, elements lacking even vestiges of a liberal education, the transplantation of the mental and moral attitude of the trader into medicine is only too obvious. Add to this the pangs of domestic need, and then, with no *esprit de corps* and hunger gnawing at the entrails, self-respect and respect for one's profession will easily be thrown aside for momentary or for permanent gain.

That prominent professional and social standing, fame, and a lucrative practice offer no security against lapses from self-respect and decency, is only too well known. It is also natural, when the medical man, instead of excelling his lay surroundings by "high thinking and plain living," by that superiority and distinction which come from a wider and deeper knowledge, enters into a competition of worldly pomp and luxury with a rich and thoroughly worldly clientèle, that pressure or blandishment of a certain kind will produce the same effect upon him as poverty and need will call forth in the struggling beginner. With increased expenditure, the necessities for maintaining social and professional prestige will compel even the most successful practitioner to strive for and to cling to a hospital position at all hazards. Hence there will always be small men and big men ready to take and to hold a hospital position under even more humiliating conditions than those now prevailing. In short, it is absurd to talk of a firmly united profession.

We can accomplish something only by appealing to the enlightened and progressive laity. But we medical men, especially those whose opinions command respect, must come to a full realization of the fact that a thoroughly self-respecting and genuine way of bestowing medical charity under a modest, unpretentious roof is far better than the present state of beggarly pomp and hollow magnificence of external splendor, with the core and *punctum saliens*, the only *raison d'être* of hospitals—the medical care of the poor sick—in a shabbily neglected and unworthily rudimentary state of development. And the system of medical service of our hospitals must remain incomplete and rudimentary as long as it is extracted, as at present, from the Cinderella of all professions by an unfair bargain.

Agitation by incessant appeals to the enlightened taxpayer will undoubtedly result in a rational organization of the medical service of the public hospitals, though much time and labor must be expended to secure to patient and medical man their due. Public charity is not only charity in the scriptural sense, but is a function of self-defence which modern society owes to itself, and which in all civilized nations except ours receives the highest consideration of State and municipality in every way and respect.

As to the reform of the medical service in our private hospitals, here again changes must be brought about, not by "strikes" and warlike measures of doubtful taste and undoubted worthlessness, but by tireless and patient propaganda among that part of the laity upon whose financial support these institutions depend. Let the opinions here enunciated come to the most self-sufficient and impregnable board of managers, supported by a large endowment, bequest, or donation, and we shall see that minds habitually inaccessible to "mere reason" will lend ear respectfully, and will adopt with alacrity what, unsupported by such an argument, appeared to be impossible. Our work must be among those laymen who, by natural gift, education, and travel, are above the level of the ordinary type of the successful business man. If every one of us will faithfully and, let it be said, also skilfully perform this missionary labor in his own circle of friends, the desired result must come sooner or later.

With competent and zealous medical men wisely repressing the natural inclination of laymen toward the cultivation of the showy, external part of charitable work, luxurious palaces, half-filled with patients, who are indifferently cared for by an antiquated and effete system of medical service, will not be erected far in advance of existing demand; huge deficits will not yawn in every annual report upon the patrons and supporters of so many hospitals: and mutual concession and respect among the lay and professional laborers in this field of charity will certainly result in a better care of the patient, and, on the part of the medical men, in the consciousness of work well done, because properly acknowledged and rewarded.

Conclusion.—To sum up we may say:

1. That the present manner in which provision is made for the medical work in municipal and private hospitals is crude, inefficient, and unfair, both to patient and medical man.

2. That all municipal hospitals ought to be provided with permanent medical officers, whose adequate remuneration should be defrayed by taxation: that superintendents and wardens should always be medical graduates of tested business capacity.

3. That, by introducing a permanent and continuous service, each hospital department of about one hundred or one hundred and fifty beds should be directed by one responsible chief, having safe tenure during good behavior, aided by a corps of paid assistants.

4. Private hospitals with limited means should not erect costly and vast buildings maintained with much difficulty, but should rather spend their means in providing a paid corps of permanent medical officers. Even a modest salary would insure daily and zealous attendance on the part of the visiting men, whose number would be reduced at the ratio of one chief to one hundred or one hundred and fifty beds. In the mean time, while payment for medical work, to be provided for by endowments or otherwise, is not feasible, important and valuable improvement is possible: first, through unification, continuity, and permanency of the services: and second, through encouragement of a longer service on the part of the members of the house staff by the payment of modest salaries.

5. The responsible heads of the various departments should have adequate, compulsory representation in the governing body of each hospital.

Is Dysentery a Cause of Stricture of the Rectum?—Although it is frequently stated that dysentery is a common cause of stricture of the rectum, I have never seen a case of sufficient worth to convince me of the truth of the statement, or indeed that it was a cause at all. I have many times seen patients who gave a history of having had dysentery and who were treated for a long time for that affection, but a close scrutiny of the case revealed the fact that the so-called dysentery was caused by an already existing stricture and ulceration, the rule here being reversed—that dysentery was the result and not the cause. If dysentery really be a cause of stricture of the rectum, how very often one would expect to meet with it in practice, considering the great number of people who have dysentery, especially in warmer climates. Again, practitioners of medicine know that ulceration proper very seldom exists in the rectum during or after attacks of dysentery. I do not deny, but my experience has taught me that ulceration of the rectum is not caused by repeated attacks of dysentery or diarrhœa. I am sure at least that these causes are infrequent.—Mathews.

THE MANAGEMENT OF PATIENTS BEFORE AND AFTER LAPAROTOMY.[1]

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In the early days of the decade now drawing to a close, it was generally considered to be a fact that operations within the abdominal cavity could be performed, with a reasonable degree of safety to the patient, only when undertaken in expensively constructed special rooms attached to either public or private hospitals. But as time has gone on and our knowledge of bacteriology has increased, antiseptic surgery has been gradually replaced by aseptic work, and we have found, especially those of us whose fortune it has been to perform operations of the class under consideration in ordinary houses, that, although the personal effort and responsibility are increased, abdominal operations can be performed with as little if not less danger to life in a properly prepared room in the patient's dwelling as in the best-equipped modern hospital. This, coupled with the fact that abdominal wounds are more frequently closed without drainage, and therefore allowed to heal under one dressing, than was formerly the case, seems to make it evident that the time is not far distant, if indeed it has not already arrived, when patients suffering from abdominal disorders will ordinarily prefer to be operated upon in their own homes, rather than to go among strangers in a strange land at this critical time. Hence it will come to pass that the general practitioner in the near future will more often have an important part to play in the management of patients, both before and after the performance of laparotomy, than has hitherto been customary. On this account chiefly the discussion of this important subject has seemed timely, for it is the writer's belief, founded on a considerable experience, that the patient's welfare depends not only upon the technique of the operation itself being properly carried out, but also upon the successful management of many so-called minor and therefore neglected details, both before and after the operation. Years ago the writer, then under the pupilage of that great surgeon, Prof. James R. Wood, learned that the most successful surgeon was he who could best carry out not only the major but the minor details of his work; and this must be his excuse, if one is needed, for the minuteness with which the minor points of routine work are about to be gone into.

Preparation of the Patient.—When the condition for which the operation is to be undertaken is chronic, and all the time desired can be had for the preparation of the patient for the ordeal which he is to undergo, much can be done which will not only diminish the risk about to be incurred by him, but which will ultimately hasten convalescence. In such a case it is for the patient's welfare that the hospital where the operation is to be performed should be reached, or the trained nurse employed if the patient is to remain at home, at least one week prior to the date fixed upon for the operation. This allows the individual to become accustomed to the attendants or the environment, which is of undoubted importance, as it tends to lessen the dread and nervous tension, both of which are great in such a crisis, even under the best of circumstances. During this week the sufferer should be encouraged to spend the greater part of the time in bed, for the purpose of getting thoroughly rested; as patients too often come under operation physically exhausted. During this period massage may be employed to advantage in lieu of physical exertion, as it improves the circulation and promotes digestion and the general bodily welfare. As far as is compatible with a healthy mental condition, visitors and friends should be excluded. A daily record of the patient's bodily temperature, pulse, and respirations should be kept. An examination of the heart and lungs and a final analysis of the urine should be made at this time. As it is of great importance that the intestinal canal be thoroughly collapsed at the time of operation, careful attention should be paid to unloading and emptying the bowels, as well as to getting the digestive organs in good working order. This is best accomplished by giving early in the week several small doses of calomel and soda, daily for three days. These are to be followed each morning by a saline, and this in turn, on each of three succeeding mornings, by a large enema, unless contraindicated (three to four quarts of saline solution—one drachm to the quart). The rectum should be finally washed out with a pint of the same solution, six hours before the performance of the operation. The large enema just alluded to is best given with the patient lying on the left side, a fountain syringe being used for the purpose, the reservoir of which should not be elevated more than three feet above the patient's body. A bulb syringe should not be used for this purpose; for, in the first place, it injects the fluid irregularly and with too much force, and consequently only a small quantity can be employed: in the second place, it is apt, if carelessly used, to permit the entrance of air into the bowel. An instance of this sort came under the writer's observation some years since. A nurse, having been directed to give a patient an enema, undertook to force fluid contained in a pitcher into the gut by means of a bulb syringe. She worked away vigorously for a time, directing all her attention to the patient, who complained bitterly; but she failed to notice until it was too late that the distal extremity of the tube had escaped from the fluid, and the patient's abdomen was greatly overdistended. The family physician was hastily summoned, and with some difficulty relieved the patient from a very severe attack of wind colic.

The fluid for the enema should have a temperature of 100° F., and should be introduced into the canal slowly, being frequently intermitted as the patient complains of a feeling of distention or of intestinal colic. Both of these sensations pass off with the cessation of the flow, and by perseverance in this way three or four quarts of saline solution can usually be introduced into the colon in the course of half an hour, with but slight discomfort to the patient. The patient should be encouraged to retain the fluid for another fifteen minutes before it is allowed to escape. The administration of these enemata should be supervised by the physician, as the nurse seldom knows how to accomplish the introduction of the desired quantity of fluid into the intestinal tract, or, if she has the knowledge and experience, she has not sufficient authority over the patient to effect the desired result. The writer has often been told by nurses intrusted with this duty that they have given the enema of four quarts, not as ordered, but in divided doses, thinking probably that, as "twice two equals four," they had performed their duty in a satisfactory manner. It is this misunderstanding that so often causes the patient's bowels to act on the operating-table, not only to the great discomfort of the surgeon and his assistants, but frequently, when the operation is about the vagina, endangering the patient's life.

The course indicated for cleaning and emptying the intestinal tract has proved in the writer's experience to be a much more satisfactory one than that generally employed—*i.e.*, the administration of a single large dose of calomel the evening previous to the day set for the operation, and followed in the morning by a saline

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and a small enema. The latter method usually fails properly to empty the colon, but succeeds, as has been already said, in causing several movements after the patient has been placed under the anæsthetic and on the operating-table.

The patient's diet during this week of preparation should be of an easily digestible nature, and he should be encouraged to partake freely of liquids, for the purpose of restoring the normal quantity of fluids in the body. If needed, cardiac stimulants should also be given. Hot baths (110° F.) of ten minutes' duration should be given daily, not only for cleansing purposes, but to promote the secretions of the skin and kidneys. Special attention should be paid to the navel and pubic region, which should, if practicable, be shaved on the day previous to that fixed upon for the operation; otherwise it must be done after the patient has been placed under the anæsthetic. If the individual is a female, the time of the operation should be, when possible, arranged for a few days following the cessation of the menstrual flow, and a vaginal douche should be given, consisting of boric acid, and followed by one of formalin (one-half per cent.) or of bichloride (1 to 4,000). It is well during these days preceding the operation to give the patient a mild hypnotic every other night. The writer has found a combination of sulfonal and chloralamid to answer the purpose. This hypnotic should be given always on the last night of the period under consideration.

The patient's skin covering the abdomen should be prepared for the surgeon by thoroughly cleansing it, applying a soap poultice for two hours over the site of the proposed incision, and then replacing it by a compress moistened in weak bichloride solution. This compress is allowed to remain until the patient is placed on the operating-table. These preparations can be made the evening before, if the operation is to be performed at an early hour in the morning; or in the morning, if an afternoon hour has been decided upon.

It is wise to fix upon as early an hour of the day as practicable, as the patient in this case has less time in which to become exhausted from want of food, or restless or nervous from the dread of what is to come. It is of great importance that once the hour has been determined there should be no postponement, as the writer has seen patients almost collapse under the extra nervous strain entailed by half an hour's delay.

If the operation is to be performed at an early morning hour (*i.e.*, 8 A.M.), the patient should be given a peptonized milk punch at eleven o'clock the previous evening, and if he awakens at 5 or 6 A.M. one ounce of liquid peptonoids may be given, but nothing more. It has been the writer's experience that a small amount (one ounce) of stimulating and concentrated food, administered about two hours prior to the taking of the anæsthetic, diminishes the liability to heart failure, and also lessens the nausea and vomiting which frequently follow the return to consciousness. If an afternoon hour has been decided upon, another peptonized milk punch may be given the patient when he awakes, and one ounce of liquid beef peptonoids at 11 A.M. If the case is of an acute character and an immediate operation is demanded, little more can be done than to cleanse the skin in the manner already described, and douching out the vagina if the patient is a female. A stimulant should be administered if the pulse is feeble or if the patient is suffering from collapse due to intestinal perforation. In this condition, if the patient does not respond to the stimulants, the operation should not be performed, as it will prove of no avail. If, on the other hand, the patient rallies, the operation should be done with as little delay as is practicable; but even in these cases it should not be forgotten, as Dr. Abbe has pointed out, that if we would have our work come to a successful issue we must have good light, good assistants, and proper facilities for intra-abdominal irrigation.

If the operation is to be performed in a private residence, a room with a north light should be preferably selected. Its furniture should be removed at least twenty-four hours before the room is to be used. After it has been thoroughly cleansed, the windows should be left wide open for two or three hours, then closed, and the woodwork wiped off with bichloride solution, 1 to 1,000. The floor should be liberally sprinkled with a similar solution. A table, twenty inches wide by thirty inches high, and varying in length according to circumstances, will be needed, as well as several smaller tables or stands, a few wooden-bottomed chairs, several large pitchers, four or five basins, several meat platters, and a receptacle (a fish kettle) for sterilizing the surgeon's instruments. All these articles should be cleaned and washed off with bichloride solution before being placed in the operating-room. The room should be closed after all the articles have been placed in it, and should remain so until needed. A dozen towels, sterilized by boiling or by steaming in a sterilizer, and several gallons of cold and hot water, sterilized by boiling, complete the arrangements to be made before the arrival of the surgeon, who usually provides instruments, ligatures, suture materials, and dressings. For emergency operations it is best to make no attempt to clean the room, but the floor should be covered with a sheet wet with bichloride solution. This avoids vitiating the air of the room with dust—a thing greatly dreaded by the surgeon.

The patient should be so clad for the operation as to reduce to a minimum the bodily exposure. The clothing should consist of a warm undershirt, drawers, and stockings—the last-named often being made in one piece.

The anæsthetic should be administered to the patient before he is brought into the operating-room. If the anæsthetic to be employed is ether, it is advisable to administer hypodermically one-eighth of a grain of morphine and one-one-hundredth of a grain of atropine, half an hour before the induction of the narcosis, as this tends to diminish bronchial secretion and materially lessens the amount of ether to be given. If, for the administration of the ether, a closed inhaler is used, of the Clover type, and the gauze contents are saturated with the fluid at the start, and the mouth-piece is rapidly brought down over the patient's nose and chin, so as to exclude the air, the anæsthetic state will be quickly induced, and there will seldom be a stage of excitement. It is a fact that patients can be rendered unconscious and kept in this condition for an hour with only four ounces of ether, and for the second hour with only two additional ounces.

After the patient has been placed under the influence of the anæsthetic agent, and put upon the operating-table, on which sterilized blankets have been placed in such a manner as to admit of their being folded over the patient's chest and lower limbs, leaving only the abdomen exposed, the bichloride compress previously alluded to is removed, and the skin is finally scrubbed with hot water and tincture of green soap. The pubic and umbilical regions should receive special attention. This scrubbing is to be followed by irrigation with sterilized water, ether, and alcohol. If the patient is a female, it should be the rule to cleanse the vagina in the same manner, but, instead of scrubbing the tissues with a brush, it is better to use a piece of gauze, held in the jaws of a sponge-holder, as the brush tends to excoriate the tissues and thereby increases the danger of septic infection.

While the technique of abdominal operations is not within the scope of this paper, the writer asks leave to say that for a long time past he has been in the

habit of entering the abdominal cavity by means of an incision through either the left or right rectus muscle, as the case required, the muscle being simply split, and not divided. This incision heals readily, and there appears to be little danger of ventral hernia, provided the edges of the fascia are approximated. The appendix can be readily reached and removed through the incision over the right rectus muscle. Not long since the writer removed the greater portion of a long and adherent appendix through an incision made over the left rectus muscle for the purpose of removing the left ovary. Of course, this last incision is not recommended for the removal of the appendix.

Before closing the wound in the abdominal wall, it has been the writer's custom in most instances, notably in those cases in which the formation of adhesions between the viscera was undesirable, to leave behind in the general cavity a considerable quantity of so-called normal salt solution (one-half drachm to the pint), at a temperature of 110° F., after irrigating the cavity freely with the same solution. This not only, in his opinion, tends to prevent the formation of intestinal adhesions, but also serves to stimulate the patient, who generally leaves the table in good condition and with a warm, moist skin. The edges of the wound are approximated by means of a single row of silkworm-gut sutures, which pass through all the different layers of tissues. The writer has gradually learned that these deep sutures should be placed at least one inch apart, and loosely tied, so as to allow for the swelling of the parts, which is considerable and varies in amount with the thickness of the wall. The interference with the circulation by means of these deep sutures, when placed too closely together and tied so as to approximate the edges of the skin accurately, is, he believes, a more frequent cause of stitch abscess than is infection. After the deep sutures have been tied as indicated, the edges of the skin should be accurately adjusted by means of a buried running suture of silkworm gut or by a continuous suture of catgut.

While the operation is progressing, the anæsthetizer, who should be an experienced physician, should watch the patient constantly and pay no attention to the operator. As soon as the reflexes have disappeared, he should raise the inhaler from the patient's face, to replace it as soon as they return. In this way the patient inhales the minimum amount of ether and carbonic-acid gas. As soon as the pulse increases twenty or thirty beats a minute, a stimulating hypodermic injection of strychnine should be administered and repeated as needed from time to time, until one-twelfth of a grain has been given. To this may be added one-one-hundredth of a grain of nitroglycerin, every fifteen minutes. If, in spite of these stimulating injections, the pulse exceeds 150 beats a minute, it is well to open either the right or left median cephalic vein and introduce into the circulation from one to two pints of saline solution at 100 F. This solution should be made ready in advance. For giving such an injection a simple apparatus, consisting of a rubber tube with a funnel at one end and a blunt hollow needle at the other, is all that is requisite.

After-Treatment.—The operation having been completed, the wound dusted over with acetanilid powder, and the usual dressings applied, the patient should be returned to his bed, being placed directly within the folds of a blanket and surrounded, if necessary, with hot-water bags or bottles. Care should be taken lest they be overheated and so blister the still partially unconscious patient. This warning is given because it is not at all uncommon, when the matter is left entirely to the nurse, to have the patient receive one or more severe burns from this cause. When a quantity of hot saline solution, already alluded to, is allowed to remain in the abdominal cavity, the patient generally leaves the operating-table in good condition, and with a warm, moist skin. If the patient's pulse is weak and rapid it is wise to raise the foot of the bed somewhat, and soon after consciousness has been fully regained to administer one-eighth of a grain of morphine and one-one-hundredth of a grain of atropine to quiet the patient and combat shock. There is, however, usually very little shock unless there has been much blood lost during the operation. After this one dose the use of morphine should be discontinued, as it deranges the digestive system and obscures the various symptoms. It is not necessary to keep the patient in one position during the first three or four days. In a recent hospital case this was well demonstrated by the fact that, although the patient fell out of bed the night following the operation, convalescence was smooth and uneventful.

During the first twelve or eighteen hours following the operation the patient should not be allowed anything by mouth except a little warm water from time to time. If ether has been administered intelligently in small quantities and in the manner previously described, there will generally be little or no vomiting or nausea, and when either of these does occur it can be overcome by the external application of chloroform to the epigastrium. If the demand for fluids is urgent, which is seldom the case when the saline solution is left in the general cavity, it is due to gastric irritation, and can usually be successfully combated by two or three large doses of subnitrate of bismuth. The patient should during these early hours of convalescence be stimulated and nourished, if necessary, by means of enemata, unless the operation has involved the breaking up of extensive and firm adhesions in the pelvic cavity, in which case a weak place in the bowel may be ruptured and the enema and fæcal contents of the lower bowel be forced into the general peritoneal cavity. This accident has occurred twice in the past two years in the writer's practice. With the passing of these first twelve or eighteen hours, if the patient is not suffering from nausea or vomiting, and the pulse rate is much the same as before the operation, a drachm of liquid beef peptonoids or of some other similar preparation may be given, and repeated if well borne, every twenty minutes until four doses have been taken, when after an interval of two hours a small quantity of equal parts of milk and lime water or of peptonized milk may be given from time to time, until four ounces has been taken. After this there should be an interval of two hours and then half an ounce of liquid peptonoids may be administered. After another interval of two hours four ounces of peptonized milk may again be given. The quantity of milk should be gradually increased and the interval lengthened, until the patient takes eight ounces or its equivalent every three hours, but once during the twenty-four hours the interval should be lengthened to six hours. The general tendency is to give too small quantities of nourishment at too frequent intervals, which fatigues the stomach and is apt to cause irritability of this organ, and engender a disgust for food. During the interval if the patient desires more liquid, egg albumen and water (the whites of three eggs to a pint of water, to which a little salt has been added) may be allowed him frequently.

During the first forty-eight hours following the operation, if the patient is disturbed by reason of intestinal gas, great relief is often afforded by the introduction through the sphincter ani of a short rectal tube, or even the nozzle of a fountain syringe.

Some time since, the writer performed a laparotomy upon an out-of-town patient, and left her the following morning in the care of her physician, whose experience in abdominal cases after operation was limited. A few hours later, the woman began to complain of severe abdominal pains and distention. The medical man

was summoned, and after examination diagnosticated the condition as symptomatic of peritonitis. Fortunately, instead of giving morphine, he called in a brother physician who had had some experience in the care of such cases. After examining the patient the latter inserted the rectal tube of a fountain syringe into the bowel, and was rewarded by a rush of escaping gas. The abdominal distention and pain quickly disappeared, and in thirty minutes from the time the tube was introduced the patient was sleeping quietly.

If this simple procedure proves inadequate, friction may be applied over and along the colon, as has been recently mentioned by Dr. A. E. Gallant. This complication, however, will seldom arise if, during the week preceding the operation, proper attention is paid to clearing out the intestinal contents. If the patient continues to do well and retains nourishment, and the intestinal canal has been well emptied, no cathartic need be administered until the third or fourth day, when one-tenth of a grain of calomel and one grain of soda should be given every half-hour for five hours. If the bowels do not act within three hours after all the calomel has been taken, a Seidlitz powder should be administered, and repeated after another interval of three hours. After the bowels have moved, if all has gone well, the pulse rate will be much as it was prior to the operation, and by the evening of the fourth day the bodily temperature should be normal, in which case the patient may be rapidly allowed to resume ordinary diet.

The dressings should be removed on the fifth day, and, if the sutures are beginning to cut the tissues, they should be removed and the wound supported by strips of adhesive plaster; otherwise they should be allowed to remain a few days longer. The dressings having been removed, the wound should be washed with hydrozone and bichloride solution, and freshly dusted with acetanilid powder before they are replaced. Before the sutures are removed, the wound and its surroundings should be thoroughly cleansed. A suture is then picked up at one side by means of a pair of thumb forceps, and the skin at the angle is depressed by the flat surface of a pair of scissors, the blades of which straddle the strand of gut, which is then cut through. The object of this manœuvre is to cut the portion of suture that has been buried in the tissues, and which is therefore clean, so that in dragging the gut through the deeper tissues and the peritoneal cavity the danger of infection will be reduced to a minimum. The patient should remain in bed for about eighteen days, and may then be allowed to sit up and soon thereafter to walk about and resume his ordinary occupation.

Complications.—The complications that may be encountered during the period of convalescence, and which change this ordinarily peaceful period into a more or less stormy and anxious one for both the patient and the physician, taxing the latter's ability to the utmost, occur in the following order: Concealed hemorrhage, peritonitis, intestinal paresis, intestinal obstruction, and stitch abscesses.

The occurrence of concealed hemorrhage, which fortunately at present seldom happens, especially when the vessels are tied with catgut taken directly from alcohol in which it is preserved, manifests itself during the first twenty-four hours by a rapidly rising pulse, decreasing in volume, and accompanied by a falling body temperature, dilatation of the pupils, and a clammy perspiration. When this condition is followed by a rapid rise of body temperature to 103° F. or over, dissolution is imminent. As soon as this complication is recognized, an intravenous injection of saline solution should be given and the patient stimulated by hypodermic injections of ether, whiskey, strychnine, and digitalis, and if there is a reasonable response the abdomen should be at once opened, and the bleeding point searched for and secured; otherwise the operation would prove useless and would only be an ante-mortem instead of a post-mortem examination. The decision as to the occurrence of hemorrhage and the necessity of reopening the peritoneal cavity should be made with deliberation, as the unnecessary performance of this operation may seriously endanger the life of the patient.

The onset of peritonitis is indicated by gradual but persistent rise of pulse, beginning on the second or third day, intestinal distention, and rigidity of the abdominal muscles, whether accompanied by elevation of body temperature or not. If the pulse rate rises and remains in spite of our efforts above 120 a minute, the outlook is generally unfavorable. As soon as this tendency of the pulse to increase in frequency after the first day is recognized, an effort should be made to move the bowels by the administration of calomel, followed by a saline. If this does not act in a reasonable time, another dose of calomel should be given, followed after an interval of several hours by another saline. A stimulating enema of seven ounces of a saturated solution of sulphate of magnesium and one ounce of glycerin is often very effective. If the bowels act freely our patient is generally safe, but if the symptoms persist instead of subsiding a few stitches should be removed from the abdominal wound, the cavity freely irrigated, and its contents cleansed in the manner recommended by Finney.

The advent of intestinal paresis is marked on the second or third day by distention of the abdomen and the occurrence of more or less persistent vomiting, the contents of the stomach being ejected without nausea, and the fluid being at first of a yellowish color, but not having a fæcal odor. As the color of this fluid darkens, the prognosis becomes less and less favorable. It is well to bear in mind that vomiting resulting from the administration of the anæsthetic subsides usually during the first twenty-four hours, but that it may follow the administration of morphine. When the diagnosis of intestinal paresis has been made, the stomach should be washed out and salines given at frequent intervals until the bowels act, even if the saline be partially ejected by the patient. The writer's efforts have been crowned with success in more than one instance by the persistent administration of salines after the patient's condition had seemed hopeless. The stimulating enema already alluded to should be given and friction applied over the colon. If the bowels act, the patient usually has no further trouble.

Intestinal obstruction, which fortunately has seldom or never occurred in those cases in which the writer has left saline solution in the general cavity, is differentiated from intestinal paresis by the pain over the site of the obstruction, more persistent vomiting, accompanied by nausea, the vomited matter having sooner or later a fæcal odor. This condition should be treated as soon as recognized by reopening the abdominal cavity, finding and freeing the constricted portion of gut.

Stitch abscesses usually announce themselves by the occurrence of a rise of body temperature toward the close of the fourth or fifth day, and should be treated by the application of hydrozone and the removal of the sutures. The opening in the skin should, if necessary, be enlarged to allow of the free evacuation of the pus.

While the various symptoms described have individually to be considered and their meaning weighed, they also have to be considered collectively, and in judging of the gravity of the patient's condition the facial expression is of great value to those who have had experience. A depressed and anxious countenance generally denotes a grave condition, and a cheerful one, even if accompanied by an elevation of pulse and tem-

perature, that the condition is not serious. The physician charged with the care of a patient upon whom a laparotomy has been performed should not think too constantly of peritonitis—that bugbear of all who have had little experience with abdominal work—and consequently feed the patient upon salines rather than with milk or soup. On more than one occasion the writer has known this fear to be the father of the thought, and the patient's life either sacrificed or convalescence needlessly prolonged by this error in judgment.

In closing this paper it is the writer's desire again to call attention to the points which he thinks of importance, and which, as they are considered minor ones, are often overlooked. They are as follows:

(1) The importance, whenever practicable, of prolonged preparatory treatment of patients about to undergo an abdominal operation.

(2) The importance of the administration of cathartics in the early part of this period, followed by large enemas for the purpose of cleansing the intestinal tract.

(3) The importance of keeping a record of the body temperature, respirations, and pulse rate, for several days in advance of the operation, and of making a final examination of the urine.

(4) The necessity in the female of arranging to have the operation performed a few days after the menstrual period, and the cleansing of the vagina, even when it is intended that the operation shall be by the abdominal route only.

(5) The administration of a small quantity of peptonized food (one ounce) containing stimulants, two hours before giving the anæsthetic, for the purpose of lessening the tendency to nausea and vomiting after the recovery of consciousness.

(6) The necessity of the anæsthetic being given by an experienced physician, and in the smallest possible quantity.

(7) The necessity of protecting the patient's body properly with clothing and blankets during the operation.

(8) The advantage of stimulating the pulse before the heart has become much exhausted, and of using intravenous saline injections before the radial pulse has become extinct.

(9) The leaving in the abdominal cavity after free irrigation of a quantity of hot saline solution, for the purpose of stimulating the patient, preventing (?) the formation of intestinal adhesions and lessening the danger of septic infection of the peritoneum.

(10) The necessity of making the patient comfortable by change of position during the first two days of convalescence, and by the use of the rectal tube.

(11) The necessity for the early administration of food in reasonable quantities and at proper intervals.

(12) The necessity of withholding stimulating enemata after operations in which extensive and firm pelvic adhesions have been broken up.

(13) The necessity for deliberation as to the wisdom of reopening the peritoneal cavity in a given case of supposed concealed hemorrhage.

(14) The importance of washing out the stomach as soon as the diagnosis of intestinal paresis is made, and of the persistent use of saline cathartics till the bowels move.

(15) The importance of not administering cathartics to those convalescing from abdominal operations, and who are pursuing a normal course, too early or in too large doses.

55 West Thirty-Sixth Street.

Castor Oil can be made more fluid by warming, and more pleasant to the taste by adding sugar or an equal quantity of syrup of manna.—Teixeira.

FAITH AS A REMEDY FOR DISEASE.

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The man of medicine, by reason of his training and experience, is in a large measure a materialist. From his entrance into the dissecting-room, on through his four years of laboratory experiments and observations in the clinics, he is dealing with the physical characteristics of matter and the pathologic showings of disease. Naturally he turns with much confidence to his materia medica and surgical resources, to his knowledge of the laws of hygiene, dietetics, exercise, change in occupation or environment, for his expedients in the cure of diseases.

As a rule he has overlooked the important relations of the mind to morbid processes, and is too apt to regard its influence in the cure of diseases as of minor or secondary importance.

It is not creditable to the intelligence of the great body of scientific physicians that so many of us ridicule or discredit the cures, some of which are genuine, wrought without the above-mentioned agencies through so called faith healers, Christian scientists, and the like. We cannot ignore entirely the testimony of those who have been relieved or cured of maladies by these methods.

It is time the medical profession acknowledged candidly that such things are possible and do take place in a certain class of patients and diseases. It is time it learned to account for and explain these results through the operation of well-known psychical laws.

Every physician should be prepared to show that there is nothing miraculous or supernatural about these cures. He should be able to demonstrate that the physician who devotes his life to the healing art can do all, and much more than this class of healers can do, no matter by what name they are known, without masquerading behind superstitions, simply by comprehending and acting upon certain principles of psychology and the laws which govern suggestion.

If any physician thinks it is not time for the profession to wake up on this subject, let him look at those great institutions of divine healing and Christian science on the prominent boulevards of our city. Let him visit them and see his patients and his neighbors' patients flocking to them, and consider if it is not worth his while to employ intelligently a much neglected means of therapeutics which some of these laymen employ ignorantly and often harmfully. Many of these healers are tricksters and mountebanks, like the recent false Schlatter. Others are sincere, but deluded as to the philosophy of the few cures they are able to bring about, which the intelligent physician knows are due to suggestion alone.

These various schools claiming to practise mental healing, faith healing, divine healing, Christian-science healing, may all be classed under the head of psycho-therapy, which is a division of suggestive therapeutics. The influence of suggestion upon the human mind is supreme and all-powerful in determining its own process of thought, its expressions of sentiment or passion, and its subjective control of bodily function in health or disease. It is through imitative suggestion that we yawn, cough, weep, or laugh, because we hear or see some one else doing so. It is through psychical suggestion that our emotions are deeply moved in reading fiction, poetry, or romance. It is by suggestion that a mother soothes the pain of her little child who has pinched its fingers in the door and runs screaming to her for aid. "Mamma will kiss the hurt all away. Now it doesn't hurt any more." The child believes its mother; the hurt is gone; its own faith has done the work; it dries its

tears at once and goes back contentedly to its play. That is faith cure and divine healing and Christian science in a nutshell. Again, the mother instinct knows her restless, wakeful babe needs sleep. She sings a soothing slumber song full of sleep suggestions and the babe closes its eyes in dreamland. That is hypnotism in a nutshell. Faith cure and hypnosis are both ruled alike by suggestion, and the mother, so far as child life is concerned, is the unconscious mistress of both. All we may hope to do in whatever form we employ therapeutic suggestion is to expand and improve upon her methods.

A man whose leg had been broken many months before came to the clinic of a prominent surgeon of this city by the aid of crutches, to learn why he could not walk. After a careful examination the surgeon said: "There is nothing the matter with your leg now; it is entirely healed. You are well and don't know it. Put down your crutches and try to use your leg." After a sorry effort the man, discouraged, begged for his crutches again. "No," said the surgeon, "you need a little Christian science; the trouble is in your mind more than in your leg. You must try again; you can certainly walk on it." With this the patient made a second trial with such good success that he concluded he could get along without the crutches. If this man had strayed into Alexander Dowie's healing temple down on Michigan Avenue, I have no doubt Dowie would have made a grand-stand play with the case. He would have commanded him to walk in the name of the divine Healer and to the glory of Brother Dowie and the plaudits of the multitude. The crutches would have gone to ornament the wall as another trophy of victory over the "doctor devils" who could not heal a poor cripple. Seeing is believing, and great is Alexander.

It is often impossible to eliminate the influence of suggestion, even in the administration of drugs, and say how much of the effect is due to drugs alone and how much is due to suggestion. To many people the strongest possible suggestion of cure centres about the idea of taking a medicinal drug. With such a person bread pills will sometimes work wonders. On this ground a placebo is often most beneficial. Doubtless we often take credit to ourselves for skill in the administration of what are really inert or useless drugs, when the cure is due entirely to *vis medicatrix naturæ plus vis medicatrix mentis*.

How, then, is faith cure related to suggestive therapeutics? I hope to show that it is in fact one form of suggestive therapeutics, though by no means its most effective form. Let us take Paul's definition: "Now faith is the substance of things hoped for, the evidence of things not seen." Hope is made up of desire and expectation. We cannot hope for what we do not desire, though we expect it certainly to take place. We cannot hope for what we do not expect, though we desire it greatly. Now ardently to desire and to expect a cure from some malady are certainly strong suggestions to that end.

Again, a faith that accepts unseen evidence must set aside judgment and all criteria by which one determines the truth or falsity of a proposition. What, then, do we have when one accepts a proposition as true by an act of faith? Is there not an abeyance of judgment and the critical faculties? This is just exactly what takes place when that peculiar psychical condition, hypnosis, is induced, in which susceptibility to suggestion is heightened. Judgment is asleep. The critical faculties are asleep, and the exalted imagination and subjective mind accept, *nolens volens*, whatever the operator chooses to impress upon them, without any argument or criticism to oppose.

When the suggestions in this induced state are directed to the wiping out of the mental perception of pain or of functional disturbances, we call it hypnotherapy, another branch of suggestive therapeutics, which latter in its broader significance embraces every method by which one may accomplish the cure of morbid conditions through psychical influences.

Hypno-therapy is the most potent of all forms of suggestion, and by its aid cures are accomplished frequently which seem little less than miraculous, did we not know the mental laws governing them. Just so, faith as a remedy acts through suggestion. It is purely subjective. It is, in fact, auto-suggestion, and needs no interposition of the supernatural to explain its phenomena.

When Paul and Barnabas went down to Lystra they beheld a man sitting there impotent in his feet, and Paul, "perceiving he had faith to be healed," commanded him "with a loud voice" to "stand upright." It was not Paul who had power to heal, but the subjective faith of the man stimulated to intense activity by the suggestive command of Paul. So with hypnotherapeutics. It is not effective through some mysterious influence or magnetic power of the operator, but through the subjective susceptibility of the patient to the operator's suggestions.

Why, then, are faith healing, divine healing, and Christian-science healing much more limited forms of suggestive therapeutics than those accomplished through hypnosis? Simply because they require the exercise of a childlike faith on the part of the patient, which is a *sine qua non*. He may be ever so desirous of a cure, but the slightest doubt will keep down expectation, and "the substance of things hoped for" is impossible to him. Hence it is clear that their benefits, potent or curative as they may be, are limited to the few who can comply with the terms. Hypno-therapy is far more universal in its application. The patient under hypnosis accepts suggestion as the little child accepts. Its judgment and critical faculties are undeveloped and inoperative; his judgment and critical faculties are just as impotent for the time being, for they are in complete abeyance. He has no means of doubting, and so the skilful physician through appropriate suggestions effaces his mental perception of a real or imaginary pain, or of a real or imaginary functional derangement, and relief or cure follows.

I venture the assertion, which is a profound conviction based on my own observations and the large number of published cases of eminent scientists like Bernheim, Charcot, Moll, Forel, Schrenck-Notzig, Krafft-Ebing, and others, that there have been no authentic faith cures (wrought by whatever method of suggestion, whether by laying on of hands, by anointings, by prayer, or by pilgrimages to famous shrines) which have not been, and cannot be, duplicated by suggestion under hypnosis.

The great danger to the public from those who may practise these various methods lies in the dogmatic ignoring of useful and ofttimes absolutely essential medical and surgical agencies. These so-called healers are grossly ignorant of pathology and physical diagnosis. They have little or no ability to discriminate between the classes of diseases which can be influenced or cured by suggestive methods (faith cure, Christian science, etc.) and those in which they are of little importance or utterly futile. Unable to distinguish between the disease itself and the pain impressions it causes, when they have removed the latter they announce the former cured. This misguided zeal and lack of medical knowledge of disease have cost health and life itself to many a client abounding in submissive faith, who otherwise could have been rescued by intelligent medical assistance.

To recapitulate, I have made the contention that faith as a remedy for disease is ruled by suggestion and is one form of suggestive therapeutics; that its

operation is purely subjective and dependent upon well-known psychical laws and not upon miraculous or supernatural intervention; that in its application it is much more limited and less available than another form of suggestive therapeutics termed hypno-therapy; and, lastly, that any authentic faith cure can be duplicated by hypnotic methods without any exercise of faith whatever.

100 State Street.

GALL STONES IN THE COMMON BILE DUCT RESEMBLING CARCINOMA OF THE STOMACH.

By FREEMAN F. WARD, M.D.,

NEW YORK.

It is a well-worn saying, and one the truth of which few have escaped realizing in life, that we learn more from our mistakes than from our successes. That this was not only my own experience in the case I am about to cite, but that it was equally instructive to several of my colleagues who saw it is my excuse for putting the facts before the profession at large, and if it shall lead to the relief of suffering under the same or similar conditions, through what is commonly called radical, but what I here call the most conservative treatment, I shall feel fully repaid for my pains.

April 24, 1897, Mrs. S——, aged forty-six years; weight, one hundred and fifteen pounds; mother of ten children, the youngest six years of age. She passed the menopause three years ago, and has always been healthy and strong until the present trouble appeared. For the past six months the patient has had more or less pain in the epigastrium, often sharp and shooting in character, coming on after eating, and being accompanied by extreme nausea which lasted from one-half hour to several hours. The patient states that the condition is always aggravated by the ingestion of albuminous food, such as meats and eggs, so that for the past three months she has lived almost exclusively upon a diet of bread and butter and tea. She has lost flesh and strength, looks emaciated, slightly jaundiced or cachectic; appetite very poor, tongue fairly clean, bowels regular.

Physical examination: Heart and lungs normal; abdominal wall very lax; lower border of stomach four fingerbreadths below the umbilicus, upper border about one fingerbreadth above the umbilicus. Pulsation of the abdominal aorta could be distinctly felt above the lesser curvature of the stomach. In the region of the pylorus a small tumor could be felt, which moved up and down with respiration, but was not freely movable by palpation.

Result of chemical examination of the stomach contents, expressed one hour after giving a test breakfast of one roll and a glass of water: Quantity, 90 c.c.; total acidity = 18; free HCl = 0; lactic acid = 0; considerable mucus.

Examination of the urine disclosed nothing abnormal.

I made the diagnosis of probable cancer of the pylorus, and determined to try to alleviate the patient's suffering, to have her assimilate more food if possible, and to build up her strength, with the end in view of advising an exploratory cœliotomy and in all probability a pylorectomy or a gastro-enterostomy. To this end the stomach was thoroughly washed out every second day three hours after breakfast. A stomachic of nux vomica with fluid extract of condurango was prescribed, and the patient told to eat three moderately good meals a day, to avoid meats, and to take between meals a glass of kumyss or milk.

The patient began at once to improve in appearance and to gain in strength, the appetite improved, and the pains became less frequent and less severe. Subsequent examinations were made, both physical and chemical, with practically the same results as at first, *i.e.*, gastroptosis, a palpable tumor, absence of free HCl, and no trace of lactic acid. There was some slight retention of food, but the amount of mucus diminished, due to the lavage.

Improvement continued until, on May 10th, I was hurriedly called and found the patient suffering excruciating pain in the epigastrium, with vomiting. There seemed to be no alternative at the moment but to give a hypodermic of morphine and atropine, which lessened the pain for several hours. I called the same evening, found a return of suffering, and administered ten grains of phenacetin, which gave almost immediate relief, and the patient passed a comfortable night. The next morning, as the patient seemed well enough to be moved, I advised her to go to the hospital and submit to an operation, to which she assented. The operation was performed by Dr. B. Farquhar Curtis.

Upon opening the abdomen by an incision in the median line above the umbilicus, the stomach was found to be in normal condition and of normal size, but displaced downward. In the common gall duct, however, could be felt quite a mass blocking it, which when the duct was opened by a linear incision proved to be two large impacted gall stones—one cuboid in shape, measuring 9 by 10 by 11 mm.; the other one not quite so regular in shape, but larger, measuring 15 mm. in length by 14 mm. at the small end and 17 mm. at the large end in diameter. These were removed; the duct was closed with Czerny-Lembert sutures, and the abdominal wound closed, except for a distance of about one inch, in which was placed a small strip of iodoform gauze for drainage. This was removed the third day, and recovery was complete and uneventful. The patient is now following her usual pursuits.

It may be interesting in this connection to report a case of true carcinoma of the stomach, which followed soon after in my practice, and which presented all the typical signs of the disease. The symptoms in common in both cases may then be compared.

May 29, 1897, Mrs. J——, aged fifty-three years. No children. Weight one year ago, one hundred and twenty pounds; weight now, ninety pounds. She has always been a healthy woman until six months ago, when she began having occasional attacks of pain in the epigastrium, which were aggravated by taking food, especially meats. Only recently the patient has had attacks of vomiting coming on soon after the ingestion of food. Appetite very poor, bowels constipated. Patient looks cachectic or jaundiced, and has lost flesh and strength.

Upon physical examination a small tumor could be felt in the pyloric region, moving up and down with respiration, it being possible to hold it down during expiration, showing that it was free and non-adherent to any other organ. Splashing sounds could be obtained three fingerbreadths below the umbilicus.

One hour after a roll and a glass of water were given, the stomach tube was introduced and the contents were expressed, with the following result: Quantity, 450 c.c.; very dark fluid, containing bits of meat, egg, fish, tomato, etc., some of which had been taken days before; a great deal of mucus. Reaction, acid; total acidity = 60; free HCl = 0; lactic acid = +.

The stomach was thoroughly washed out and the patient was prescribed a diet of milk, pea, bean, and vegetable soups, to be well cooked and strained; nourishment in some form was ordered to be taken every three hours. A mild stomachic was prescribed of nux vomica and condurango, and ten-grain powders of phenacetin to be taken when pains were severe.

On the third morning the patient reported having

had very little pain, no vomiting, and the appetite much improved. The whole appearance of the patient had changed from one of despair and despondency to that of hope and cheerfulness.

After a thorough washing of the stomach, one roll and a glass of water were given her immediately, which were expressed through the tube one hour later. Chemical examination showed: Total acidity = 8; free HCl = 0; lactic acid = +.

A diagnosis was now made, with almost absolute certainty, of carcinoma of the stomach, located in the anterior surface and lesser curvature, partially obstructing the pylorus. The location of the tumor was brought out by inflating the stomach with gas, produced by giving the patient a half-drachm of sodium bicarbonate and a half-drachm tartaric acid dissolved in a little water and given in separate draughts. By careful manipulation the gas could be felt passing through the pylorus below the tumor, but not above it. This point was observed by Dr. W. V. V. Hayes, who also saw the case, and this diagnosis was afterward confirmed at the operation.

As soon as the above treatment was established, a marked improvement was observed in the patient. She gained in strength, the appetite improved, and the bowels became regular without the aid of laxatives or enemas. I knew, however, that this improvement could only be temporary, and advised her to go into a hospital and submit to an operation, to which she consented. For a few days before the operation she was given nutrient enemas in addition to food by the mouth. Dr. C. N. Dowd and I performed the operation of gastro-enterostomy, after the so-called Wölfler method, without the use of plates or button.

The abdominal cavity having been opened by an incision in the median line above the umbilicus, the tumor was found in the exact position as diagnosed, freely movable, so that it could be lifted out of the abdominal cavity. The stomach was dilated and in a position of gastroptosis. Glandular involvement was very slight —indeed, at first it was thought there was none, and a pylorectomy was seriously considered; but after a careful search a few small glands were found to be involved, and this fact, together with the weakened condition of the patient, decided the question in favor of the less severe operation of gastro-enterostomy. A loop of intestine about two feet below the pylorus was given a half turn on its axis, and laid on the anterior surface of the stomach near the greater curvature at a safe distance from the tumor, and the two were united with interrupted sutures of fine silk for a distance of two and one-half inches. An incision was then made into both stomach and intestine, about one and one-half inches long, one-fourth inch from the line of sutures. The raw edges were united the entire distance around with fine catgut, and then the outer row of silk sutures was continued anteriorly, thus completely inclosing the inner row of catgut sutures. The abdominal wound was closed and the patient left the operating-room in good condition.

She was given nutrient enemas for three days, and on the third day she began taking nourishment by mouth, but on this day she began to develop symptoms which proved to be on the fifth day a typical lobar pneumonia. She died on the ninth day after the operation, of pneumonia, having had no distention or vomiting and having retained all food and medicine.

The point which I wish to emphasize in connection with these two cases is the importance of careful and repeated examinations, both physical and chemical, in all disturbances of the stomach, and also, in all doubtful cases, of making an early exploratory incision, followed by such operation as may be indicated.

In this first case there seemed scarcely a doubt that the patient was suffering from carcinoma of the stomach, and I must add that after I had examined her myself three excellent diagnosticians confirmed my decision; yet it would have been not only radical but cruel to use palliative treatment only, when trouble existed which proved to be perfectly amenable to surgical procedure.

In the second case, as there were present all the typical signs and symptoms of carcinoma, it would seem that if careful and repeated physical and chemical examinations had been made early in the disease —and she had consulted a number of physicians from the very beginning of her trouble—one could hardly have failed to make a correct diagnosis, and her life might have been saved, at least for several years. This case, in the hands of a surgeon three or four months before, would have been most favorable for a pylorectomy, with every chance of recovery. Even in the stage in which I found the patient I felt perfectly justified in advising an operation, which, if she survived, would relieve much of her suffering, enable her to gain in flesh and strength, and to enjoy life at least several months longer. Above all, she would be spared one of the most horrible deaths, that of starvation.

In conclusion, it may be of interest to some physicians briefly to review a few of the important points in the determination of carcinoma of the stomach, and some of the simpler methods of examination.

In the first place, I believe it is now generally conceded that the absence of free HCl in the stomach contents is in no way characteristic of carcinoma, as was formerly thought.

I have mentioned the aversion on the part of these patients to meat or albuminous food, which point I inquired into very carefully, as Boas, in the last edition of his book, referring to the investigations of Müller and Klemperer, says that the more albumin we give to the infiltrated organ the more decomposition we have, and that the attempt to compensate for the destruction of albumin by the more abundant giving of albuminous food is to be received as an illusion, and that herein exists the frequently observed fact that the patient has an instinctive aversion for albuminous food. I have noticed this symptom in the majority of cases of acute and chronic gastritis which have come under my observation, when there was an absence of free HCl, and this would tend to show rather that nature is averse to taking food which she cannot well digest than that it is in any way a distinctive symptom of carcinoma. We also find this secretion wanting in certain neuroses and in that class of cases in which there is no stomach secretion, called by Dr. Max Einhorn "achylia gastrica," of which I have had three cases in my private practice within the past six months.

It should also be stated here that the presence of free HCl does not exclude the possibility of carcinoma. The simplest tests for free HCl are: 1. Congo paper, which turns a deep blue if free HCl is present. 2. Günzburg's reagent, the formula for which is:

Phloroglucin	2
Vanillin	1
Absolute alcohol	30

Put a few drops of the filtered gastric juice in a small porcelain dish, add one or two drops of the reagent, and evaporate over an alcohol flame. Upon cooling, a bright rose-red will appear if free HCl is present. These two tests are all-sufficient for determining the presence of free HCl, and can easily be made before the patient leaves the office. Quantitative determination should also be made, but it is not my purpose to go into the more elaborate methods of analysis in this article.

The presence of lactic acid in the stomach contents has greater significance. While the secretion of lactic

acid does not usually occur in the healthy stomach after the ingestion of carbohydrates, yet it does sometimes take place in innocent affections of that organ, *i.e.*, gastritis, ectasia, atony, neuroses, etc.; moreover, the production of lactic acid does not usually occur when free HCl is present; thus it would appear that the clinical examination thus far has neither theoretical nor practical value. In exceptional cases lactic acid may be lacking and therefore does not exclude carcinoma, but it has come to be regarded, taken with other symptoms, as a specific sign in the diagnosis of that disease. Frequently one may find the production of lactic acid and the lack of free HCl with stagnation of food in the stomach; hence the importance in such cases of thoroughly washing out the organ and giving a test meal in a clean stomach before determining whether the stomach actually secretes lactic acid or not.

The test which I use uniformly is Uffelmann's. The solution must be freshly prepared each time as follows: To 5 c.c. of a four-per-cent. solution of carbolic acid add 25 c.c. of water and two or three drops of tincture of chloride of iron. Fill a test tube about one-half inch with this solution, which is amethyst-blue, and add an equal quantity of the filtrate. If lactic acid is present the solution will change at once to a canary or lemon yellow. If any doubt arises, as sometimes will if phosphates are present, take 5 or 10 c.c. of the filtrate in a test tube, add double the quantity of ether, and shake thoroughly. Then allow the tube to stand a few minutes until the ether separates from the solution. Pour off this ethereal extract and test it for lactic acid with the Uffelmann solution. It is well to make the test with a highly diluted solution of lactic acid in another test tube for comparison, until one becomes thoroughly familiar with the color.

I may say, then, that when we find these five conditions constantly present—*i.e.*, 1, stagnation of food in the stomach; 2, vomiting; 3, pain; 4, absence of free HCl; 5, presence of lactic acid—and, we might add, a short history of the disease, the diagnosis of carcinoma of the stomach can be made with almost absolute certainty, even in the absence of a tumor.

There is a large number of cases, however, which do not give all of the foregoing symptoms; hence the importance of careful and perhaps repeated chemical examinations of the stomach contents in disease of that organ, and, in doubtful cases which seem to point to malignant disease, of an exploratory laparotomy.

In the two examples cited, we found in Case I. some stagnation of food, vomiting, pain increased by ingestion of food, absence of free HCl, and a palpable tumor. In Case II. we found all the cardinal symptoms of carcinoma: 1, pain, increased by ingestion of food; 2, stagnation of food in the stomach; 3, vomiting; 4, absence of free HCl; 5, presence of lactic acid; 6, a palpable tumor.

In both cases the history was of short duration. In both there was slight jaundice or cachexia, between which it is often perplexing to differentiate. The serious consideration of these two cases would seem to indicate that, notwithstanding the fact that Case II. terminated fatally from pneumonia (which no one could have foreseen), the right procedure was followed for the best interests of the patients, and one life at least was saved.

6 East Fifty-Eighth Street, August 1, 1897.

Painful Fissure of Anus.—Dr. Doumer recommends, in *Le Scalpel*, October 31st, the introduction of an electrode through the whole length of the sphincter and the application of a current of high frequency. This has also been found to act favorably upon hemorrhoids and to cause shrinkage of hemorrhoidal tags.

Clinical Department.

A CASE OF CEREBRAL ABSCESS.

By H. H. WEIST, M.D.,

The diagnosis of most of the intracranial diseases amenable to surgical treatment is often difficult, and in none of them more so than in those following traumatism after a long interval. It is true that, owing to the labors of Ferrier, Horsley, and others, during the last decade, which have given the profession the well-recognized facts of cerebral localization, many of the difficulties have been removed in cases in which the injury involves the motor tracts; yet the fact remains that many intracranial conditions cannot be determined with certainty, probably for the reason that the precise function of comparatively large areas of the brain is still unknown. We are, indeed, yet unable to place the precise boundaries to the best-known motor tracts.

To show in a clear light how the present knowledge of the functions of some of the areas of the brain may guide the surgeon to a correct diagnosis, I briefly report the following case:

On June 15, 1897, with my father—Dr. J. R. Weist—I saw, in consultation with Dr. R——, Mr. B——, aged thirty years. We received the following history of the case:

The patient was a farmer, unmarried, who had always been healthy; there was no history of any constitutional disease, or of any accident. Three weeks before, he was seized with a severe pain in the head followed by vomiting. Dr. R—— was the sixth medical man who had been in attendance on the case, the patient being unconscious when first seen by him. We were unable to learn any particulars as to special location of the pain. Pain in the head with vomiting and some fever continued for about a week. The case at that time was diagnosed as one of typhoid fever. About this time numbness was complained of in the left hand and left foot; this continued, gradually involving the entire arm and leg; then loss of motion gradually appeared, following the same order; then dizziness and some incoherence appeared. All these symptoms grew more severe until the end of the second week, when there was complete paralysis of sensation and of motion in the entire arm and leg, with entire abolition of intelligence. In this condition he had remained almost unchanged for a week preceding our visit. Two days before, Dr. R——, thinking he had found some evidence of an abscess, had made a slight puncture in the scalp just above the right ear, with a negative result.

We found him in a comatose condition; temperature normal; pulse feeble, regular, 70 to the minute; respiration very shallow; pupils unresponsive to the light, the right slightly dilated; complete paralysis of the left arm and leg. Pinching the right arm and leg and tickling the sole of the right foot caused slight reflex action. No history of any form of injury to the head could be obtained.

It will be seen that we were unable to obtain a complete history of the case.

The sudden onset of the disease and the absence of all the characteristic symptoms enabled us at once to exclude typhoid fever as the disease present; while the pain in the head and the vomiting might indicate meningitis, and this complication is sometimes present in typhoid fever, the progress of the case excluded this condition. The paralysis on the left side made it evident that the lesion of the brain was on the right side, and the dilated pupil on the right side indicated the same thing.

The paralysis extending from the left hand gradually to the entire arm, then from the left foot to the leg, made it evident that the lesion of the brain, whatever it was, began in the lower and posterior part of the middle third of the anterior and posterior central convolutions, which border the fissure of Rolando, these parts governing the motion of the hand. The extension to the entire arm and leg also made it clear that the disease gradually extended to the upper third of the same sensori-motor convolutions.

While local meningitis might have preceded the evident lesion of the anterior and posterior central convolutions, clinical observation does not show that it might have caused the same. There was no history of syphilis, therefore gummata might be excluded; besides, these growths do not appear suddenly. All other forms of brain tumor, also, are of slow growth, and cause a long series of symptoms before culminating in so serious a disaster as had befallen this patient. Tumors of all sorts being excluded, there remained only some form of acute inflammatory action to account for the symptoms present. The age of the patient, and the order in which the symptoms appeared, excluded the idea that blood had been poured out from a ruptured artery, causing softening from pressure or inflammation. There was no disease of the heart, no vegetation to be washed into the general circulation to form an embolus in one of the cerebral arteries, to be followed by inflammatory disintegration. There had been no sepsis to cause a pyæmic abscess. By exclusion the diagnosis of an abscess involving the sensori-motor centres of the left arm, probably the result of an injury to the head, was reached.

The case being an urgent one, the statement was made to the friends of the patient that only an operation, trephining over the supposed seat of the disease, gave any promise of relief—the exact statement made being: "He will die if the operation is not made, and probably die if it is." The operation was declined, the father saying he "would trust him a while longer to the Lord." Three days later—the Lord in the mean time having failed to perform any miracle on the patient—we were again called. He remained in essentially the condition before described. We were informed that it had been learned that five weeks before the beginning of his illness the patient while working in a pigpen received a slight blow of some kind on the head. The part of the head injured could not be learned. He continued at work for *five* weeks, and the apparently trivial injury had been forgotten, until recalled by our inquiry.

Consent to the operation was now readily given. The patient being extremely weak, strychnine and morphine were given hypodermatically. The scalp was shaved and made as aseptic as possible. Careful examination revealed no cicatrix or other evidence of former injury, save the unhealed puncture above the right ear, made by the doctor when searching for pus a few days before.

The fissure of Rolando having been located by the usual measurements, Dr. J. R. Weist proceeded to the operation. A large flap—its base downward—was raised, laying bare the portion of the skull overlying the middle of the fissure of Rolando. When the very free hemorrhage from the scalp was checked, there was found in the parietal bone, two and a half inches above and one inch in front of the external opening of the auditory canal, an opening through the bone just large enough to admit a fair-sized probe. This evidence of former injury so positively confirmed the diagnosis that there was no hesitation about proceeding with the operation. An inch and a quarter trephine was placed at a point supposed to represent the middle of the Rolandic fissure, and when the circle of bone was removed the bridge of bone separating the opening from the perforation described was taken away with the rongeur forceps. The membranes had been perforated, but the wound had closed. The dura, much reddened, projected strongly into the opening of the skull. When this membrane was divided a branch of the middle meningeal artery was cut, causing very free hemorrhage. The vessel was ligated without much difficulty. The portion of the brain pressing strongly into the opening was without pulsation. It was identified as being a part of the posterior central convolution. The part of the brain visible presented nearly a natural appearance. No pus was seen. There being positive evidence of pressure from below, a knife was pushed into the brain substance to the depth of about an inch in a direction slightly upward. Then pus and broken-down brain substance were for the first time discovered. The quantity escaping was not great. Further interference being deemed unwise, the patient being in an extremely critical condition, an iodoform gauze strip was placed in the opening so as to lead out at the lowest part of the scalp wound. The flap of scalp was replaced, and the wound closed save at the point of emergence of the drainage. The usual aseptic dressings were applied. Directions were given to keep the drainage channel well open by replacing the strip of gauze from time to time.

At the close of the operation, the patient was greatly exhausted by hemorrhage and shock.

We have not seen the patient since, but have had frequent reports from the careful physician in attendance. From him we learn that the patient soon rallied from the operation; that on the next day consciousness was fully restored, and the paralysis of the arm and leg had nearly gone. He continued steadily to improve until the eighth day, when the coma and paralysis rather suddenly returned. Upon examination it was found that the drainage channel was obstructed; when this was cleared several ounces of pus was discharged, and then all unfavorable symptoms disappeared to return no more. From this time onward the progress toward recovery was uneventful. A report from the patient was received September 4, 1897, to the effect that the wound was entirely healed, with the functions of speech and of the arm and leg entirely restored; the only remaining evidence that the functions of the brain are not completely restored being an indifference to exercise or to work.

We have not learned if the patient remembers having received an injury. From all the facts it is safe to infer that the wound in the skull was made by a small nail. The length of time between the injury and the appearance of any serious symptoms—five weeks—furnishes another illustration of the well-established fact that injuries of the head, even when involving the brain, may give rise to serious trouble only long afterward.

The diagnosis of typhoid fever was evidently made without a proper study of the case.

To Prepare Catgut.—Originality is claimed only for the combination in the following:

R Potassii bichl	gr. i.
Formaldehyde	℥lx.
Aquæ	℥ i.

A good quality of gut is placed in ether for twenty-four hours, then washed in alcohol, wound upon glass spools, and put into the above solution for twenty-four hours. It is then to be stored in pyoktanin solution (1 to 1,000). Thus prepared it is aseptic, antiseptic, non-absorbable for from ten to forty days, while its tensile strength is not impaired. Rinse in sterilized water before using.—W. D. Jones.

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THE MODERN NOVELIST AND MEDICAL SUBJECTS.

ERRONEOUS statements on medical subjects are very frequent in the modern novel, and appear to be becoming more so. Impossible and contradictory descriptions of the symptoms and course of a disease, together with a display of ignorance of medical matters in general, are a feature of up-to-date fiction. One would imagine in this age of realism that writers would try to be fairly accurate, or at least not make glaring mistakes. The latest literary production emanating from the fertile and imaginative brain of Mr. Hall Caine is a startling example of this slipshod tendency on the part of modern romancists. "The Christian" has raised a storm of criticism on all sides. Its accuracy as to details has been severely questioned, both from a lay and from a medical standpoint, and certainly the misstatements to be found in the work in respect to matters medical are extraordinary and amusing. The word pictures of hospital life and of a nurse's duties as portrayed in the description of Nurse Glory, while exhibiting the author's powers of imagination in a favorable light, also tend to show that his real knowledge of the subject is very little. To one who is acquainted from practical experience with the internal management of large hospitals, the accounts of the doings therein as set forth in "The Christian" will appear wonderfully funny. The entire book, indeed, is full of amusing perversions of medical knowledge, of which perhaps the most comical is Mr. Caine's definition of a stillborn child as one that has breathed but never cried.

The writer of fiction of the present day does not appear to advantage with many of the novelists of the past generation in his acquaintance and handling of medical subjects, although it must be confessed that even among the dead giants of romance there were but few whose description of a disease was absolutely correct. George Eliot is without doubt entitled to first place in this list; her sketches of doctors and her statements in regard to the diseases of which she treats are drawn with a masterly hand, and are as accurate as if written for a medical text-book. Charles Kingsley, again, in "Two Years Ago," traces the history of a cholera epidemic with the utmost attention to technical minutiæ. Thackeray also described the course of a malady as correctly as he did the treatment pursued by the physicians of his time. Of modern novelists, Besant, in the "Ivory Gate," gives an interesting study of an obscure brain disease, and as he informs us in the preface that he procured his medical information from a competent doctor it may be taken for granted that his statements are correct. Putting on one side, however, the comparatively few instances in which the diseases dealt with by novelists are to be depended upon as being correctly described, the majority of the medical statements in fiction can be divided into two classes: those in which the accounts of diseases given are false in every respect; and those in which the author, not being *au fait* with his subject, is careful not to commit himself, and therefore wisely confines himself to vague generalities.

Another point worthy of notice is the small number of diseases brought into the service of the novelist. At one time brain fever was the universal favorite, with typhoid a good second, and although within recent years neurosis has to a certain extent banished brain fever from its proud position, yet the latter disease still holds its own in fiction. That nervous prostration is much more likely to attack the hero or heroine suffering from the storm and stress of life, as depicted in the ordinary modern novel, than is brain fever, cannot be denied. Nevertheless, there are occasions when an author, in order to extricate himself from a complicated situation, is compelled to fall back upon a disease of an acute nature; and in such a predicament, what so suitable as brain fever or what so convenient as its delirious ravings? The fact has been more than once pointed out that there is a disease which has been strangely overlooked, and which certainly deserves to find more favor in the eyes of the novelist than has hitherto been the case. This complaint is pneumonia, for, while it fulfils all the conditions required by the novelist, and to a fuller extent than brain fever, it has none of the disagreeable associations connected with typhoid. Pneumonia may be termed an aristocratic disease, while typhoid, though no respecter of persons, still has a certain plebeian flavor savoring of foul-smelling drains and tainted water. In novels acute diseases invariably end suddenly. Pneumonia terminates by crisis; the onset of the attack is sudden, the temperature is always high; delirium, stupor, or complete unconsciousness is a feature in its progress. Thus in this disease there is a choice of dramatic climax found in no other malady. A wicked man can be cut off in the midst of his sins, or a good one can be made to provide an edifying death-bed scene. Pneumonia may be recommended to authors as a disease whose merits as an aid to fiction have not as yet received the appreciation from them which is undoubtedly its due. Consumption is a disease of such a nature that most novelists fight shy of it and are very chary of relating its tedious course. William D. Howells, in his latest work, has been bold enough to introduce a family all of whose members but one are afflicted with phthisis; and Gilbert Parker, in an interesting book he has lately written, has succeeded in rendering his consumptive hero a most fascinating and

attractive personality. In connection with consumption in fiction, it is instructive under the present circumstances to note that Smollett, more than one hundred and fifty years ago, draws attention in "The Expedition of Humphry Clinker" to the prevailing opinion then existing that consumption was contagious. Heart disease is naturally a favorite with writers of romance when a character gets rather too obtrusive and it is deemed advisable to remove her or him from the scene. Marion Crawford, in a "Rose of Yesterday," has drawn a graphic picture of the life and death of a fast man; but the most powerful sketch of the stages of syphilis was that of Samuel Warren, entitled "Man about Town," included in his "Diary of a Late Physician." In present and past fiction too many examples have been afforded of the manner in which eminent writers can err when they enter upon descriptions of technical matters without taking the trouble to verify their statements. It cannot be expected of a novelist, however talented he may be, that he should be conversant with a disease by mere intuition, and if he trusts to his imagination and to some superficial observation he will surely fall into grievous errors. When an author is distrustful of his medical knowledge, he should follow in the footsteps of the great masters of his craft, and either, like Dickens, touch upon such matters vaguely, or, better still, like Thackeray or George Eliot, obtain his information at first hand.

THE REPORT OF THE VISITING COMMITTEE OF THE DEPARTMENT OF PUBLIC CHARITIES ON THE HOSPITALS OF NEW YORK CITY.

The twenty-fifth annual report of the New York County visiting committee for Bellevue Hospital and other public institutions has lately been published. As it is also the first report covering the operations of an entire year of the department of public charities as now constituted, a special interest is attached to it. The new system, whereby the sphere of supervision of the commissioners of public charities has been restricted to the consideration of the conditions and needs of charitable institutions only, is a departure greatly to be commended. Under the former method the work put upon the shoulders of the commissioners was more than they could well bear. Much of the present report is pleasant reading, showing that an advance has been made in the right direction; but it also reveals the fact that many of the old abuses are still in existence.

In the first instance, it is satisfactory to note that the building-operations in the various institutions in the department are on a large scale and for the most part being pushed forward expeditiously. This step has not been taken before it was needed, as many of the buildings have been for several years in a dilapidated state, besides not providing adequate accommodation. Owing to the increased appropriations for current expenses, various improvements in the general administration of these institutions have been rendered possible. Prison labor has been to a large extent abolished in favor of paid help, the staff of paid employees has been augmented, and the food supplied to the patients has been better in quality as well as larger in quantity.

The committee, however, states that there is room for further improvement in this last respect. This is the bright side of the picture; now for the reverse.

The ward for male prisoners at Bellevue Hospital remains in its former insanitary condition, and is, according to the committee's report, a standing disgrace to the department. The quality and amount of the food given to the patients are described as insufficient, and the inferior manner in which it is cooked and served is also severely criticised. It appears that the allowance of meat for each patient at Bellevue should be eight ounces of meat once a day, but it is stated that barely five ounces is supplied. The doctors, superintendents, apothecaries, and nurses not only receive a daily allowance of twelve ounces, but also get the best pieces. Consequently the patients, instead of having their rightful allowance of eight ounces, get but five ounces, and this of inferior quality. Complaint is also made of the lack of ward supplies at Bellevue. At the City Hospital many alterations for the better have been introduced, both in regard to the building itself and its mode of management. The additions to the structure will when completed relieve the present pressure on its holding-capacity, and paid help has been substituted for prison labor. The Metropolitan Hospital suffers from serious overcrowding, and the building in hardly any respect fulfils the requirements of a modern hospital. The administration is commented on very favorably. There is one feature common to all the above-mentioned institutions, to which the committee rightly draws particular attention—that is, the present custom of scattering phthisical patients promiscuously through the wards. On October 1, 1897, there were eleven phthisis patients in the Bellevue Hospital, fifty-six in the City Hospital, and ninety in the Metropolitan Hospital. This state of things should be changed as quickly as possible, for, even granting that the contagiousness of consumption has been exaggerated, there yet remain many cogent reasons in favor of isolating its victims.

The most depressing part of the report is that which relates to the children's hospitals at Randall's Island. The death rate at the Infants' Hospital shows no decrease from the high figures of former years. The fact is well known to medical men that where infants are massed together in large numbers their chances of living are immensely diminished. Convincing proofs of this have recently been afforded in the case of the foundling hospitals in Italy and France. When the conditions are most favorable, babies without their mothers are liable to succumb quickly, but that the present appalling mortality at the Infants' Hospital on Randall's Island could not be considerably lessened with care and proper nursing will be believed by no one. Of three hundred and sixty-six infants admitted when under six months of age, without their mothers, during the year 1896, but twelve remained alive on April 15, 1897—a mortality rate of 96.1 per cent. The average duration of life of the three hundred and

fifty-four children who died was between five and six weeks. This fearful death rate is undoubtedly due to the incompetence or neglect of the nurses. The recommendation of the committee, that the number and salaries of the nurses should be increased, a nurses' home built, and that an expert supervising nurse should be placed in charge, would appear under the circumstances the most humane course to adopt. The State acts *in loco parentis*, but up to the present she has proved herself a very indifferent fostermother, sadly neglectful of her maternal duties. The committee remarks, with truth, that in every branch of its work the department of charities should be managed without regard to political considerations, and that it may be asserted almost with certainty if this were done all the needed improvements would follow. The city of New York is now the second in size and wealth in the world; in the intelligence and enterprise of her inhabitants she is probably the first. It is therefore by no means to her credit that such evils should be possible within her borders.

SIR JAMES SAWYER ON HUMAN LONGEVITY.

Sir James Sawyer has recently been lecturing at Birmingham, England, on the subject of human longevity. He lays down nineteen rules, which, he asserts, if followed closely, will prolong human life by many years. These rules are as follows: 1, Eight hours' sleep; 2, sleep on right side; 3, keep your bedroom window open all night; 4, have a mat to your bedroom door; 5, do not have your bedstead against the wall; 6, no cold tub in the morning, but a bath with temperature of the body; 7, exercise before breakfast; 8, eat little meat and see that it is well cooked; 9 (for adults) drink no milk; 10, eat plenty of fat, to feed the cells which destroy disease germs; 11, avoid intoxicants, which destroy those cells; 12, daily exercise in the open air; 13, allow no pet animals in your living-rooms—they are apt to carry about disease germs; 14, live in the country if you can; 15, watch the three D's—drinking-water, damp, and drains; 16, have change of occupation; 17, take frequent and short holidays; 18, limit your ambition; 19, keep your temper.

Some of these rules will commend themselves by their obvious common sense to every one; some are contrary to common sense; while, as to the remainder, the ordinary individual will be quite unable to keep them. Old persons as a rule cannot sleep eight hours. Sleeping on the right side will not suit all persons. Allowing the window to be kept open all night would most certainly be harmful to the health of many people. A very large number of persons would be only too glad to have change of occupation, as well as frequent and short holidays; opportunity is the sole thing lacking. "Limit your ambition" is altogether too vague a term to be thoroughly comprehended. In fact, the old English saw, "Keep your bowels open and wear flannel next your skin," if strictly adhered to, would probably be as conducive to longevity as following the nineteen rules laid down by Sir James Sawyer.

"THE LANCET" ON ANASTOMOSIS.

The Lancet, as is its custom at the end of the year, reviews at some length, in its issue of December 25, 1897, the events of the *annus medicus*. Referring to surgery, the writer says: "During the past year the progress of surgery, if not so exceptionally great as in some other years, has yet been evident. In the surgery of the abdomen the question of the best method of uniting a divided bowel is still unsettled. Murphy's buttons, while not perhaps retaining all the favor which they had on their first introduction, are still looked upon by many as on the whole the safest as unquestionably the most rapid means of effecting internal anastomosis. That some at least of the unfortunate results which have followed the use of the button have been due to its incorrect application is extremely probable, as the best results have been obtained by those who employ it most frequently. One danger from the use of the anastomotic button is the tendency it has to remain in the bowel. This has happened many times, and generally without ill effect, but occasionally symptoms of intestinal obstruction have resulted. To obviate this danger, Dr. Martin Gil, of Malaga, has devised a button which resembles Murphy's in some respects, but it consists of decalcified bone, so that it can be dissolved by the digestive juices after it has accomplished its work of uniting the bowel. Dr. Gil has employed the method with success in dogs, but the button has not yet been used in the human body. Those who decline to avail themselves of an anastomotic button either employ some form of 'bone bobbins,' such as that invented by Mr. Mayo Robson, or trust to simple stitching without mechanical aids. The fact that every one of the methods mentioned gives excellent results and is extensively employed shows that a skilful and experienced surgeon can safely unite divided intestines by any of them, and that he may be expected to attain the greatest success by using that method with which he is most acquainted. Even in the future we must not look for a complete discarding of any of these methods."

CONCERNING SLEEP.

Much has been written lately concerning the phenomena of sleep. Many persons have aired their views on the subject. Some assert that people as a rule sleep too long, while others are of the opposite opinion. Dr. Andrew Wilson has recently made some *à-propos* remarks on the matter. He first cites instances of celebrated men who needed a small amount of sleep, and says: "Humboldt, who lived to be eighty-nine, is said to have declared that when he was young, two hours' sleep was enough for him, and that the regulation seven or eight hours of repose represented an unnecessary prolongation of the time of somnolence. It is also said that Sir George Elliot, who commanded at the siege of Gibraltar, never indulged in more than four hours' sleep while the siege lasted, and that little affair occupied at least four years. Sir George died at the age of eighty-four. Dr. Legge, professor of Chinese at Oxford, who died the other day at the age

of eighty-two, was declared to be satisfied with five hours of sleep only, and rose regularly at 3 A.M. What do such cases prove? Assuming the correctness of the details, they prove only that certain men (and very few men, I should say) are able to recuperate their brain cells more quickly than the bulk of their fellows. They are the exceptions which, by their very opposition to the common run, prove the rule that a good sound sleep of seven or eight hours' duration represents the amount of repose necessary for the average man or woman. It would be a highly dangerous experiment for the ordinary individual to attempt to curtail his hours of repose, and it must not be forgotten that in this matter of sleep we have to take into account the question of the daily labor and the nature of the work in which the individual engages. In the case of Dr. Legge we have a picture of the student whose labor is solely of the intellectual kind, involving little drain on the muscular system. In the case of Sir G. Elliot we have an active commander, who, in addition to the mental anxieties involved in the conduct of a long siege, had no doubt a fair amount of physical exertion to undergo. But, while the case of the professor may be explicable on the ground that his five hours' sleep compensated him for any wear and tear his quiet life presented, we may fall back in the instance of the general on the theory of a special organization, set, as it were, so as to satisfy itself with a limited amount of sleep. The personal equation, in short, plus the kind or character of a man's work, determines the duration of his repose; and that the average period required by the ordinary individual in health is from seven to eight hours is the one opinion confirmed by the collective experience of the civilized race."

News of the Week.

Beriberi in Port.—The bark *Pactolus*, which arrived here on January 13th from Manila, brought in twelve cases of beriberi among her crew of sixteen sailors. Two of the men have died since the vessel came into port. The sailors were taken on at Shanghai, and it is thought some of them were suffering from the disease at the time they shipped.

Triplets.—The wife of an Austrian tailor in this city recently presented him with three healthy girl babies at one birth. The father is reported to be more proud than pleased.

The Plague.—The deaths from bubonic plague at Bombay during the week ending January 13th were 450. The deaths from all causes during the same period numbered 1,307.

The Late Dr. A. W. Stein.—The following resolutions were adopted by the board of trustees and directors of the New York College of Dentistry at their regular monthly meeting on January 3, 1898:

"It is with deep regret that the New York College of Dentistry is called upon to mourn the loss by death of the late Prof. Alexander W. Stein, M.D., who for twenty-eight years served the college with marked ability as professor of physiology, visceral anatomy, and histology, and who for twenty-one years occupied the office of treasurer, in which position he discharged his duties with diligence and faithfulness.

"Honored by his associates in the faculty and in the board of trustees; respected by the medical profession, both in this country and abroad, for his many valued contributions to surgery; and beloved by a large number of students who have listened to and profited by his teaching—he has passed away a martyr in the cause of science, as his health was undermined by the effects of a poisoned wound received while operating for charity in one of our city hospitals.

"Failing health caused his resignation, two years since, from the active duties of his professorship, and his death, while not unexpected, is a loss to science and a source of sincere regret to the college with which he has been so long connected.

"We tender our heartfelt sympathy to the members of his family, and mourn with them a loss which cannot be expressed in words.

"*Resolved*, That this record be spread in full upon the minutes of the board of trustees of the college, and a copy forwarded to his family and to the medical journals of this city.

"J. Bond Littig, D.D.S.,
"F. Le Roy Satterlee, M.D., Ph.D.,
"*Committee on Resolutions.*"

The Yellow Fever in Jamaica.—It is reported from Kingston, under date of January 4th, that the outbreak of yellow fever in the island has abated, except at Up Park Camp, about a mile outside of Kingston in the Liguanea Plain, where the British troops are stationed. In Kingston and other towns no new cases have occurred, and it is hoped that in a few days the entire island will be declared free. It has been found necessary to move the troops out of the barracks at Up Park Camp and put them in tents, while the officers have taken up their quarters in a private house some distance away.

Improved Sanitary Conditions in the German Army.—The health statistics of the German army, which have just been published, show that in the past thirty years, from 1868 to 1897, the cases of illness fell forty-two per cent.—that is, that now about twenty-three thousand fewer men fall ill every year than formerly. During that same period the mortality decreased sixty-five per cent.—that is, during their time of military service twenty-two hundred fewer men died.

Anesine is the name of the latest rival of cocaine in the production of local anæsthesia. Its use is said to be devoid of local or general toxic effects.

Removal of the Stomach.—Since the publication of Dr. Schlatter's case of total exsection of the stomach, which was reported in the Medical Record of December 15th last, two operations of the sort have been undertaken in this country—one in St. Louis and the other in Milwaukee. In each instance the patient died a few hours after the completion of the operation.

Influenza is reported to be on the increase in various cities in England and on the continent. In London it is reported to be raging in very grave form, chiefly of the gastric type. During the week before last there were forty-three deaths returned as from influenza, the largest number reported in any one week for three years past.

Medical Society of the State of New York.—The ninety-second annual meeting of this society will be held at the City Hall, Albany, commencing at 9:15 A.M., January 25, 1898, and continuing in session until 1 P.M., January 27th. Though the society is composed of duly elected permanent members, delegates, and honorary members, provision is made in the constitution for invited guests, and an invitation is extended to all members of county medical societies to attend. On presentation of their names to the committee of arrangements, they will be recommended to the society as invited guests and will have the privilege of taking part in discussions. Reduced fares can be obtained by applying at the railway station on starting for a certificate, which, on indorsement by the secretary of the society and by the special agent of the Trunk Line Association, who will be at the meeting during Tuesday and Wednesday, will entitle to return at one-third fare. The committee on credentials will be at the Kenmore Hotel, Monday evening, January 24th, and members and delegates who arrive then are requested, so far as possible, to register there or otherwise as early as possible after arrival. Invited guests are requested to register also at the place of meeting. The programme, which contains thirty-nine titles, gives promise of a more than usually interesting meeting. Dr. Seneca D. Powell is the president of the society, and Dr. Frederic C. Curtis secretary.

The Baltimore Medical Association and the Baltimore Medical and Surgical Society have reorganized under the name of the Baltimore Medical and Surgical Association.

Water Pollution.—In the suit brought by the city of Cumberland, Md., against the Piedmont (W. Va.) Pulp Works, for polluting the water of the Potomac, the decision was in favor of Cumberland. The drinking-water of Washington is also affected by this pollution.

Obituary Notes.—Dr. Lewis W. Pendleton, of Portland, Me., and Palm Beach, Fla., died at the latter place on January 11th, after a short illness. He was a graduate of the Albany Medical College in 1864.—Dr. C. B. Day, of Glencoe, Minn., killed himself with a revolver on January 13th. No reason is given for the act, but he is said to have been despondent for some time.—Dr. William J. Van Vleck, of Hudson, N. Y., for many years a prominent member of the New York Dental Association and a pioneer in that branch of surgery, died at his home on January 14th. He was in his eightieth year. He leaves a widow and two sons.—Dr. William F. Wiseman, a graduate of Heidelberg, died at Danville on January 14th. His mind had been impaired for some years before his death.

The Bacillus of Pertussis.—The discovery by Dr. Henry Koplik, of this city, of the bacillus of whooping-cough was announced in the Medical Record at the time Dr. Koplik read his paper before the British Medical Association in Montreal. This discovery has been confirmed, according to a European dispatch, by Dr. Czapelewski, a bacteriologist of Cologne. With the exception of the bacillus of influenza, this is said to be the smallest of the bacillus family so far identified. It was present in all cases investigated by Dr. Koplik—sometimes in a state of pure culture. The discovery, it is thought, may lead to newer methods of treatment. Further confirmation will, however, be required before general acceptance can be expected.

Death from Lockjaw after Vaccination.—Suit has just been begun against the city for $50,000 damages for the death of a young girl from lockjaw, supposed to have been induced by impure vaccine used in vaccinating at school by the health board.

Dinner of the Harlem Medical Association.—On the 15th inst. the Harlem Medical Association gave its usual annual dinner at the Harlem Casino. Dr. Philip A. Maleson acted as toastmaster. The respondents were Surgeon-General George M. Sternberg, Drs. S. M. Jacobus, J. E. Janvrin, Thomas H. Manley, and John Shrady.

The Maryland Medical and Chirurgical Faculty will complete the one hundredth year of its existence in 1899, at which time a centennial volume containing the annals of the profession of Maryland will be issued.

Baltimore's Oldest Physician, Dr. Morris Wiener, celebrated his eighty-eighth birthday recently. Dr. Wiener is in active practice.

Cambridge Hospital.—It is possible that a hospital may be built in Cambridge, Md., which is the largest town on the eastern shore of that State.

Dr. Robert T. Wilson has been elected chief surgeon of the Woman's Hospital of Baltimore, to succeed his father, Dr. H. P. C. Wilson.

The Water Supply of Washington.—A resolution providing for the filtration of the water used in the city of Washington was recently introduced into the senate. Senator Hale said that in no part of the United States was there a city whose citizens were so imposed upon and abused as to the water supply as are the citizens of Washington. "We are confronted with bad, foul water," said he, "so filthy, indeed, as to make it dangerous to drink and irksome even to take a bath." Senator Gallinger, the mediæval opponent of all progress in medicine and hygiene, characteristically sought to obstruct the measure. He is unfortunately a member of the District of Columbia committee, and is also, we are told, or was at one time, a physician, and so his utterances in sanitary matters are received by some of his colleagues in the senate with a seriousness which they are far from meriting. He delivered himself of the opinion that the water of the city was not impure or specially hurtful to the consumers, and he opposed the proposal to establish filter-beds because they would cost money.

The New York County Medical Association, at a meeting held January 17th, elected the following: *President*, Dr. George T. Harrison; *Vice-President*, Dr. Frederick H. Wiggin; *Recording Secretary*, Dr. Michael C. O'Brien; *Corresponding and Statistical Secretary*, Dr. Parker Syms; *Treasurer*, Dr. John H. Hinton; *Members of the Executive Committee*, (for four years) Dr. Joseph E. Janvrin, (for one year) Dr. Charles Ellery Denison.

The Conditions of Medical Practice in France.—Dr. Lloyd O. Thompson, of Greenwich, Conn., writes that some time ago, his attention having been called to the restrictions imposed upon foreigners wishing to practise medicine in France, he addressed a letter of inquiry to a friend occupying an official position in France. The answer which he received was as follows: "Physicians and dentists must have a certificate of birth, a diploma of B.A., and their medical or dental diploma legalized by the consul-general of France of the country from which they come. These papers have to be translated into French by a sworn translator, after which they are sent to the minister of public instruction, accompanied by a demand. At the Sorbonne one can generally get a diploma of 'bachelier' (B.A.), on paying expenses amounting to about 160 francs. With this the applicant presents himself before the Faculty of Medicine, and, according to the value of the medical diploma that he has, is accorded twelve or fifteen inscriptions, with dispensation from scholarship; that is to say, laboratory, dissection, hospital work, etc. But last year a law was passed, by which the greatest difficulties are created for physicians from abroad, so that now there are hardly any foreign students in Paris. An honorary diploma has been created for foreigners, which does not give them the right to practise in France. To have that right one must be of French nationality or must have got his B.A. in France. To pass the examinations two years at least are required; the examinations must be passed in French, and in good French certified by professors. Dentists not having a B.A. must have at least equal to the French *brevet supérieur*. With that the demand is addressed to the minister, accompanied by the dental diploma. The successful applicant gets twelve inscriptions at once, with dispensation from scholarship in the dental schools. After that he has to pass three examinations in medicine—two theoretical and one practical. Since this new law has been in effect (about four years) not a single dentist from abroad arriving in France has been able to pass the examinations."

School Instruction in Germany on the Effects of Alcohol.—An effort is being made by temperance agitators in Germany to have introduced into all the primary schools in that country a course of instruction on the baleful effects of alcohol. A memorial from the Berlin Anti-Alcohol League has been presented to the government, calling attention to intoxicating beverages as a common cause, especially, of brain affections. The memorial points out the greater susceptibility of the young and growing undeveloped organism to the influence of alcohol in impairing physical strength and in predisposing to alcoholic addiction. The government is therefore petitioned to order, in the interests of the German people, instruction in the alcohol question in all governmental schools.

Irregular Medical Practice in Massachusetts.—A bill regulating medical practice is to be introduced into the Massachusetts legislature, by means of which it is hoped to drive out of the State all fraudulent and incompetent practitioners of medicine, especially Christian scientists. The followers of this belief will, it is said, make a hard fight against the bill.

To Prevent Errors in Compounding.—Dr. E. F. McIntosh, of New Haven, referring to some recent mistakes by drug clerks, writes that he has known of fatal accidents due to the carelessness of the physician in writing an adult dose when the prescription was intended for a child or an infant, and the druggist, not knowing the age of the patient, naturally compounded the prescription exactly as it was written. To obviate such a fatal error Dr. McIntosh has printed on all his prescription blanks:

"This is designed for { an adult, / a child, / an infant."

He draws his pen through two of these lines, the remaining one indicating the age of the patient for whom the prescription is intended.

The Costliness of Errors in Drug Compounding.—A jury in the supreme court in Brooklyn has given a woman in that city a verdict of $5,000 in her suit against a druggist for the loss of her husband, who was killed by a dose of oxalic acid put up by mistake in the druggist's store for Epsom salts.

Turpentine in Tuberculosis.—Dr. J. S. Prettyman writes that, in the formula for a turpentine mixture published in a recent issue, the amount of acacia emulsion should be four ounces, instead of four drachms, as printed.

Dr. Grigoriĭ Antonovitch Zakharĭin, of Moscow, professor of clinical therapeutics at the university, and formerly physician to Tsar Alexander III., died on January 5th. Dr. Zakharĭin, though long and favorably known for his scientific attainments and laughed at for his eccentricities in Russia, was first introduced to the western world through the report of a quarrel he had with Leyden, of Berlin, at the time of the late Tsar's final illness. According to the generally accepted report, he was worsted in his dispute with the "foreign interloper," and started to leave Livadia, but was restrained by the Tsar's chief of staff, who virtually placed him under arrest. When the Tsar died Zakharĭin's house in Moscow was attacked by a mob, and rumor had it that he was to be banished from the country. The new Tsar, however, presented the physician with a jewelled snuff-box, on which was an enamelled portrait of his father, thus intimating that he did not agree with those who decried Dr. Zakharĭin's professional ability. Thi saction of the new ruler brought about a revulsion of feeing in the physician's favor, and when he delivered his first lecture in Moscow after his return from Livadia he was received enthusiastically by the students.

The Passing of Tuberculin.—The announcement is made that the manufacture of Koch's T. R., the new style of tuberculin, has been abandoned. It will be remembered that the publication of Koch's paper describing his wonderful extract was made on April 1st.

A Quarantine Law in Iowa.—A medical law recently enacted in Iowa provides that when a family is quarantined for one of the infectious diseases, such as diphtheria or measles, the head of the family or bread winner may attend to his regular business, but must change his clothing immediately before going out and returning home; he must also wash his hands, face, head, and beard with a two and one-half per-cent. solution of carbolic acid immediately before leaving his home; he must not act as nurse or live in the same room with the sick person; and is not allowed to attend church or any place where other persons are assembled. This privilege does not apply, however, to school teachers or others whose occupation brings them in intimate contact with children.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending January 15, 1898. January 8th.—Medical Director B. H. Kidder detached from duty with the medical examining board, Washington, January 21st, and ordered home on waiting-orders. Medical Director B. H. Kidder retired January 23d. January 13th.—Passed Assistant Surgeon A. W. Dunbar detached from the *Vermont* and ordered to the *Nashville*, January 15th; on arrival of the *Nashville* on the European station ordered to the *San Francisco*.

The Plague continues to increase in Bombay. On January 4th and 5th there were 142 new cases and 105 deaths in that city. There is a general exodus of the population and an absolute suspension of business is feared unless the fresh panic can be allayed. An interesting report has recently been issued upon the epidemic of plague in Damaun, Portuguese India, and the effect of preventive inoculation there. The facts upon which this report (abstracted in *The Lancet* of December 18th) is based were collected by Professor Koch and Professor Gaffky, with M. Haffkine and Surgeon-Major Lyons, the president of the bubonic plague research committee; and their informants were Col. J. P. Villar, the governor; Mr. Judge, the assistant collector; Shet Sorabjee, the head of the Parsee community; and six medical officers. The daily mortality from the beginning of March to May 19, 1897, was 30 per diem—a grand total of 2,325 deaths. Of this number 2,093 were authenticated by means of a house-to-house inquiry among the particular families in which they had taken place. Among the Parsee community, numbering 306 persons, 276 were inoculated twice and 1 was inoculated once. Of these 1 only died, a woman who had been inoculated only once and that, as was afterward seen, subsequently to infection by plague. Thus the total mortality among the inoculated Parsees was only 1 in 277—a percentage of 0.36. Among the 29 uninoculated there were 4 deaths—a mortality of 13.8 per cent. Among Shet Sorabjee's servants and laborers, numbering 200 in all, all were inoculated but one. That one was attacked on May 16th and died on May 19th, while among the inoculated one person, a child aged four years, was attacked and died. Of other members of the population of Damaun between March 26th and the end of May among 6,033 uninoculated there were 1,482 deaths, or 24.6 per cent., while among 2,197 inoculated there were 36 deaths, or 1.6 per cent. If the inoculated had died in the same ratio as the uninoculated, the number of deaths among them would have been 332 instead of 36. Owing to the extreme demand for lymph, the later inoculations were much weaker than those done at the commencement of the epidemic and the difference in favor of the stronger lymph was most marked, for out of 1,924 inoculated with the strong lymph there were 70 cases, 3.6 per cent., with 22 deaths, 1.1 per cent.; case mortality, 31.4 per cent. Out of 270 treated with weak lymph there were 21 cases, 7.8 per cent., with 14 deaths, 5.2 per cent.; case mortality, 66.7 per cent. Figures such as these show the extreme value of the preventive treatment, taken as they are from the course of a most virulent epidemic and during the highest stage of the outbreak.

The Maryland State Medical Examining Board is considering the matter of selecting three of its members from the faculties of the medical schools. This, however, has been opposed by the State Medical Society and the matter is still undecided. The State legislature may be called on to amend the medical-practice act.

Rush Medical College.—At a meeting, December 29th, the trustees of the University of Chicago, in response to a petition from the trustees of Rush Medical College, voted to enter into affiliation with that college. The date proposed for the consummation of the relationship is June 1, 1898, but it is specifically stipulated that the affiliation shall be dependent upon three conditions. The first condition is that the board of trustees of Rush Medical College shall be reorganized. At the present time a great majority of the trustees are physicians, who are at the same time members of the faculty. The new trustees will be representative business men of Chicago, who have no pecuniary interest in the income of the college. The second condition provides that the requirements for admission to the college shall gradually be increased, until, in the autumn of 1902, only those who have completed the freshman and sophomore years of regular college work shall be admitted. The third condition provides that affiliation shall not take place until the debt of Rush Medical College, amounting to $71,000, has been paid. The proposed affiliation will give to the university a general supervision of the educational policy of the institution, but the trustees of Rush Medical College will continue to be an entirely separate corporation, and the University of Chicago assumes no financial responsibility in connection with Rush Medical College.

Society Reports.

NEW YORK MEDICO-SURGICAL SOCIETY.

Stated Meeting, January 3, 1898.

JOHN BLAKE WHITE, M.D., PRESIDENT.

The Management of Patients before and after Laparotomy.—DR. FREDERICK HOLME WIGGIN read a paper with this title (see page 115).

The Laparotomist Should be a Wise Physician.—DR. GEORGE T. HARRISON expressed great satisfaction at the stress laid in the paper upon the importance of the preparation and preliminary observation of the patient. The laparotomist should be not only a skilled and experienced surgeon, but a wise physician. In these days in which the Trendelenburg posture is so much employed it is more than ever important that the bowels should have been previously emptied and collapsed, so as to be up under the diaphragm, out of harm's way. It was also desirable to administer the night before operation some intestinal antiseptic, such as powders of salicylate of bismuth. He objected to the giving of food shortly before the administration of the anæsthetic; the last food given should be the night before. He had seen the method tried of giving brandy just before the operation, to brace up the patient, but, according to his observations, it acted the opposite way. As a rule, if the laparotomist could get along with morphine, it was better to withhold it, but no routine method should be followed—indeed, a combination of morphine, atropine, and strychnine constituted one of the best heart tonics known. In some very restless and nervous patients the administration of morphine was unquestionably beneficial. In cases in which many intestinal adhesions had been separated at the time of the operation he thought it important to clear out the bowels on the third day. If within thirty-six hours after any operation the patient had not been able to pass gas naturally, the greatest relief was afforded by an enema of hot water and glycerin. To Lawson Tait belonged the credit of having called attention to the fact that when certain symptoms developed catharsis was of great value. The cases in which Tait recommended this treatment were those in which on the second or third day the patient became restless, the abdomen distended, and no gas could be passed. After a while vomiting began, then the vomited matters became darker, and with this the pulse became weak and rapid and the countenance anxious. When these symptoms first developed, catharsis was of great benefit. Another excellent plan was lavage of the stomach, together with the administration of enemata of glycerin and hot water. In this condition of intestinal paresis septic material readily passed through the intestinal wall into the peritoneal cavity. As a rule, the clearing out of the bowel under such circumstances brought permanent relief, yet he had met with a number of cases in which even this treatment, promptly and efficiently carried out, failed to avert a fatal termination.

The Trendelenburg Posture Unnecessary and Dangerous.—DR. A. PALMER DUDLEY spoke briefly of his own individual experience. In his opinion four days should be long enough for proper preparation of the patient, providing the surgeon was already familiar with the constitution of the patient. A week was too long to keep a patient in dreary expectation. He did not like calomel, because it nauseated a great many persons, and therefore he substituted three compound cathartic pills. He preferred to operate in the morning, if possible, and did not allow food later than the previous night. No matter what was introduced into the stomach, it would cause a flow of gastric juice, which would produce vomiting and disturbance. If strychnine were given freely to the patient for two or three days prior to the operation, the patient would be thoroughly stimulated beforehand. He did not make the incision through the recti muscles, because he did not know at the beginning how large an incision would be required. He never used the Trendelenburg posture, believing it to be unnecessary and dangerous, owing to the extra pressure put upon the heart and lungs, and on the cerebral circulation. He washed out the abdomen, but always dried it instead of leaving any saline solution in the general cavity.

Feeds Patient with Seidlitz Powders.—As soon as the patient came out of the ether he began the administration of the salines in hot water. Not long ago at the Harlem Hospital he gave sixteen Seidlitz powders in twenty-four hours, without the slightest disturbance or rise of temperature. His object in doing this was to give something for the patient to vomit, should vomiting occur, and also because he did not want the gut to remain long in one position if there were intestinal surfaces liable to form adhesions. He did not believe in intestinal paresis—indeed, he had never seen this complete paralysis as described by many observers. This free use of the salines did not cause excessive purgation, but it did do a very important service, *i.e.*, kept the contents of the small intestine moving. After twenty-four hours, if the bowels had not moved he placed the patient in the Sims position, and gave an enema consisting of two ounces each of glycerin and sweet oil and two drachms of turpentine. He not only did not restrict the patient's movements but rather insisted upon their moving about and changing their position in the bed frequently. He preferred half-grain doses of codeine to the use of morphine in those few cases in which such a drug was indicated, and he attributed his low death rate—4.5 per cent.—to the very simple treatment which he was in the habit of adopting.

DR. H. LILIENTHAL suggested that it was well to make as many preparations as possible for an operation without the patient knowing that it was to take place, in this way doing away with much nervous strain. In fat patients he believed sewing the skin was the cause of a great deal of trouble. By using chromic gut or even silkworm gut through both fasciæ, preferably in two layers, granulation might be allowed to close the wound. He advocated giving an enema of whiskey and salt solution before resorting to intravenous saline infusion. It was usual for a chill to follow the intravenous injection of saline solution, although he did not know the cause of this. It was next to impossible to generalize regarding the after-treatment of cases of abdominal section, because of the great variety presented in this field.

Hint as to Control of Vomiting.—When chloroform anæsthesia had been used it was very useful to pour vinegar on the mask as soon as the patient began to come out of the chloroform. This would do much to control the vomiting. The washing out of the stomach was very grateful to the patient. He wished to state that he differed absolutely from Dr. Dudley regarding the Trendelenburg position. He could not conceive of this posture being the direct cause of death, and it was an exceedingly valuable surgical resource.

Long Preparation Influences Patient Unfavorably.—Dr. E. E. TULL, speaking of the effect of environment, said that he had observed at one time in a hospital where it had been the practice to keep the patients for a long time under observation before operating that these were not in so good condition as when the preparatory treatment had not been so

prolonged. He had done some very severe though successful operations in wretched tenement houses.

Stitch Abscesses.—While he was an interne in the Woman's Hospital it had been the rule to look at the dressings on the fourth or fifth day, and at that time stitch abscesses were not infrequent. Several of the surgeons sewed up all the layers, while others sewed up only certain layers, so that he had had an opportunity of comparing the two methods. He believed that the dressings should not be changed under ordinary circumstances for eight days, so as not to interfere with the healing process. At the end of this time the dressings should be carefully removed, but the sutures allowed to remain two or three days longer. He greatly preferred using one layer of sutures as being much less likely to cause strangulation of the tissues. As to the significance of the pulse rate, the speaker said that he had seen a pulse of 140 to 160 in a woman who before operation had had a normal pulse, yet in this instance the rapid pulse seemed to have been entirely the result of nervous excitement. Morphine in small doses he had found exceedingly useful in certain cases in which vomiting was very troublesome.

A Caution about the Trendelenburg Position.—He found the Trendelenburg posture an exceedingly valuable adjunct, although it was the part of prudence to make sure that all blood-vessels were secured after the patient had been returned to the horizontal position. He did not like the use of calomel, because it caused a great deal of nausea. The rectal tube would be found exceedingly useful in cases in which there was much accumulation of gas.

Hospitals Not a Necessity for Abdominal Surgery.—Dr. S. C. Gordon, of Portland, Me., said that he agreed fully with Dr. Wiggin when he said that the day of hospitals had gone by as a necessity in abdominal surgery, and he no longer believed that it was necessary to operate in an atmosphere of steam and carbolic acid, or tear up all the carpets and furnishings. He did not believe that patients should know long beforehand that they were to be operated upon. He did not like calomel to begin with, although it was useful afterward.

Give Strychnine and Water Freely before Operation.—He favored strongly the continuous administration of strychnine for days beforehand—one-thirtieth of a grain three times a day. If the time of preparation were short, he would give it every three hours. After the operation he also insisted upon the systematic use of strychnine. He had very little faith in the subcutaneous or intravenous injection of saline solutions. He did not like morphine, and was sure that it had been responsible for a great deal of intestinal paresis and for the masking of many important symptoms. He favored giving food for the last time at night, and operating the following morning. It was well not only to allow, but to insist upon, the patient drinking a great deal of water before and even up to the time of the operation. If these patients were thoroughly saturated with water, they would suffer afterward very much less from thirst.

An Ether Mask Preferred.—For the administration of ether he much preferred a piece of Turkish towelling (one thickness) stretched over a wire frame. He did not like any apparatus requiring the patient to breathe the same vapor again and again.

Sutures Often Removed too Early.—In suturing, he carried silkworm gut through all the tissues, the sutures being about one inch apart. If the abdominal walls were quite thick, he stitched the fascia only with catgut. He tied the silkworm-gut sutures moderately tight, and did not remove the dressings or disturb them for from one to two weeks. At the end of this time he removed every other suture and left the others another week, unless there was some special irritation. He believed that Warren, in his "Surgery," had demonstrated some years ago that it required at least three weeks to get good solid union. Dr. Gordon said he felt that in the past he had removed the sutures too early—certainly his later experience with the other method just described had given much better results. He did not restrict his patients to teaspoonful doses of water, but allowed them to take it freely, and if they vomited they had something in the stomach to vomit. In his experience hemorrhage after abdominal section had been uniformly fatal, and unless there was some reaction reopening the abdomen was, to say the least, very unsatisfactory. Stitch abscesses, he believed, were always due to infection, and not simply the result of drawing a suture too tight.

Rule about Cathartics.—His rule about cathartics was to withhold them for two or three days in ordinary cases, and from his own experience he was inclined to doubt very much the efficacy of intestinal peristalsis in preventing intestinal adhesions. If the temperature rose to 100.5° or 101° F., it was his habit to begin the use of cathartics. If there was much vomiting he used the tablet triturates of calomel for a few doses and then administered one teaspoonful of a saturated solution of sulphate of magnesium at intervals of one to three hours. This was the best saline, in his opinion. He very rarely used the Trendelenburg position, unless some complication arose.

No More Preparation for Laparotomy than for Perineorrhaphy.—Dr. W. M. Polk said, regarding the preparatory treatment, that, assuming that the patient was in proper condition for an operation, he favored making as little preparation as possible—in other words, he made no more preparation for a laparotomy than for a perineorrhaphy. Inquiry into the condition of the assimilative and excretory processes was probably the most important preliminary step. He made use of the Trendelenburg posture whenever possible, and of the saline solutions before the patient was in an extremely dangerous condition. It had not been his experience that patients were very much hurt by knowing beforehand that they were to be operated upon—indeed, it could not be avoided in hospital practice. He saw no reason why a person about to be subjected to laparotomy should not go to a theatre the night before, if so minded.

Etherization the Source of Much Mischief.—Dr. Polk said that most of the trouble experienced after these operations was, in his opinion, not due to the laparotomy, but to the etherization. He was satisfied that much of the intestinal paresis met with was due to this cause, and probably the result would not be materially different even with the new anæsthetic method of Schleich. If morphine were to be used, it should be used with the distinct understanding that it was an evil, though perhaps the lesser of two evils. Most of the patients felt better if purged not later than forty-eight to seventy-two hours after operation, or rather, after etherization. It seemed to him at least possible that intestinal peristalsis might prevent the formation of adhesions, and hence when many raw surfaces had been left he would be disposed to avail himself of the possible benefits of catharsis.

Give Solid Food Early.—Regarding the diet, he would say that he thought the sooner these patients were placed back on solid food the better; and even after the second day tea and coffee and things of that kind that appealed to the patient's palate should be allowed.

Estimate the Daily Quantity of Urea.—Dr. Egbert H. Grandin said that all seemed to be agreed regarding the broad principles underlying the after-treatment of these cases. In his opinion, the preparatory treatment had more to do with the state of the

kidneys than with that of the intestinal canal, although he would not underestimate the importance of having the great sewer of the body clean, empty, and healthy. The urine should be examined quantitatively, particularly as regards the quantity of urea excreted. He was not afraid of letting the patient know that an operation was to be performed. In the after-treatment we must distinguish between the simple and the complicated cases. In those cases in which the peritoneal cavity was unaffected and there were no adhesions, it was of but little importance whether or not the bowels were moved promptly; but when there had been many adhesions or pus had escaped into the peritoneal cavity, it seemed to him better that the bowels should be moved as soon as the nausea following the anæsthesia had disappeared. He favored the use of a saturated solution of Epsom salts, and it would be retained better by the stomach if given hot. It seemed to him a positive advantage to allow the patient nutritious food quite early, and solid food in ordinary cases after the bowels had been freely moved.

Uses Strychnine and Saline Enemata Freely.—For stimulation he gave as much as one-sixteenth grain of strychnine every two hours, and allowed hot saline solution to run in and out of the bowel continuously for two or three hours. It certainly stimulated the action of the kidneys, relieved thirst, and tended to diminish shock.

Opium Only when Clearly Indicated. — He had been brought up in the opium school, but had lived long enough to repent it. Then, following Tait and others, he had gone to the other extreme. At the present time, he was adopting what seemed to him a more rational course, namely, to use opium when the indications seemed plain. For example, in neurotic patients, suffering intensely, he did not believe that a hypodermic injection of morphine would do harm, but would, on the contrary, do much good. He used codeine by preference in as large doses as four grains by the rectum. One-half grain of codeine by the mouth seemed to him an exceedingly small dose.

The Patient Selects the Cathartic.—Dr. Robert A. Murray thought it was better to use calomel at the beginning of the week of preparation, for not only were there very few people who were not nauseated, but there were very few who were not exceedingly depressed by its use. He did not, however, lay much stress upon the cathartic used, and it was his habit to allow the patient to select his or her customary cathartic.

Cathartics and Intestinal Adhesions.—The good effect of cathartics in preventing intestinal adhesions might be explained by its favoring the absorption of exudation, and so allowing no soil for sepsis. It was almost always the rule, in cases of intestinal paresis, that sepsis was also present. He believed much of the nausea and vomiting after operations was due to overnarcosis, and that a too tightly drawn suture, by lowering the powers of resistance of the tissues, might cause necrosis and so allow of infection.

Uses Opium in Intestinal Surgery.—Dr. Frederick Kammerer thought that almost every case could be prepared for laparotomy in one or two days. In all his intestinal work he put the patient on opium for eight or ten days, and in these cases he had never seen a bad result from confining the bowels so long. Of a very large number of intraperitoneal abscesses with no adhesions he had never lost one, and he had adopted this same plan of treatment in almost all of them. His object was to avoid breaking the tender adhesions and disseminating septic material through the peritoneal cavity.

Turpentine Enemata for Intestinal Distention.—Dr. Parker Syms believed that the use of opium in surgery was very rarely indicated. It was chiefly of value as a stimulant after shock, particularly abdominal shock. In the majority of his clean laparotomies he had not found it necessary to give any cathartic; a low rectal enema was often all that was required. For dislodging gas from the intestine, he knew of nothing more valuable than the introduction of turpentine into the bowel.

Dr. Wiggin closed the discussion. He said he had never experienced any trouble in using calomel to empty the bowel, and had found also that it exerted a beneficial action on the kidneys. He had never observed any harm from the use of the Trendelenburg posture. The use of small quantities of ether in a closed inhaler certainly caused little excitement at the time, and very little digestive disturbance afterward.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 22, 1897.

Warren Coleman, M.D., Vice-President, in the Chair.

Malformation of the Heart.—Dr. Harlow Brooks presented a heart that had been removed post mortem from a married woman, thirty-nine years of age. She had been a heavy drinker, and gave a history of rheumatism, but not of syphilis. Her last illness began last August, with shortness of breath on going up and down stairs, and œdema of the lower extremities toward evening. At the time of entering the hospital there was general œdema, and she complained of palpitation of the heart. She died two days later, the temperature during her stay having ranged between 97° and 100° F. It was noted at the autopsy that the face was much congested and the ankles were œdematous. The pleural cavity contained one and one-half litres of very clear serous fluid. The pericardial sac was greatly dilated, and occupied the entire anterior and left mediastinal spaces. The heart was enormously enlarged and its chambers were contracted. The muscular walls were comparatively thin, and the muscle itself was soft and somewhat œdematous. The cavities contained a considerable quantity of post-mortem clot. The conus arteriosus was dilated and its walls showed diffuse areas of arterial sclerosis. The coronary arteries were the seat of extensive atheromatous disease. At the base of the conus a foramen was found, measuring one and one-half centimetres. It was bisected by a column of tissue, one millimetre in diameter. The edges were smooth and rounded, and it led into a sac which bulged into the right auricle. This sac was spherical, and both the external and internal walls were smooth and free from calcareous deposit. It measured three centimetres in diameter. The mitral segments were markedly retracted. There were similar lesions in the right side of the heart, which was decidedly dilated. The heart weighed twenty-eight ounces. The liver was congested and of the nutmeg type, and the kidneys were also congested. So far, no microscopical preparations had been made of the wall of the sac. He had not seen or heard of a similar specimen, but was inclined to look upon the condition as congenital. Possibly it was an aneurism.

Dr. Rowland G. Freeman said that the specimen did not admit of any very positive expression of opinion, yet it seemed to him to present the appearance of an aneurism, in spite of the fact that there was no evidence of disease of the surrounding wall.

Dr. Brooks said that the existence of the small band of tissue had led him to the conclusion that the formation was probably a congenital one.

The society then adjourned.

The Cyclist is often found to have cyclic albuminuria.

Progress of Medical Science.

Operative Treatment of Cancer of the Rectum.—Dr. Desforges-Mereil (*Journal des Praticiens*) describes an operative procedure which he considers eminently fitting for this affection. After having successively passed in review the coccygeal, sacral, parasacral, vaginal, abdominal, perineal, and abdominosacral ways, the author concludes that it is best to return to the perineal method of Lisfranc, modified by himself as well as by other modern surgeons. This method is the most convenient and the surest, as it permits the entire lesion to be laid open, and allows us to see its connections with other neighboring organs. From a clinical standpoint the author establishes, according to the anatomical divisions of the rectum, two classes of rectal cancers—the recto-pelvic cancer extending from the third sacral vertebra (superior limit of the rectum) to the levator ani, and the recto-perineal cancer, extending from the levator to the anal orifice. Every cancer situated above the third sacral vertebra the author considers as a tumor of the sigmoid flexure and not a cancer of the rectum. The true cancer of the rectum should be treated by the sacral method or by prerectal extirpation and suture of the two ends by a special method of the author which he calls the recto-pelvian. The recto-perineal cancer would justify the amputation of the rectum according to Lisfranc's method, and suture of the rectum in the levator ani (the process of the writer). In inoperable cases an iliac anus will be found expedient, made by special process of the author. These processes of extirpation have been tried on the cadaver and on the dog, and have given the author excellent functional results.

The Radical Cure of Hernia.—Dr. Lucas Championnière (*Lyon Médicale*, August 29, 1897) publishes the results that he has obtained in the treatment of hernia during sixteen years. He has operated upon 650 inguinal hernias, 501 of which were in males and 49 in females; 46 crural hernias, of which 13 were in males and 33 in females; umbilical hernias, 22, all in females; epigastric hernias, 14, all in males; hernias elsewhere, 12—in males 2, in females 10. The relapses have been 23 in number. Those completely cured could exercise freely without artificial support. The relapses occurred in hernias of the large intestine, in obese or aged patients, who had either emphysema or cough from other conditions. Sudden emaciations were a notable cause of relapse. The mortality from this operation is small. Dr. Championnière in one series of two hundred and sixty-five cases did not have a single death. Statistics of young subjects gave a mortality of only 0.2 per cent., or one death to every five hundred operated upon. The fundamental elements in regard to operation that the author emphasizes are destruction of all accessible omentum and of the peritoneum in the whole extent of the sac, and reconstruction of the wall, making it as thick as possible.

Serum Treatment of Leprosy.—Dr. Carasquilla (*Gazette Médicale de Liége*, October 7, 1897) announced to the Academy of Medicine that he had discovered a new method of treating leprosy by injection of an antileprous serum. He declared that this treatment ameliorated the state of the patient and sometimes even brought about a complete cure. Unfortunately for the victims of this disease the predictions of Dr. Carasquilla have not been realized, and the cures announced have been only apparent. The error was entirely excusable, for leprosy is an affection which advances by successive stages which are often followed by prolonged periods of improvement, sometimes so marked as to seem like cures. If the treatment is given during this stage, one might attribute the cessation of the acute symptoms to the remedy employed, but the same improvement would have been noted had there been no intervention. The antileprous serum of Dr. Carasquilla is prepared by injecting serum from the blood of a leprous subject into horses. It does not seem to possess any really beneficial action upon a subject of leprosy. This result has been shown when a patient submitted for a long time to its action, without any improvement except that which is ordinarily noted in the interval between acute attacks. This discovery has been announced prematurely, but there is no need to lose hope of finding an efficacious serum. However, it is requisite to seek it by other ways and means than those employed by Dr. Carasquilla.

Chronic Gastric Ulcer.—Dr. Nauwerk (*Gazette Médicale de Liége*, October 7, 1897) gives a description of the stomach of a woman, sixty years of age, who died from peritoneal perforation; there were present a number of ulcers, two of which had been the direct cause of death. Ulceration and gastritis had constituted a combined process; in this case one could speak of the condition as one of chronic ulcerous gastritis. The ulcer and erosion could not be separated, as there was between the two lesions only a difference in degree; both were phenomena of the same disease. Microscopical study enabled him to note that the mucous membrane of the stomach was affected by numerous necroses which had an approximate depth of one millimetre. As to the origin of these necroses, they could be attributed neither to anæmia, blood infarction, nor bacteria. They seemed rather to have been made by corrosive process, aided by chronic inflammation of the mucous membrane. It is fitting to note that the patient in question was a very stout woman who often eat voraciously of many indigestible dishes. She suffered with her stomach for a number of years and often had eructations. In 1894, hæmatemesis occurred and it was at that time that a diagnosis of ulcer of the stomach was made. The author thinks it ought to be remarked that the most of these cases diagnosticated as chronic catarrh of the stomach might be classed as chronic ulcerous gastritis.

The Pathological Physiology of Thromboses or Blood Coagulations.—Dr. Cornil (*Gazette des Hôpitaux*, August 28, 1897) gives the following *résumé* of his paper: 1. The organization of intravascular blood clot is made at the expense of cellular elements of the internal lining of the vessel, namely, the endothelial cells of the veins and arteries. The fibrous network of the blood clot serves as a support for the development for these elements. 2. The phenomena of organization are very rapid; they commence from the first day, by modifications in the endothelial cells. The capillaries appear about the third or fourth day and connective tissue about the ninth or tenth. 3. The extent and degree of traumatism that the vessels have sustained have a certain influence on the extent and rapidity of the organization. Infection of the blood clot, on the contrary, delays these phenomena. 4. The phenomena of organization are everywhere the same wherever the seat of blood coagulation may be, whether a vessel, the heart, the lungs, or cellular tissue. According to the location the agent of organization is vascular, cardiac, pulmonary, endothelial cell, or better the cell of connective tissue from which the others are derived.

A Study on Immunity.—Dr. Roger (*Gazette des Hôpitaux*, August 28, 1897), in a paper on the rôle

and importance of immunity and on the modifications of different humors noted in acquired immunity, gives the following conclusions: "After our study we can better understand the causes of immunity, and can penetrate into the mechanism put into operation by the human economy for the resistance of infections. It has been easy to demonstrate that physical conditions are not capable of explaining the phenomena that we have studied. The intervention of chemical and vital causes is essential. But the changes produced in the constitution of the humors and of the tissues are not primitive; they depend on the nutritive activity of the cells. The cells exercise their protective rôle in two ways: 1. By secreting soluble substances, some of which diminish the activity of the microbe; others increase the resistance of the organism against toxic substances. 2. By uniting, destroying, and digesting the elements formed. What is the part played by each of these modes of defence? If we admit an actual modification of the humors by animal vaccines, we naturally attribute the initial action to them. From the time that a microbe comes into the organism which has been rendered immune, it is immediately plunged into liquid endowed with a certain antiseptic power. Then the weakest microbes will be destroyed; those having more resistance will present signs of degeneration; some, however, will develop and increase. But it is the general biological law that the properties of cells are dependent upon the medium in which they are developed; consequently the bacilli acquire different characteristics. Now experiment shows that in the serum of vaccines the microbes are often deprived of their virulence, and research will probably establish the fact that the same thing occurs in the living organism; hence the bacteria become incapable of secreting substances which interfere with diapedesis. The cells can hasten over the invaded point, and, though attacked by parasites that are weakened by the humors, they can easily resist the invasion. Without the intervention of phagocytosis the microbes could develop as they do in serums outside the body, and the disease, instead of being retarded in the first stage and attenuated in its manifestations, would have fully developed; without the action of bactericidal humors the cells would have been incapable of eliminating the microbes. In a word, with vaccinated animals phagocytosis finishes the work commenced by the humors. The two processes are equally indispensable in order that the organism may triumph over the disease. Without doubt this theory, like all others, is destined to be greatly modified, but it seems to be supported by numerous and exact facts. The latter point to the final conclusion that if the means at the disposal of the organism for combating infection are numerous, they may all be referred to the same source; immunity is the property of the cell."

Epididymectomy either Partial or Total in Primary Tuberculosis of the Testicle.—Dr. T. Dimetresco (*La Médecine Moderne*, October 2, 1897) says that epididymectomy is an operation of recent date; it was in 1880 that Bardenhauer did the first systematic operation of this kind, and since that time, while instances have multiplied, but few as yet have been published. Before discussing the expediency of the operation, Dr. Dimetresco says that there is a primary tuberculosis of the testicle with integrity of the other organs. It can remain localized for a long time in the epididymis before reaching the body of the testicle and other portions of the genito-urinary apparatus. We should not wait until the body of the testicle, the vas deferens, and the prostate become involved before operating, for by operating in good time not only will the extension of the tuberculosis be hindered, but a cure may be effected which will last for some time or even be permanent. Epididymectomy is the only treatment that gives any guarantee of success. It should be partial if the vas deferens is healthy and if there is only a small nucleus limited to the extremity or to the head of the epididymis; it should be total when the tuberculous nodules are disseminated or are of considerable volume. One should make a resection of the epididymis also if a small portion of the testicle is involved; removing, layer by layer, all the diseased parts until healthy testicular tissue is found. Epididymectomy does not lead to atrophy of the testicle; this comes on only in instances in which the vessels of the cord have been compressed in the ligation of the vas deferens or wounded during operation. As long as the testicle continues to secrete, even if the patients remain sterile, they do not remain impotent. In five cases of partial epididymectomy seen again after four years, three years, one year, and three months respectively after operation, there were four completely cured, with the genital functions completely preserved and the general health excellent; the fifth still had a small mass adherent to the skin and the testicle. Of ten patients who had undergone epididymectomy, with or without resection of the vas deferens, for unilateral tuberculous epididymitis, nine have since been seen, two and seven years after operation; six were completely cured without testicular atrophy and their genital power was preserved; three others, after three years, two years, and one month, had relapse with fistulas. Two patients having double tuberculous epididymitis were operated upon and seen again, the one after four years, the other after a few months; the first was completely cured, the second had a relapse limited to one side. In the observations of Bardenhauer, reaching the number of eleven cases, with bilateral epididymitis, the results of resection have also been for the most part excellent.

Hemorrhage from the Normal Kidney.—Dr. G. Kemperer (*Deutsche med. Wochenschrift*, 1897, Nos. 9 and 10) says that it is shown by clinical observation and deduction that hemorrhages may occur from an otherwise normal kidney as a result of or under nervous influences (as in hæmoptysis or hæmatemesis); also that experimentally irritation of the nerves in rabbits has several times resulted in the production of hemorrhage from a healthy kidney. There are many records of cases in which on account of hemorrhage a kidney has been removed by the surgeon, and the organ found not to be diseased. The author explains these cases as being the result of a vaso-constrictor paralysis. Six cases that came under his own observation he classifies as follows: 1. Two cases, hemorrhages of but short duration resulting from overexertion (bicycle exercise); prognosis very good. 2. Two cases of prolonged hæmaturia in hæmophilic subjects; the diagnosis was based on the family history and the fact that the patient had previous to this had other hemorrhages. In such cases all operative interference, even cystoscopy, is contraindicated. 3. Two cases of prolonged angio-neurotic hæmaturia; thus diagnosticated because the bloody urine was a simple mixture of blood and urine, and did not show the presence of any other pathological elements, while palpation showed no enlargement of the kidney. Treatment consists of rest in bed, milk diet, suggestion, the application of hydrotherapy, and perhaps electricity.

Etiology of Progressive Paresis.—Krafft-Ebing (*Centralblatt für Nervenheilkunde und Psychiatrie*, October, 1897) states that this heretofore almost unknown disease has within the present century become a dread among mankind. The increase has been a steady one, representing in 1838 to 1840, 12.6 per cent., 1867

to 1871, 18 per cent., and at the present time 23 to 25 per cent. of all cases of insanity. It is much more common in men than in women, and now occurs at an earlier age than was formerly the rule. Formerly occurring between the thirty-sixth and forty-sixth years of life, it is now also observed in adolescence. It has also become more frequent among women: previously in the proportion of 8 to 1, at present it is 5 to 1. Syphilis stands foremost as the etiological factor in paretic dementia, and is very probably the sole cause of the disease (as in tabes). In favor of this view is the following experiment: Eight paretic subjects, all far advanced and hopeless cases, were inoculated in various places on the body with the secretion from a fresh chancre, and were then carefully observed for one hundred and eighty days. In none of them was there any syphilitic reaction. From this the author concludes that in all these patients there existed latent syphilis sufficient to render them immune to fresh infection. Moreover, a primary lesion (chancre) has never been observed in a paretic subject, although cohabitation is possible in the early stage of the disease. Further points in favor of the luetic origin are: 1. Nearly all the juvenile cases of dementia show other manifestations of congenital syphilis. 2. It is much more common in cities than in country districts. 3. It is quite common among officers of low station, and rare among higher officials. 4. It is rare among women of rank. 5. In localities where syphilis is rare, paresis is rare. 6. Dementia usually manifests itself in from five to fifteen years after infection with lues, and this is an explanation of the occurrence of cases in youth. Considering the great mental strain that this generation is subjected to in the "struggle for existence," it may be said that paretic dementia is a combined result of "civilization and syphilization."

Digital Compression of the Prostate.—Dr. A. Guépin (*Gazette des Hôpitaux*, August 28, 1897) concludes his article on this subject as follows: Digital compression of the prostate, properly performed at the exact time that it is indicated, and used in connection with other measures familiar to all, aids in allaying prostatic inflammation and relieving urinary troubles, and in lessening liability to infection. Compression is especially useful in senile hypertrophy when the walls of the glands are not too sclerotic, as then the cure of all morbid symptoms from which the patient suffers is still possible; it also shortens the time of treatment. In many glandular affections of the prostate and vesicles compression is one of the most efficient agents at our disposal for favoring a return of the glands to their normal state. The technique of the procedure is simple. After the necessary precautions in rectal examination of the prostate have been taken, the index finger should explore the organ, and, dilated glands which give the sensation of small cysts in the rectum being recognized, compression of these points is authorized when they have a certain softness and yield under pressure. If there is the least resistance or the slightest pain is experienced by the patient, the finger should be withdrawn. In this digital compression the greatest prudence should be exercised, for it may provoke, in inexperienced hands, an aggravation of the trouble. One séance is not ordinarily sufficient to reduce all the glandular dilatation, but the compression should be repeated at intervals during treatment. It should be discontinued when the prostate has diminished in volume, has acquired a uniform consistence, and when compression no longer provokes a discharge of any liquid.

Consanguinity.—Dr. Deneffe (*Journal d'Accouchements*, August 22, 1897) says that the bad results of consanguinous marriages have been observed since ancient times. In breeding animals the principles of consanguinity have enabled us to emphasize characteristics that would otherwise be lost: it has permitted the creation of certain races, but this consanguinity has no value unless it is governed by those competent to choose their subjects. Without this selection consanguinity in animals gives as bad results as in man. With animals as with men it emphasizes the defects and vices. The selection so easy with animals is impossible with man. In our civilization, in these times of alcoholism and neuroses, there are not many families without defects, and heredity also complicates consanguinity. Experience shows us that consanguinous subjects, who seem exempt from all defects, reproduce in their offspring the defects of distant ancestors. It is difficult to get a thorough knowledge of the individuals themselves, and impossible to know much of their ancestors. There are villages in which consanguinous marriages are frequent, and where the race is nevertheless fine and vigorous. Dr. Deneffe gives many absolutely contradictory facts. He refers to the Protestant communities living during the sixteenth century in the midst of Catholics, and forced by this circumstance to tolerate consanguinous marriages. These marriages gave worse results than crossed marriages. The author considers that consanguinous marriages are always dangerous.

Auclair's Tuberculin Experiments.—Dr. J. Auclair writes in *La Médecine Moderne*, October 2, 1897, that to prepare the tuberculin, Koch reduced the cultures of bouillon to one-tenth by boiling. He has attempted to find out the immunizing power of the nine-tenths which evaporated. These products of distillation of bouillon, in which have been cultivated the tubercle bacilli, are toxic to the healthy guinea-pig. The toxicity is more and more marked as one applies a greater degree of distillation to the bouillon. In tuberculous guinea-pigs these products hasten the evolution of the disease, and for the time being cause an elevation of temperature: the action approaches that of the tuberculin of Koch. In preventative injections it does not seem to produce any immunity. There are two kinds of bacillary forms obtained by placing ether with human tubercle bacilli and heating to 100° F., for five or ten minutes. One of these forms consists of light bacilli which float on the surface of the ether for a time. These rarely killed guinea-pigs even when large doses were administered, but produced a marked local reaction, characterized especially by the formation of an abscess, then an ulcer. These lesions never became generalized. The other class, on the contrary, consists of a heavy form of bacilli which fall to the bottom of the ether and, when injected in large doses, cause death in the animals without the formation of local lesions, but with a general dissemination of the bacilli in the organs. Experiments made with ethereal extract of human tubercle bacilli tend to prove the slight toxicity of this product: it did not cause death until a long time after inoculation and the lesions noted at the autopsy were limited to congestion of the lungs. At the point of inoculation a tumefaction is produced, which is hard at first and suppurates later. In tuberculous guinea-pigs the ethereal extract does not appear to have any effect on the evolution of the disease, and preventive injections do not produce any immunity against human tuberculosis. From these and analogous experiments made with chloroform extract, ethero-chloroform extract, ammoniacal extract, and alcoholo-camphorated extract, Dr. Auclair concludes that the substances derived from the bacillus of Koch do not possess any immediate toxicity for healthy animals. The slow action of these products, compared with that of those which are toxic, is in harmony with

clinical facts, which make tuberculosis essentially a slow disease. When it kills rapidly it is rather by spreading or by the location of the lesions than by the toxicity of the products elaborated by the bacilli. When the toxicity does not manifest itself in an immediate manner, the bacilli do not necessarily make less poisonous substances, but, acting at a distance from the point of inoculation, the evolution of the disease is slow; others are active at the same point where they are deposited, and produce abscesses and centres of necrosis. In these results clinical and experimental work are in accord. The fever and decline of phthisis are engendered by the rapid increase of the bacilli of Koch and the diffusion of the poisons that they secrete. It is, moreover, difficult to deny the importance of secondary infections. With the tuberculous, two causes concur to aggravate the disease—intoxication and the infection which is constantly going on. With each movement a new quantity of toxin is added to that already secreted and is scattered through the organism, and thus the source of poison is indefinitely extended by the rapid increase of the bacilli. Clinical observation as well as research seems to indicate that tuberculosis is a disease which vaccinates. Dr. Auclair has little faith in vaccination against tuberculosis by the products drawn from the bacillus of Koch. In his experience these products have shown a toxicity against which it is necessary to be on one's guard; if it is slow in its action, it is also slow in its elimination and consequently reaches points distant from the lesion. Our knowledge of the necrosing action of the dead bacilli and their resistance to causes of destruction indicate that in an individual affected with tuberculosis it does not suffice, in order to effect a cure, to prevent the increase of the bacilli and to kill those inclosed in the organs; but it is necessary also to ward off accidents that the dead bacilli effect, as they are charged with products capable of starting up suppuration and necrosis. In order to bring about a sure and lasting cure of tuberculosis, it is necessary, according to Auclair, first, to conquer infection; second, to cause an immunity which will last long enough to admit of the bacilli being destroyed or ejected; and lastly, to prevent the evil effects that follow in the train of the poisons secreted by the bacilli.

Albuminuria in Dyspeptics.—Dr. Robin (*Journal d'Accouchements*, August 22, 1897) says that to-day every one admits the existence of functional albuminuria; that is to say, albuminuria existing without accompanying lesions. With functional albuminuria it is necessary to include albuminurias of hepatic origin, of nervous origin, of alimentary and dyspeptic origin; it is of the latter variety that Dr. Robin writes. Albuminuria which manifests itself in the course of dyspepsia presents peculiar characteristics which permit its diagnosis not only from Bright's disease but also from other functional albuminurias. The patients in whom this variety of albuminuria is encountered are affected with gastric hyperæsthesia, variable distention of the stomach, increase in the volume of the liver, constipation, and fæcal accumulation in the bowel. They complain of a sensation of weakness and fatigue; they are thin and have vertigo, but never present œdema. If we examine their urine we find sometimes an irregular albuminuria and sometimes a continuous and permanent albuminuria. This undergoes considerable variation according to the diet of the patient. The albumin is composed of serum without globulin. As to the urine, it never contains tubular casts, but a certain quantity of indican and crystals of oxalate of calcium are found. The state of nutrition and the organic and respiratory changes will furnish other signs which will aid in differentiating dyspeptic albuminuria from other varieties. In those affected with this form of albuminuria one finds an increase of the coefficient of oxidation of nitrogen and an exaggeration of organic demineralization and a diminution of pulmonary interchange. Dyspeptic albuminuria has been attributed by most authors to a reabsorption of toxins evolved in the digestive tract. The author does not agree with this idea, but, on the contrary, thinks that this affection is engendered by the passage into the urine of nutrient albumin which has not undergone modifications in the stomach which fit it for assimilation, and thus it acts in a manner as a foreign substance. Alimentary albuminuria can be cured when it is properly treated in the beginning; that is, when it exists only in an intermittent form. When it becomes continuous it is cured only in from thirty to thirty-five per cent. of instances. The treatment is extremely simple and ought to be based, during the first stage at least, on the state of the digestive tract. Diet forms the prime element of treatment and varies with each case; if there is less albumin with animal diet than with vegetable, animal diet should be prescribed, and *vice versa*. The diet should be mixed if it is found that there is less albumin under such conditions. It is almost useless to call attention to the fact that it is nearly always necessary to have recourse to a milk diet. This should be suspended if the patient begins to grow thin.

Prevention of Vomiting after Anæsthesia.—Capt. E. B. Frick, assistant surgeon, Presidio, San Francisco, Cal., claims that the inhalation of the acetum aromaticum, N. F., is a reliable preventive of vomiting after anæsthesia. His opinion is founded on personal observation. He states that in many of the cases he was present as operator or assistant, while in the others the facts were gathered from the records of a private hospital in San Francisco. The aromatic vinegar was administered by inhalation from a saturated handkerchief as soon as the anæsthetic was discontinued, and was kept up for an hour or longer if called for by the occurrence or persistence of nausea or more active gastric disturbance.

Formaldehyde Generator.—Surgeon Walter Reed, curator of the Army Medical Museum, made some experiments recently with a Hollister's formaldehyde generator. The results of these experiments showed that while occasionally an unprotected cover slip spread with streptococcus pyogenes aureus and bacillus diphtheriæ may be destroyed after twenty-three and one-half hours' exposure, the amount of formaldehyde gas furnished by this generator is, as a rule, quite insufficient for the disinfection of either infected clothing or surfaces even when unprotected.

The Diagnostic Value of the Widal Reaction in Typhoid.—S. Gerlóczy (*Pester medicinisch-chirurgische Presse*, 1897, No. 23), from an examination of the blood serum of eighty-six persons, thirty-seven of whom were undoubtedly affected with typhoid, the others being cases of pneumonia, scarlet fever, measles, diphtheria, variola, varicella, and pertussis, arrives at the following conclusions: 1. The reaction is always present in a clinically outspoken case of typhoid; on the other hand, the presence of the reaction is not a positive indication that typhoid exists, since it may occur in other diseases. 2. During the progress of the disease or in recent cases along with agglutination there is a complete and permanent cessation of motility, while in cases that have long since run their course the cessation of motility accompanying agglutination is only apparently complete, since in these cases the bacilli very often regain their activity after a few hours. 3. In other diseases the blood serum does not behave in the same manner; but in those cases in

which agglutination does occur the bacilli recover their motility after a few hours. 4. The specimen should therefore be examined again after twenty-four or twenty-eight hours to determine whether the bacilli are again active. 5. Absence of agglutination excludes the diagnosis of typhoid. Complete and permanent agglutination does not with certainty signify typhoid, for this reaction may take place in cases that have already run their course.

The Action of Quinine Sulphate in Strengthening Labor Pains.—While quinine sulphate has little or no power for inducing labor pains, Schwab (*La Méd. Mod.*, 1897, No. 3) is positive that after uterine contractions have once begun the administration of quinine causes them to become rapid and energetic. He obtained excellent results from its use in all cases of prolonged labor due to uterine inertia. While quinine strengthens the labor pains, it does not tend to induce abortion. Unlike ergot, it causes intermittent and not tetanic contractions, and may therefore be prescribed without danger during the second stage of labor. Its action begins in about one-half hour; the drug is therefore best given in two doses of eight grains each, within a period of ten minutes. Quinine is indicated if, after rupture of the membranes, labor is unnecessarily prolonged on account of uterine inertia, the mother is exhausted, and there is danger of the child becoming asphyxiated. While quinine has a tendency to produce post-partum hemorrhage, this is easily controlled by massage of the uterus.

Chlorosis.—Dr. Molle (*La Loire Méd.*, November 15, 1897) calls attention to a chlorosis similar to that seen in young girls, which affects boys at about the time of puberty. The symptomatology includes general weakness, nervous disturbances, interference with digestion, palpitation, etc. A constant objective sign is the presence of a venous souffle exclusively limited to the femorals. These femoral souffles accompany or supplant those in the jugulars pointed out by other authors. In twenty young girls affected with chlorosis, examined during the past three years, the author has never been able to discover the presence of this femoral souffle. The discovery of this sign should make the diagnosis positive. Medical treatment and general hygienic care are called for during this critical period through which the subjects are passing.

Locomotor Ataxia.—The *Gazette Médicale de Liege*, August 26, 1897, gives a *résumé* of Dr. Grasset's interesting paper on this subject, read at Moscow. He considers first the nature of tabes dorsalis. As there is no specific treatment, therapeutical indications can be drawn only from a knowledge of the nosological nature of this disease. Tabes is well defined on the one hand by the symptoms of its evolution (the clinical history); on the other by its lesions (anatomical history). This anatomo-clinical syndrome forms part of a more general disease—multiple disseminated sclerosis. For, first, in tabes taken alone there are often sparse scattered sclerotic lesions; second, with tabes there are other nervous anatomo-clinical syndromes which correspond to other scattered centres of sclerosis of the nervous system; third, with tabes we as frequently find, associated in the same subject, various scleroses of other organs besides the nervous system. The etiology of tabes is as complex as that of multiple disseminated sclerosis. Syphilis is the most frequent cause, but this is not the only etiological element even in cases in which it is found. Arthritis, different intoxications, the neuropathic disposition, either hereditary or acquired, as well as other causes, play their part. There are numerous other etiological elements which co-operate either to produce the disease or to determine its localization on the sensitive medulla. As to its curability, tabes is curable. Facts prove clearly that it may be clinically cured even though the lesion remains. Again, tabes may also present remissions and partial retrogressions of sufficient duration to be highly desirable for the patient. Even in less favorable cases we may obtain periods of relief. Locomotor ataxia is not implacably progressive. In spite of the pathological anatomy and the discouraging results in definite sclerosis of the medulla, there is room for study of the treatment of tabes and a discussion of our resources. We can class under three heads the therapeutical effects to be sought in tabes. We may seek, first, to cure or to ameliorate the anatomical state of the medulla: second, to re-establish the functions of the diseased medulla; third, to allay the painful symptoms. The means proposed to fulfil these indications are classed in three groups: first, those means directed to the etiological factors (agents modifying the causes of tabes); second, means directed toward the anatomical factors (agents modifying the lesions of tabes); third, means directed to symptomatic factors (agents modifying the symptoms of tabes). In the etiological treatment of tabes it is necessary to discuss the antisyphilitic treatment, the anti-arthritic treatment, and various other etiological treatments. First, antisyphilitic treatment is not harmful in tabes. Often it is beneficial, and in exceptional cases it cures. One ought to find out whether previous syphilis is certain, probable, or only possible in the patient. The first treatment should be mixed, and should last about three months; later, if found necessary to return to this same treatment, it is advisable to regulate the treatment according to the effects produced upon the patient when under previous treatment. The employment of chlorinated and sulphuretted waters is also indicated. Second, the anti-arthritic treatment embraces the alkalies, iodides in weak doses, arsenic, and a particular diet and hygiene, together with certain mineral waters. Third, the indications drawn from other etiological factors are incorporated in the etiological treatment of the neuropathic state in general. The therapeutical agents directed to the lesions of tabes find their indications in the sclerotic nature of the lesions or in their medullary localization. First, for sclerosis we employ preparations of the iodides, especially tincture of iodine; the salts of silver, if there is an intolerance for the iodides; rye ergot in the acute or subacute stages; and antisclerotic diet, which is very important. Second, the means of local revulsion directed more especially to the medulla (in the acute and subacute stages) are certain electro-therapeutical measures, elongation of the nerves, but little used at present, and different methods of elongating the medulla. Among these latter means, suspension should be retained as a useful measure in essentially chronic phases of the disease. It is directed to an actual sclerosis after the first stages, or to a cicatrix rather than to the disease in its active and progressive stages. The symptomatic treatment may be arranged in five groups: First, for the shooting pains and visceral neuralgia, all sedatives are indicated—opium, antipyrin, etc. (Avoid injections of morphine as far as possible.) For the gastric crises, employ oxalate of cerium. The study of the chemistry of the stomach will furnish other useful indications. To this group belong a number of external means—revulsive, chloroform, cold water, electricity, sedatives, mineral waters. Second, for the deficient muscular power one may use Sequardian medication and nerve transfusion, which could be better replaced to-day by injections of artificial serum and glycero-phosphates. To this group belong internal tonics, general and special; also massage, hydrotherapy, electricity, and mineral waters. Third, for the ataxia re-education of the muscles, according to the method of Fraenkel, is a recent and useful proc-

ess; this is the re-education of the brain or the development by cerebral action of a medullary compensation compatible with the persistence of the lesion. This method should be employed aside from the time of acute or subacute attacks, when the sight, the intellectual functions, and the muscular power are sufficiently preserved. Fourth, without speaking of the simulated hysteria of tabes, one ought to mention that neurotic phenomena occupy in the symptomatology of tabes a more important place than is generally given them. The first and principal means of combating these symptoms are suggestion. To the same group belong certain electrical applications, hydrotherapy, and certain mineral waters. Fifth, vesico-rectal, ocular, trophic, circulatory affections, and bulbar crises have their special indications in individual cases.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE PRINCE'S FUND—DR. MURPHY'S REPORT—SIR E. FRANKLAND'S REPORT—THE TYPHOID EPIDEMICS—CLIFTON AND MILK—THE MEDICO-CHIRURGICAL DEBATE—DANGER OF IMPORTED MILK—NEWPORT HOSPITAL DIFFICULTY—RECENT HONORS—RECENT DEATHS.

London, December 31, 1897.

The distribution of the Prince of Wales' fund has begun. University College Hospital has been awarded £2,581 5*s.*, of which £1,181 5*s.* is a special donation in honor of the Queen's diamond jubilee, and the other £1,000 is a subscription. This award will relieve for the moment the pressing straits of this hospital, which, as I lately informed you, was closing fifty beds and running a risk of disqualifying the school. A pressing appeal for funds to avert this is being made to the public.

Other hospitals are receiving awards on a similar basis. It is desired by the council to assist in reopening closed wards and making all beds available for the suffering poor. The great hospitals will thus receive most of the money, though some crumbs may fall to the small special hospitals.

Dr. Shirley Murphy, the medical officer of health for the county of London, in his new report to the council, gives a voluminous statement on the sanitary condition of the metropolis.

Curiously, both the birth rate and marriages have been for a long time slightly declining, which, considering the enormous population and the tendency to overcrowding in certain areas, is, *pace* some political economists, not altogether unsatisfactory. More certainly, however, the fall in the death rate is a cause for congratulation to all parties. There was an improvement in this noticeable as long ago as 1871, since which on only two occasions—1875 and 1878—has the rate equalled the average of the last half-century. There has been a striking and continuous fall in the rate of small-pox, typhoid, and whooping-cough. There were more fatal cases of whooping-cough last year, but that is the only exception to the continuous fall for the last twelve years. Dr. Murphy finds the fatality of diphtheria and scarlet fever has been greatest at the beginning and end of the year, and least in September and October. Insufficiency of hospital accommodation is reported from eleven districts. It is reported that all the infants who died in Fulham from diarrhœa were hand fed. Dr. Murphy condemns a number of tenements which have been converted to such use from old-fashioned houses. The conditions of life in them, he says, are bad and the rents high. He would like to see a new street made east of Regent Street, which could go far to displace speculators in unwholesome tenements.

Sir Edward Frankland's report to the County Council states that for some unexplained reason nearly all the water companies were last summer suddenly unable to perform their work of bacterial purification. Of the five companies which draw from the Thames, four were smitten with a microbial epidemic in June, and the other was affected early in July. Of the two companies drawing from the Lee one escaped, but every one of the filter beds belonging to the others yielded an enormous excess of microbes. No explanation of this remarkable invasion can be given. Its general occurrence seems to point to some condition affecting the rivers, as accident or carelessness would not be likely simultaneously to affect all the supplies except one.

Maidstone is not even yet out of the wood, a new case or two occurring on most days, and the total has now reached 1,897, while 158 remain under treatment. The question of remuneration for the doctors is looming up, and it is to be hoped the authorities will not forget the devotion that has been displayed. The government inquiry is expected to begin about the 20th of January.

At Clifton the outbreak of typhoid was quickly traced to infected milk, and so suppressed. Dr. Davies, the medical officer of health, made a statement of the case at the adjourned meeting of the Medico-Chirurgical Society, which was regarded as most satisfactory and complete. Mr. Tivy, a local practitioner, attended and took exception to the conclusion, and thought the drains were to blame. No one attached much importance to his remarks, but he has since written to the journals in support of his opinion. I hear that all the local practitioners except Mr. Tivy are convinced that the conclusions of Dr. Davies are irresistible. He traced 93.7 per cent. of the cases directly to one source of milk supply, and he says, in reply to Mr. Tivy, that "it seems inconceivable to any rational mind that sewer gas forced indiscriminately into some eight thousand houses, containing over forty-seven thousand people, should attack with remarkable precision only those who obtained directly or indirectly a particular milk, and should select so persistently those who consumed it raw."

In conjunction with the danger from milk, some of the newspapers have lately been agitating the unfairness of permitting foreign milk to be imported. For two years or more foreigners have been sending us milk, and the trade is increasing. Now we insist on our own dairies being brought under the control of the sanitary service, and the proprietors have to incur large expenses in consequence. But we have and can have no such control in other countries, and a recent consular report shows that, even where precautions are taken in other countries for their own consumers, there is no supervision of exported milk. I leave the question of the fairness of this free trade to others, but it certainly seems illogical to take such costly care as to our own products and none at all as to what other countries send us.

The Newport infirmary difficulty is not yet at an end. The board has intimated to the ophthalmic surgeon to whom it gave notice of dismissal that it will enter into consultation with him as to the future when he has made a public apology for his refusal to see the patients he considered improper subjects for charity. Mr. Ensor will not apologize, as he feels he has done only his duty. It seems to be taken for granted that he technically broke the rules, but perhaps a judge would hold that these rules are binding on the directors as much as on the officers, and as they had not inquired into the cases reported they were not acting on their own rules. Not that I would recommend a lawsuit. It would be better for the whole staff to ap-

peal to the subscribers to hold a meeting and discuss the merits of the questions involved. The most important of these for the good of the hospital is whether the committee should have the power arbitrarily to dismiss the honorary staff.

In future the examinations for the army medical staff and the Indian service are to be identical and held simultaneously. Candidates may enter their names for both services, and, if successful, choose according to their places on the list, subject to being qualified under the regulations special to each service. The director-general of the army medical department, Surgeon-Major-General Jameson, has been appointed honorary surgeon to the Queen, in the vacancy occasioned by the death of Sir William Mackinnon.

A companionship of the Bath has been conferred on Surgeon-Lieutenant-Colonel and Commandant Norton. You may not recognize the gentleman under the cloak of his cumbersome military title, which is an apt illustration of the "compound titles" now given to doctors by the "military advisers." Mr. Norton is no other than the surgeon of St. Mary's Hospital, in which undress you will know him. He has taken the greatest interest in the volunteer movement from the beginning, and his oppressively compound titles are derived from his steady work in that department of the national forces.

A number of jubilee medals have been given to several sorts and conditions of men, among whom medical officers in the services have come in for a small share. These honors have not been conferred in a batch, but ever since the medals were ready have been distributed one or two at a time, so that in most weeks there has been an announcement of one or more. The last recipient is Sir Joseph Fayrer, Bart., M.D., F.R.S.

Dr. William Wadham died on Tuesday. He was for many years dean of St. George's Hospital, and exercised an excellent influence over the students, sympathizing thoroughly with their play as well as their work. He was himself fond of athletics, a good oarsman and horseman, as well as a sure shot. He was born in 1823, took M.D., St. Andrew, 1847, was elected on the staff of the hospital in 1862, and remained until 1887, when he became consulting physician and gradually withdrew from practice, though he retained his interest in his profession and hospital, where he delivered an interesting address last year. Dr. Wadham belonged to the past generation of physicians, and relied a good deal on the clinical instinct, which he possessed in an unusual degree. He did not write much, but he polished his lectures, of which the style was very attractive, and his clinical instructions were much valued by careful and hard-working students.

Joseph John Fox, M.R.C.S., etc., died on the 15th inst. He was born in 1821, and belonged to the Society of Friends. His family was connected with the late Mr. Forster and with Tragellas, the biblical scholar. His own hobby was mathematics, with which he relieved the cares of practice and solaced himself in the retirement forced upon him by Ménière's disease many years ago. Three of his sons are in practice.

Dr. G. H. Evans, one of the oldest practitioners in Lancashire, died on the 11th inst. He was born in 1833, and qualified in 1858. He was ill about three weeks, and received a public testimonial only a few days before his death.

Deputy Surgeon-General Houstan died on Christmas Day, aged sixty-five. He retired in 1886.

Surgeon-Lieutenant-Colonel Wilson was found dead on a couch, after a fire which occurred in his house on the 13th inst. Death was evidently due to suffocation from the smoke. He retired in 1894.

OUR BERLIN LETTER.

(From our Special Correspondent.)

PHYSICIANS AND THE SCHOOLS—PHYSICIANS AND THE LAWS—ROENTGEN PHOTOGRAPHS—NO MORE HEADACHES—A NEW SUSPENSORY SUBSTITUTE—MOVEMENT THERAPY FOR ATAXIA AND OTHER NERVOUS DISEASES.

Berlin, December 24, 1897.

The instruction at one of the local academies had recently to be suspended for several weeks, because about three-fourths of the scholars were taken ill with measles contracted at the institution. No one at the commencement of the epidemic saw to it that the gymnasium was closed; the well was covered, as the Germans say, after the child had fallen into it. This event emphasized the necessity for school physicians. Many prominent laymen and physicians of Berlin have taken up the matter and several meetings have been held. It is demanded that each school have assigned to it a school physician, to have charge of the general hygiene of the building and be watchful over the health of the scholars; to see to the proper heating, ventilation, cleanliness, and, if necessary, disinfection of the building; to order the closing of the school when the heat becomes excessive, and in times of epidemics; furthermore to examine new scholars — in short, the school physician should protect the scholars against the dangers of the school life. The authorities appear very favorably inclined to this proposition, and it is believed that the reform will be instituted.

There is a movement on foot in Berlin to provide free courses to physicians, in which they shall be instructed in all the laws bearing upon the profession and its practice. As it is now, there exists a sad ignorance on these matters among the younger men fresh from the university. According to the plan proposed a physician shall receive clear explanations of the laws concerning accidents, insurance, judiciary functions, etc., and it is hoped thus to protect him from the injury and annoyance to which he is so often exposed.

Dr. Berend announced at a recent medical meeting that the falling out of the hair, observed so often after employment of the *x*-rays, is only temporary, and that therefore the rays are of no value for the removal of hair growing in abnormal places. Drs. Levy-Dorn and Lassar reported cases of severe dermatitis following transillumination. According to Levy-Dorn this annoyance can be avoided by having the source of light quite distant from the body. A Roentgen photograph of a syphilitic gumma of the humerus of a child was shown by Dr. Heller; between the periosteum and bone was a dark spot representing the solution of the calcium salts. Dr. Treital located by means of the *x*-rays the position of a set of false teeth swallowed, and then extracted them with a pair of curved forceps. He claimed that either sounding or œsophagoscopy would have been a very dangerous procedure.

At the Berliner medicinische Gesellschaft an apparatus for the treatment of migraine was demonstrated by Dr. Ewer. With it a constant percussion of a measurable degree of force may be applied to the painful area. This idea of alleviating pain through vibrations is an old one: Hippocrates speaks of it, and the Romans had apparatuses constructed for this purpose. Ewer's apparatus, which bears the name of "the tremulor," has a wheel inclined forward and moving on a rotatory axis. Attached to this wheel is a rubber knob, which, when the wheel is in motion, comes in contact with the painful spot.

Gerson's improvement on the suspensory is well worth mention. It consists simply of an elastic bandage hemmed with a soft border, and covered with a

non-irritating zinc and gutta-percha plaster. The annoyance of the thigh and pelvic straps is entirely avoided. The scrotum is to be shaved and then the testicle may be held by the elastic bandage as high as may be desired. Gerson employed the bandage with good results in about one hundred cases.

Dr. Frank at the Verein für innere Medicin showed two patients whom he relieved from trigeminal neuralgia by means of a new method. Both suffered most excruciating pains, and the usual internal remedies, as arsenic, etc., as well as excision of the supra-orbital and infra-orbital nerves had no effect whatsoever. But the pains vanished permanently after one or two injections of a one to one and a half per cent. solution of hyperosmic acid into the painful areas. Frank therefore counsels the trial of this drug before turning the patient over to the surgeon.

At the same society, Professor Goldscheider read a paper on "Mechanico-Therapy in Diseases of the Nervous System." The method embraces the idea of training the visual sense—the patients being for the most part tabetics—so as to have it take the place of the tactile. Beginning with simple movements, they are gradually taught to make more complicated ones; just as a child is taught first to stand, then to walk and to run. This naturally calls for a good deal of patience and perseverance on the part of the patient, but the physician must aid, and can aid considerably, both by encouragement and by proper massage, electricity, and bandaging of the atonic muscles and joints. Besides tabes this method acts well in chorea, intention tremors, athetosis, writer's cramp, hysterical tremor, muscular rigidity of multiple sclerosis. The speaker mentioned particularly exercise in the bath, which yields such good results in polyneuritis, the support given by the water aiding the motion of the limbs markedly. The results obtained in tabes by means of this movement therapy have thus far been very good.

THE JUDGING OF COMPARATIVE RESULTS IN THE SURGICAL ARENA—"MURDEROUS MORTALITY" VERSUS "FANCY STATISTICS."

To the Editor of the Medical Record.

Sir: In the Medical Record of November 28, 1896, Dr. T. Gaillard Thomas deduced a superior operative effectiveness for the operators at the Woman's Hospital, New York, from the following surgical statistics:

Abdominal Sections in 1894 at	Number of Cases.	Recovered.	Died.	Percentage of Deaths.
Roosevelt Hospital	66	50	16	24.24
New York Hospital	67	52	15	22.37
New York Cancer Hospital	104	86	18	17.30
Mount Sinai Hospital	55	46	9	16.36
Woman's Hospital	153	130	23	15.03

In the Medical Record of January 8, 1898, Mr. Lawson Tait uses the same statistical line of reasoning to deduce that the work of the operators at the Birmingham and Midland Hospital is from three to five times as effective as the best American showing. His figures are:

	Cases.	Percentage of Deaths.
In the "bad year" of 1893	176	5.2
In the "good years" of 1885, 1886, 1887, 1888, 1891, 1892	797	3.5

Mr. Tait does not deduce that this superior effectiveness is because the English operators have from three to five times more individual art than American operators; but because he "discovered early in his career the fallacy of this so-called antiseptic craze."

In other words, he proves by statistics that antisepsis kills the American patients. And this shows the facility with which statistics will prove any side of any question.

Mr. Tait says: "That a removable mortality of more than three times that amount [viz., British mortality of 5.5 per cent.] should be allowed to remain as the minimum to be reached in America, cannot be admitted for a moment."

The present writer, in the *New York Medical Journal* of December 12, 1896, academically and impersonally made the following statement upon the subject of surgical statistics:

"As low mortalities cannot be had from desperate cases, we must seek another standard than statistics to test a surgeon's worth, namely, the character of his cases. The conservative man who operates only on grave cases will have a shorter list and a larger mortality than another who operates on everything coming into his hands. Low mortalities mean many easy cases to help average up—cases that the conservative man would not operate on at all."

It is again maintained, in answer to Mr. Tait, that we can judge the character of a man's cases from his statistics. It is therefore entirely logical to say that the more "murderous" a man's statistics are, the more conscientious and conservative he must be considered, assuming proper training and surroundings. For such a man shirks no desperate case to help his statistics; he never operates unnecessarily to lengthen his list and diminish his percentage of mortality.

Consequently the true deduction from this trans-Atlantic comparison is, not that British operators have greater individual art, not that antisepsis kills so many American patients—but that American operators confine their work to graver cases than the gentlemen whose statistics are more alluring.

That this is more than a logical deduction—that it is a true fact statement—is well known to those who have had opportunity to study the question on both sides of the Atlantic.

Eugene Coleman Savidge, M.D.
66 West Fiftieth Street, New York.

FAMILY IMMUNITY TO WHOOPING-COUGH.

To the Editor of the Medical Record.

Sir: Just now the children of our town are afflicted with almost an epidemic of pertussis. In talking with an old lady the other evening, she made what I consider a remarkable statement. Mrs. P—— is a native of Wales; all her brothers and sisters were born in that country. Her children were born in this country. She says her parents had eleven children, all born alive; some died at different ages during childhood, and seven of them grew to be men and women. Not one of them ever had whooping-cough. Mrs. P—— herself has had twelve children. Seven of these grew to adult age and are living to-day: the others were all born alive and died during childhood. Not one of her children ever had whooping-cough. Several of Mrs. P——'s family have married, and she has numerous grandchildren. She can recall very few cases of pertussis among them, but there have been some cases among the grandchildren.

In view of the usual opinion that everybody must have pertussis, I should be glad to learn whether any other such family is on record—particularly as my informant is a worthy and intelligent woman, a keen observer in sickness, and her statement can be implicitly relied upon.

David Taggart, M.D.
Frackville, Pa.

New Instruments.

MARSHALL'S APPARATUS FOR DISLOCATION OF THE ACROMIAL END OF THE CLAVICLE.

By THOMAS R. MARSHALL, M.D.,

PROFESSOR OF ORAL SURGERY, SPECIAL ANATOMY OF THE HEAD, ET., AND ASSOCIATE PROFESSOR OF GENERAL AND REGIONAL ANATOMY AT THE MEDICAL COLLEGE OF VIRGINIA, RICHMOND, VA.

This apparatus which I have devised, and which is illustrated by the accompanying cuts, suggested itself to the writer while himself undergoing the usual bunglesome and uncomfortable method of treatment for this injury. It has given such entire satisfaction to all who have used it, and the writer has experienced such excellent results from its use, that it is offered to the profession at large, with the hope that it may prove worthy of a trial.

The principle of the apparatus is to apply local and firm pressure over the acromial end of the clavicle, absolutely fixing it, and at the same time supporting its middle third, the scapular spine, and the upper end of the humerus. This it will be found to do if properly adjusted.

The apparatus can be made at home or by a saddler. It is composed of a pad, three-fourths of an inch in thickness, covering well the upper aspect of the shoulder, and extending above from the lateral root of the neck down over the shoulder on to the arm, about four inches below the axillary space; here it is held to the arm by an adjustable strap sewed to its lower border. The upper end is held in position by an adjustable strap, passing around the chest, underneath the opposite axilla, and protected in this region, to prevent irritation, by a round pad of cotton batting inclosed in cloth, through which the strap passes. Local pressure over the acromial end of the clavicle is made by an adjustable strap, two inches wide, which passes around the shoulder, over the acromial end, and underneath the axilla. Here again

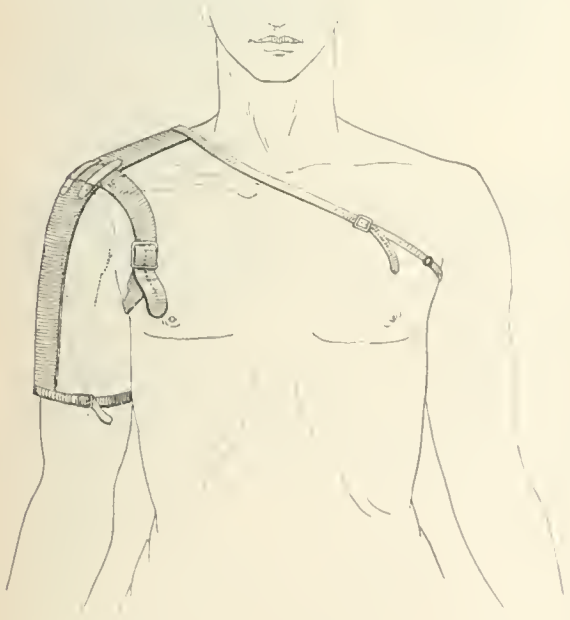

Fig. 1.

this space is protected from irritation by a round pad similar to the other. The strap is held over the acromial end, so that the pressure will be localized, by two transverse strips sewed on either side of the shoulder pad, which also prevents the pad from becoming displaced at its borders.

A very satisfactory apparatus can be made of Canton flannel and cotton batting.

If necessary, immediately after the injury the arm may be held securely to the side by two adjustable

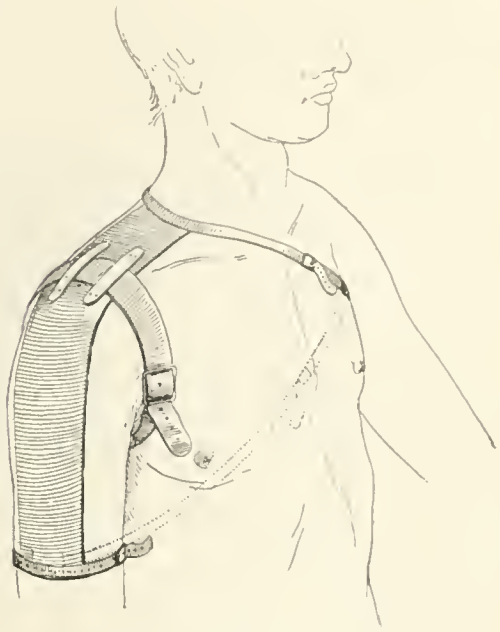

Fig. 2.

straps, extending from the terminus of the pad on the arm to the chest strap as it passes underneath the opposite axilla (Fig. 2). The forearm should then be half flexed and placed in a sling.

218 East Franklin Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 15, 1898:

	Cases.	Deaths.
Tuberculosis	170	90
Typhoid fever	12	3
Scarlet fever	232	17
Measles	360	16
Diphtheria	104	15
Laryngeal diphtheria (croup)	14	0
Chicken pox	48	0
Cerebro-spinal meningitis	1	4
Pertussis	1	0
Parotiditis	2	0

Baths.—The kind of bath that is suited to each individual is of great importance. Those who can stand the cold bath should accustom themselves to it as a daily function. The process of training should be commenced by taking a cold sponging, extending only to the neck and shoulders, then gradually increasing until one can get into a cold tub each morning. It should be inaugurated during the summer, as there are then much less shock and discomfort than in cold weather. Salt added to the bath is of undoubted advantage. In the winter the bath should be taken in a well-warmed room, free from draughts. Upon emerging, the body should be vigorously rubbed with a Turkish towel. The exercise and the friction bring the blood to the surface and prevent "taking cold." It is a frequent experience to find that people who were

always chilled by night air, and who took cold on the least exposure, became so hardened by the daily cold bath that they were almost free from such attacks. People usually have the temperature of their baths too high and thereby increase the susceptibility to colds. The Turkish bath is not generally useful, but may be resorted to for special reasons.—Dr. William Ellery Briggs, *Occidental Medical Times*, October, 1897.

Formaldehyde Gas.—At this juncture it might be well to remark upon the effects of formaldehyde gas and its solutions upon textile fabrics, hair, fur, and leather. Experiments were made by subjecting samples of wool, cotton, fur, and leather goods to crucial tests, solutions of various strengths being used, and also a saturated atmosphere of the gas. The results obtained were in every way satisfactory. Of over two hundred and twenty-five different samples of wool, silk, cotton, linen, leather, and hair, employed in the tests, there was no change observed in textile character, even when they were soaked in a strong solution of the gas. Little if any change occurred in the colors of the fabrics, only three of the number showing any change whatsoever—two shades of violet and a light red. The affected colors were a product of coal tar, and were also quickly bleached by the sun.—Dr. J. J. Kinyoun, *Public Health Report*, January 29, 1897.

Sign of Pregnancy.—When the cervix is as hard as the tip of one's nose pregnancy presumably does not exist, but if it is as soft as one's lips the existence of pregnancy is probable.—Goodell.

Nausea of Pregnancy.—One-third of all pregnant women are free from morning nausea during the entire pregnancy, and forty-five per cent. remain free from it during the first three months. If it occurs it presents itself in seventy per cent. of the women in the first month of pregnancy, seldom in the second, third, or fourth months, and very rarely in the fifth and sixth months; in from nine to ten per cent. it begins in the last three months of gestation.—Giles, *Prov. Med. Jour.*, August, 1893.

To Ascertain the Age of a Fœtus.—For the first six months of intra-uterine life the length at different ages is indicated in centimetres by the square of the numerical figure of the corresponding month.—Delabout.

A Long Constipation for a boy of nine years is that related by Dr. Dranitzion, in which, after thirty days without a passage, twenty-three and one-half pounds of fæces was partly extracted with a spoon and partly spontaneously evacuated.—*Lyon Méd.*, November 21, 1897.

Hair Turning White from Fright.—Dr. Parry, in the *Dublin Medical Press* (1861), gives the following instance of hair turning white from fright. On February 19, 1859, the command of General Franks, operating in the southern part of the kingdom of Oude, had an engagement with a body of rebels. Several of the enemy were taken prisoners. One of them, a Sepoy, was led before the authorities to be questioned. "I then had occasion," said Parry, "to observe in this man the events that I propose to relate. The prisoner for the first time seemed to be conscious of his danger when, deprived of his uniform and completely nude, he saw himself surrounded by soldiers. He then began to tremble violently, terror and despair were depicted on his face, and, though he responded to the questions addressed to him, he seemed actually stupefied by fear. Then, under our very eyes and in the space of scarcely half an hour, his hair, which we had seen was a brilliant black, turned gray uniformly over the whole head."

Syphilis Consecutiva.—The following interesting case is narrated by Dr. G. B. Wilson, passed assistant surgeon in the United States navy. Two apprentice boys, aged seventeen years, were tattooed on the left forearms while visiting an English merchant steamer at Buenos Ayres, on June 7th of last year. A chancre appeared on each arm, and was followed by the usual constitutional symptoms.

Snakes Turned to Good Account.—According to an account in the *Journal d'Hygiene*, rats have become so abundant in Brazil that a domestic snake, the giboya, which has about the circumference of the arm, is sold in the marketplace in Rio Janeiro, to be kept in the house as a protection against rodents. It would seem that the serpent pursues its prey more for the pleasure there is in it than from a sense of hunger, since it is said it rarely eats the rats caught. Similar in its habits and attachments to the domestic cat of our more northern latitudes, the giboya will, it is said, find its way back to the house of its master even if transported to a considerable distance.

Health Reports.—The following statistics concerning yellow fever and small-pox have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended January 15, 1898:

Yellow Fever—United States.

		Cases.	Deaths.
Alabama, Whistler	December 27th to January 4th	2	
Louisiana, New Orleans	January 2d to 8th	1	1

Yellow Fever—Foreign.

Brazil, Rio de Janeiro	December 4th to 11th	1	
Cuba, Cienfuegos	December 27th to January 2d		1
Havana	December 31st to Jan 6th		1
Manzanillo	December 1st to 15th		21
Regla	December 31st to January 6th		2
Santiago de Cuba	December 10th to 25th		2
Jamaica, St. Elizabeth	December 19th to 25th	1	1

Small-Pox—United States.

Alabama, Bessemer	January 6th	42	
Birmingham	January 6th	3	
North Carolina, Wilmington	January 12th	1	

Small-Pox—Foreign.

Bohemia, Prague	December 12th to 18th	14	
Brazil, Rio de Janeiro	December 4th to 11th		3
Canada, Montreal	January 4th to 12th	1	
China, Hong Kong	November 20th to 27th	3	3
Cuba, Cienfuegos	December 27th to January 2d		4
Havana	December 26th to January 1st		3
Netherlands, Rotterdam	December 17th to 31st	1	
Russia, Odessa	December 19th to 25th	9	1
St. Petersburg	December 19th to 25th	9	1

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Prescriber. By Dr. J. H. Clarke. American Edition. 12mo, 258 pages. Boericke & Tafel, Philadelphia.

An Epitome of the History of Medicine. By Dr. Roswell Park. 8vo, 348 pages. Illustrated. The F. A. Davis Company, New York. Price, $2.00, net.

Transactions of the Medical Society of New Jersey. 1897. 8vo, 344 pages.

Practical Toxicology. By Dr. R. Kobert. 8vo, 201 pages. William R. Jenkins, New York City.

Transactions of the Congress of American Physicians and Surgeons. Vol. IV., 1897. 8vo, 310 pages.

Rubaiyat of Doc Siffers. By James Whitcomb Riley. Illustrated by C. M. Relyea. 8vo, 108 pages. The Century Company, New York.

Outlines of Rural Hygiene. By Dr. Harvey B. Bashore. 8vo, 84 pages. Illustrated. The F. A. Davis Company, New York.

Hugh Wynne. By Dr. S. Weir Mitchell. Vols. I. and II. 8vo. The Century Company. New York.

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Original Articles.

NOTES ON A YELLOW-FEVER PROPHYLACTIC FLUID.

BY CHARLES B. FITZPATRICK, M.D.,

ASSISTANT PATHOLOGIST AND DIRECTOR OF THE BACTERIOLOGICAL LABORATORIES OF THE HEALTH OFFICER'S DEPARTMENT OF THE STATE OF NEW YORK, ETC.

THE relation of yellow fever to the United States is that of an invading epidemic disease. The successful vigilance of Dr. Alvah H. Doty, health officer of the port of New York, and the New York health officer's department, in the detection and prevention of the entrance of the disease into New York during the past year, does not signify that the danger of invasion by this disease is in any degree less real. The last epidemic in the Southern States vividly illustrates the power of yellow fever to invade and become epidemic. The possibility of the disease becoming located in the United States, where the inhabitants have not had the opportunity to become immune against the disease, forms the greatest danger we have to contend with. The facility with which the disease is spread was strikingly shown during the epidemic at Memphis in 1878. Dr. D. M. Bemiss[1] states that of fifty-five unacclimated physicians who exposed themselves during this epidemic fifty-four suffered attacks of yellow fever.

It is readily understood from the above statements that a method of immunizing the persons exposed to the disease would be a most important factor in the successful management of an epidemic. In other words, a method of vaccinating (immunizing) the people against yellow-fever infection would be of the utmost importance from our standpoint. The successful treatment of the disease when once contracted can probably be attained only when a sufficiently powerful antitoxic serum has been perfected.

The results of Haffkine's inoculation in India with his prophylactic fluid against the plague[2] demonstrate that immunization by means of bacterial fluids as a method of preventing infection deserves scientific research and experiment.

I have undertaken a series of experiments with the object of developing a method of immunization or vaccination against yellow fever. These experiments have to a large extent been to use the pathogenic bacteria found at the autopsies of cases of yellow fever, according to methods closely related to those which have been employed by Robert Koch[3] in the preparation of tuberculin, and by Haffkine in the preparation of his prophylactic fluid against the plague. I have also used with the same object in view a culture of the bacillus icteroides, which was very kindly sent to the New York health officer's department by Dr. Jose Sanarelli, director of the Institute for Experimental Hygiene, Montevideo, Uruguay. The autopsies from which the bacteria were obtained by me were made upon three cases of fatal yellow fever in the Swinburne Island Hospital, New York.

The cultures of the bacteria secured by me at these three autopsies were obtained by inoculating the blood of the heart, spleen, liver, and kidney upon different culture media. The organs were opened under strictly aseptic conditions and the blood was immediately placed in bouillon, on serum, agar, and gelatin. Cultures were made from the contents of the stomach and intestines, but these cultures have not been used for the inoculation experiments, as I have not considered them directly concerned in the cause of death or the specific infection. After eliminating all factors of error, and the bacteria which did not appear to be involved in the cause of death or the specific infection, two bacilli remained, which I have found in the three cases, either in the blood and tissue-exudate obtained from the cut surface of the divided liver, or in the blood contained in the heart. One I have designated provisionally as the bacillus coli concentricus, and the other the bacillus coli icteroides. The bacillus coli concentricus has most of the characteristics of the ordinary bacterium coli commune (Escherich) together with some well-defined differences, notably a well-marked property of growing on agar in round colonies of a concentric formation. It is also especially virulent. The bacillus coli icteroides corresponds very closely to the bacterium coli commune (Escherich). I have been unable to discover any sufficiently marked morphological or cultural differences which would justify me in stating positively that it is a different organism. The bacillus coli icteroides possesses an especial virulence—so much so, that it has seemed to me that it has justified a distinct classification and careful consideration as an etiological agent in yellow fever. Both of these bacilli were isolated in the spring of 1897, prior to the publication of Dr. Sanarelli's study on the bacillus icteroides[4] in the June number of the *Annales de l'Institut Pasteur* of 1897. The presence of the bacillus coli icteroides and the bacillus coli concentricus in pure culture, their virulence and marked lesions and symptoms have caused me to regard them as directly concerned in yellow-fever infection and its fatal termination. The further study of these bacilli I have here omitted, and proceed to demonstrate their use in the preparation of a yellow-fever prophylactic fluid. I have also used the culture of the bacillus icteroides sent to me by Dr. Jose Sanarelli. The bacillus icteroides (Sanarelli) was employed to make a prophylactic fluid in the same manner as were the bacillus coli concentricus and the bacillus coli icteroides. The admirable researches of Sanarelli and his wonderful experiments upon man have caused me to consider his bacillus as a possible agent of infection and death in yellow fever, and to use it in some of my experiments. These three bacilli have appeared to me to be better adapted to my purpose than the bacilli described by Sternberg.[5]

The experiments leading up to the preparation of a prophylactic fluid were as follows:

(*a*) Experiments with the inoculation of pure cultures.

(*b*) Experiments with cultures which had been exposed to heat and partially destroyed or weakened.

(*c*) Experiments with cultures which had been grown for four days, then killed by exposure to heat, and further disintegrated.

(*d*) Experiments with the inoculation of pure cultures.

A dog was selected which weighed forty-five pounds, and kept under observation for fifteen days. During this period his temperature varied from 100.8° to 101.8° F. This dog was judged to be healthy and adapted for experimental purposes. The details of the inoculation, etc., are minutely explained in my articles on the preparation of the antitoxins of diphtheria and of the plague.[6] On the 10th of May, 1897, this dog received a subcutaneous inoculation of ten cubic centimetres of the bacillus coli concentricus, which had been grown for fifteen days in bouillon at 37° C. He was inoculated at 4 P.M., at which time his temperature was 100.8° F. At 9 P.M. on the same day his temperature was 104.2 F. The dog was very sick and stupid, was unable to stand, and would not eat. He vomited the stomach contents and some blood. Blood was also passed by the intestines. The dog appeared to get worse and looked as if he would die. In the evening he was still very stupid and weak, but his temperature fell to 103.2° F. During the course of the next five days the temperature gradually by falling about one degree each day reached normal and the dog appeared well again. On May 15th, he was again inoculated with eight and one-half cubic centimetres of a culture of the bacillus coli concentricus, which had been grown in bouillon at 37° C. for four days. The dog reacted after the inoculation with a temperature of 104.6° F. and much prostration. On the 23d of May his temperature had again reached normal. He was allowed to rest for about one month. On June 23, 1897, he received another inoculation of ten cubic centimetres of the bacillus coli concentricus, and reacted with a temperature of 105.6° F., but with very little prostration. In five days his temperature was normal and the dog was apparently in full health. The next inoculation was on the 28th of June, and consisted of the same as the preceding. The reaction this time was 102.4° F. and no prostration, but a disinclination to eat for one day. After an interval of two weeks the following experiment was made. It was ascertained that twenty cubic centimetres of a bouillon culture of the bacillus coli concentricus, which had been grown in bouillon at 37° C. for four days, was a surely fatal dose when injected subcutaneously into a dog weighing forty-five pounds. The dog, which had been treated as above described, received this inoculation, and after a period of sickness lasting five days became perfectly well. This period of sickness was characterized by a rise of temperature to 102.6° F., loss of appetite, and some weakness. A second dog of the same weight was inoculated at the same time with the same amount and in the same manner. The only difference between this control dog and the other was that the control dog had not received any previous inoculations. This control dog died in twenty-four hours after receiving the inoculation. The conclusion to be drawn from this experiment is that previous treatment by a series of inoculations or vaccinations confers such an immunity upon a dog that he is enabled to bear a fatal dose without injury. I made a similar experiment with the bacillus coli icteroides and obtained similar results.

Having the object in view of developing a method of immunization or vaccination which could be safely used upon man, I next proceeded to use modified cultures as the inoculation fluid.

(*b*) Experiments with cultures which had been exposed to heat and partially destroyed or weakened.

The bacillus coli icteroides was first employed in these experiments. The bacillus was grown in bouillon for from twenty-four to forty-eight hours at 37° C., then for twenty-four hours at 40° C., and then for twenty-four hours at between 45° and 50° C., and finally was exposed for five minutes at 55° C.

This fluid was found to cause a considerable reaction in a dog chosen as in the (*a*) experiments. The dog readily recovered, however, and bore larger doses than in (*a*) experiments. The period of decline of the temperature was not so long and the prostration not so marked. This dog after three months' treatment received a dose of twenty cubic centimetres of the living cultures of bacillus coli icteroides, grown for four days in bouillon at 37° C., and after a short period of sickness extending over five days recovered completely. A control dog was inoculated at the same time with the same dose and in the same manner. This control dog died in twenty-four hours.

This (*b*) experiment with the bacillus coli icteroides was repeated with the bacillus coli concentricus. Results similar to those obtained with the bacillus coli icteroides were thus obtained with the bacillus coli concentricus.

I now undertook a further step in the development of a method of immunization or vaccination against yellow fever, adapted for use in man, by determining whether a single inoculation of a culture, prepared as described under (*b*) experiments, would protect against a fatal dose of the living culture.

I inoculated a dog chosen as above described and of the same weight with one dose of fifteen cubic centimetres of the fluid prepared according to the (*b*) experiment with the bacillus coli icteroides, and when the reaction had completely disappeared inoculated the same dog again with a fatal dose of the living culture of the bacillus coli icteroides. The dog recovered after suffering a severe and protracted reaction. A control dog inoculated at the same time with the same amount and in the same manner died in about twenty-four hours.

This experiment was repeated with the bacillus coli concentricus, prepared like the culture used in the first (*b*) experiment, and it gave a similar reaction. The dog was injected with the single large dose of the fluid thus prepared, and was enabled to receive a deadly dose of the living culture of the bacillus coli concentricus with a moderate reaction, from which it completely recovered.

This experiment was also repeated with the culture of the bacillus icteroides sent to me by Dr. Jose Sanarelli. This culture was treated in the same manner as the bacillus coli icteroides in the first (*b*) experiment. The resulting modified culture fluid was injected subcutaneously into a dog weighing forty-five pounds, chosen as above described, in a single dose. After the period of reaction had completely subsided, this dog received a fatal dose of the living bacillus icteroides (Sanarelli), and after a moderate period of reaction and some prostration, completely recovered its usual health. A control dog was inoculated in like manner at the same time and with the same fatal dose, without having received any previous inoculations, and this control dog died in twenty-four hours.

The last experiments under (*b*) were made with a fluid consisting of equal parts of cultures of the bacillus coli icteroides, the bacillus coli concentricus, and the bacillus icteroides (Sanarelli) mixed together after having been prepared in the same way as the culture of the bacillus coli icteroides was in the first (*b*) experiment.

This mixed fluid gave practically the same results as the other (*b*) experiment fluids when injected in one large dose, and protected the thus immunized dogs against a fatal dose of a mixture in equal parts of the three living cultures.

The next step in the development of a prophylactic or immunizing fluid which could safely be used on man consisted in seeking to obtain a fluid in which all the bacteria were surely dead.

(*c*) Experiments with cultures which had been grown for four days, then killed by exposure, and further disintegrated.

The cultures were first grown for four days at 37 C., then exposed to a temperature of between 50 and 60° C. for a period of fifteen minutes. This period of exposure was repeated until no colonies appeared on plate culture media.

The fluid was first prepared with the bacillus coli concentricus. A dog was gradually immunized by a graded series of doses after proper intervals of rest, and after three months from the first inoculation of this (*c*) experiment fluid was enabled to bear a fatal inoculation of the living culture of the bacillus coli concentricus. This experiment of graded doses to produce immunization and a final fatal dose was repeated with a like result with the bacillus coli icteroides.

I then attempted to inoculate with one large injection and after the reaction to give a fatal dose. This experiment has not been so successful as have those under the (*b*) experiments.

Three dogs were inoculated with a single large inoculation of the (*c*) experiment fluid, prepared from the bacillus coli concentricus. Of these, two remained alive and one died one week after the control dog died.

The (*c*) experiment fluid was in a like manner prepared with a culture of the bacillus coli icteroides.

The dog which received a single large inoculation of this fluid was enabled to receive the fatal dose of the living culture of the bacillus coli icteroides and recover its normal health after a period of reaction.

The (*c*) experiment fluid was also prepared from a culture of the bacillus icteroides (Sanarelli).

Two dogs have been inoculated with a large dose of this fluid; after the period of reaction had completely subsided they were again inoculated with a fatal dose of the living culture of the bacillus icteroides (Sanarelli). They both recovered their normal health after the period of reaction. The control dog died in twenty-four hours.

The (*c*) experiment fluid was finally prepared from a mixture in equal parts of the three cultures—bacillus coli concentricus, bacillus coli icteroides, and bacillus icteroides (Sanarelli).

The fluid so prepared was injected subcutaneously in one large dose into a dog, and after the period of reaction had passed the same dog received the fatal dose, made up of a mixture in equal parts of the three living cultures. This dog recovered after a longer than usual period of reaction and depression. The control dog received the fatal dose of the three living cultures without any previous inoculation, and died in twenty-four hours.

The experiments which I have here briefly recorded prove with apparent conclusiveness that if the bacillus coli icteroides, the bacillus coli concentricus, or the bacillus icteroides (Sanarelli), either singly or in combination, are the agent or agents of infection and death in yellow fever, they, by the evidence of the results of these experiments, form a basis from which an immunizing or prophylactic fluid can be perfected, and which can be safely applied to man to prevent yellow-fever infection.

These notes are published more to indicate the work that is being done at the laboratory of the New York health officer's department than from an idea that the investigations herein stated have been completed or brought to a satisfactory resting-place. The exigencies of circumstances have made it necessary to state a few of the facts ascertained in our work upon yellow fever, and publish the remainder when the investigations have been completed.

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January 19, 1898.

THE ABORTIVE TREATMENT OF TYPHOID FEVER—A QUESTION OF DIAGNOSIS.

By JOHN ELIOT WOODBRIDGE, M.D.,
CLEVELAND, OHIO.

From the opening of the discussion on the abortive treatment of typhoid fever to the present time, every orator and essayist who has discussed the subject from theoretical knowledge only has condemned it as irrational, unscientific, and incapable of producing the results which its advocates claim for it. Their arguments have been drawn from what were supposed to be fixed and immutable laws of pathology. Their reasoning has been cogent and convincing, voicing the latest and strongest interpretations of science, supported by the experience and observations of centuries, aided and abetted by every recognized authority on the subject, and by the fact that no observer has yet been able to destroy *in vitro* the specific cause of the disease by any known agent not inconsistent with human life. Their position has been further strengthened and fortified by the fact that hitherto all efforts to discover and establish a curative treatment for typhoid fever had proven disastrous failures.

Per contra, those who (possessing proper equipment) have thoroughly tested the method are unanimous in its praise, and those who have had the largest experience in the management of the disease under the older methods, supplemented by such adequate experience with the abortive treatment as to entitle them to speak with authority, are its most enthusiastic advocates and do not hesitate to report their cases of *aborted* typhoid fever or to aver that the treatment "*aborts* the disease."

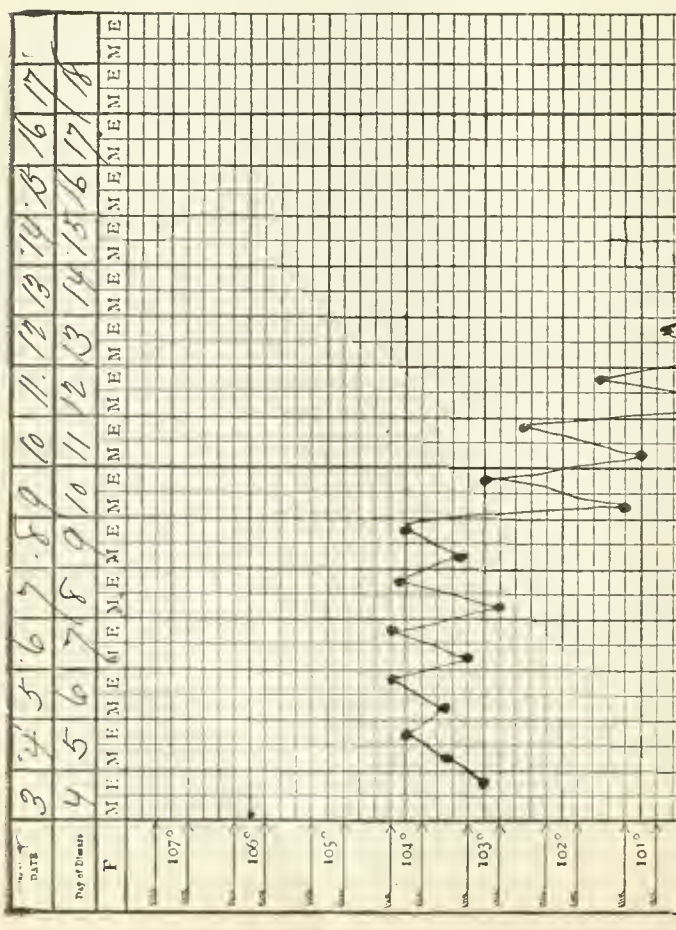
As the custodian of the reports, clinical charts, and histories of cases which fully confirm these averments, it is my duty to summarize enough of this mass of evidence to answer every argument which those who present the negative may advance. This paper deals directly or indirectly with their last and least defensible position, viz., that the evidence of the value of the treatment under consideration is based upon "errors of diagnosis."

Typhoid fever is practically universal and omnipresent. It is one of the few diseases with which we meet at every step in our professional careers, and when true to type it is one of the easiest diseases to diagnosticate. It is therefore an insult to the intelligence of the medical profession to ask it to entertain the theory that hundreds of its most progressive members could treat more than nine thousand patients under a mistaken diagnosis of typhoid fever. The argument is therefore puerile, fallacious, and utterly unworthy of serious consideration, and would never have been advanced save for the firmly grounded opinion that it is impossible to *abort* any of the specific infections; but, having been advanced, it must be frankly answered and effectually refuted,—not in defence of a theory as such, nor yet alone because the argument is an indirect assault upon the reputation of a great number of most respectable physicians, but because the continued discussion of the subject means so much to the victims of certain microbic diseases.

Those who realize the difficulties which always attend the collection of statistics in favor of any new method of treating disease will be surprised to learn that there have been reported ninety-four hundred and seventy cases of typhoid fever treated by the method

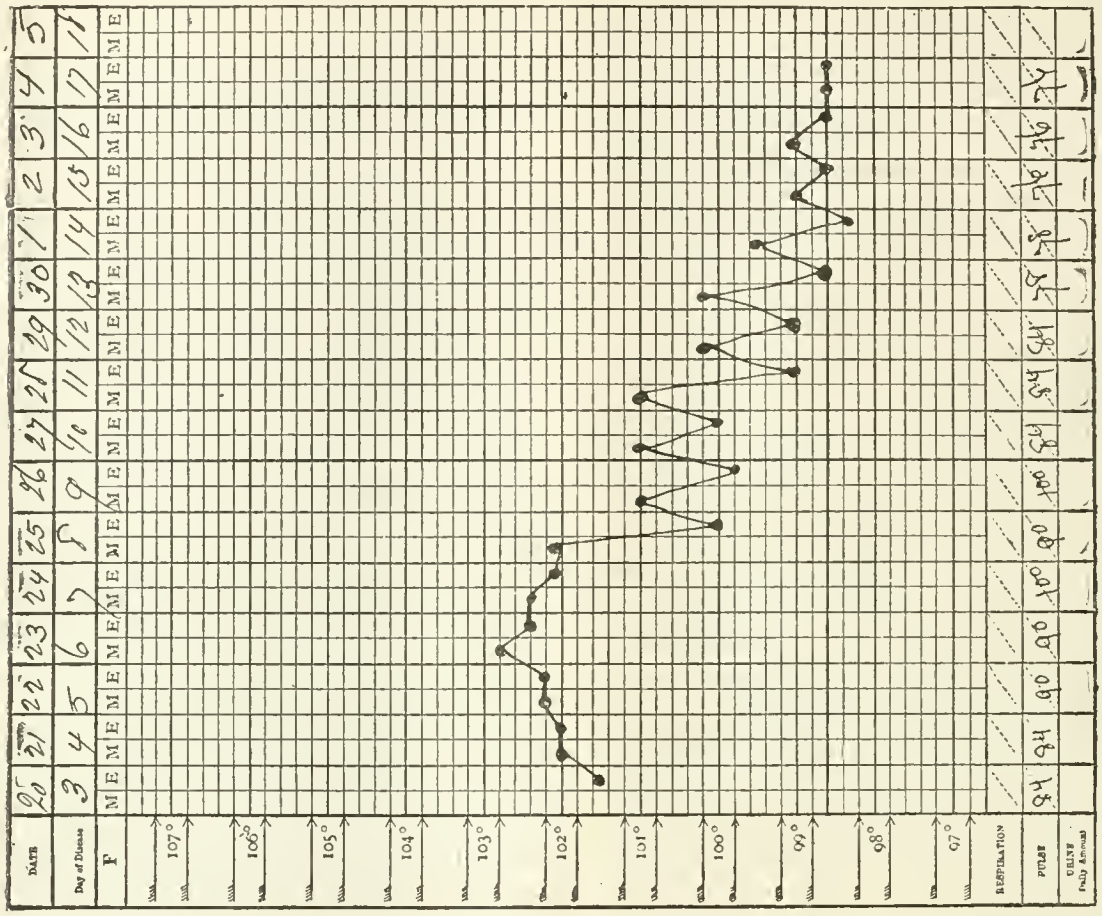
under consideration, with one hundred and seventy-nine deaths, or a death rate of 1.89 per cent., and an average duration of illness of twelve and seven-tenths days in fifty-five hundred and sixty-one of the cases that ended in recovery. These physicians report sixty cases of pregnancy complicating typhoid, in two of

CHART I.



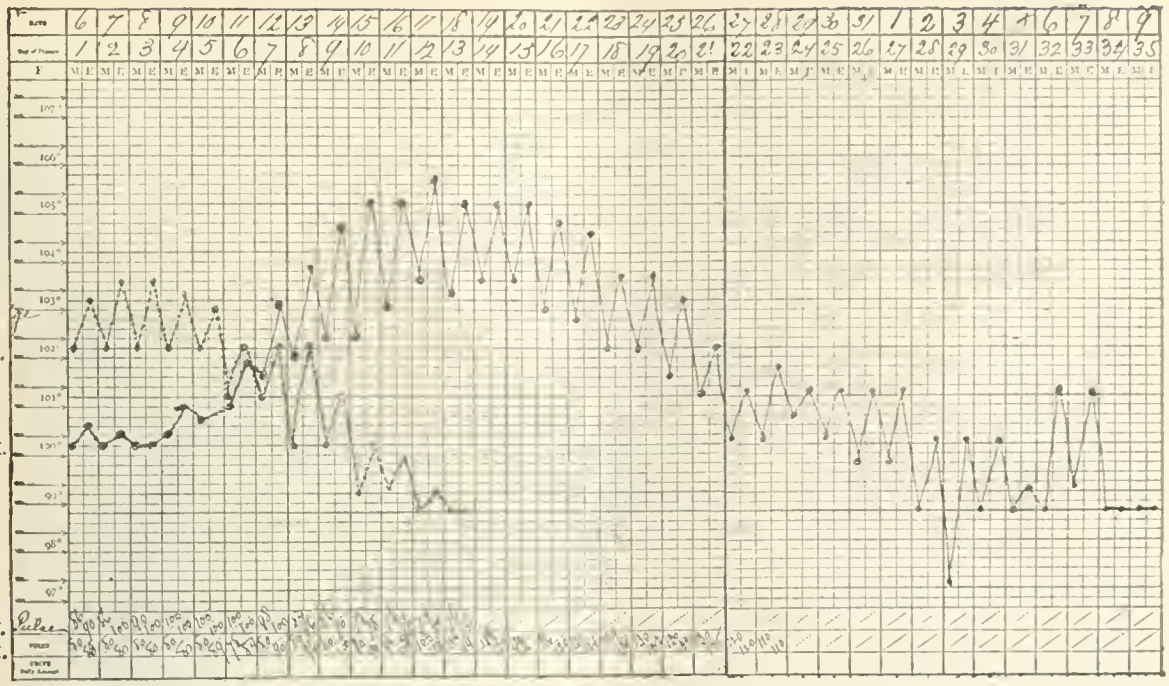
CASE I.—John L——, aged 25, admitted September 3, 1896; diagnosis, typhoid fever. *History.*—Patient boarded in same house with Mrs. Joe E. A. (Case IV.). He had been on a visit to a neighboring town twenty-five or thirty miles distant; returned home with fever. I saw the patient on the fourth day of illness, in my office. *September 3d.*—Temperature, 103; pulse, 90. Put him under Woodbridge treatment. Temperature touched normal on morning of twelfth day of treatment and sixteenth of disease. Had rose spots. One of five cases which occurred in the same house. Patient had no troublesome diarrhœa. Had some tympanites. No delirium. Rapid convalescence.

CHART II.



CASE II.—Mrs. Joe E. A——, aged 23, admitted September 20, 1896; diagnosis, typhoid fever. Medicine, Woodbridge method. *History.*—Patient moved into the house where No. 1 was sick. She developed fever on September 20th. Temperature, 101.5; pulse, 84. Temperature touched normal on ninth day of treatment and eleventh of disease. Uninterrupted recovery.

CHARTS III. AND IV.



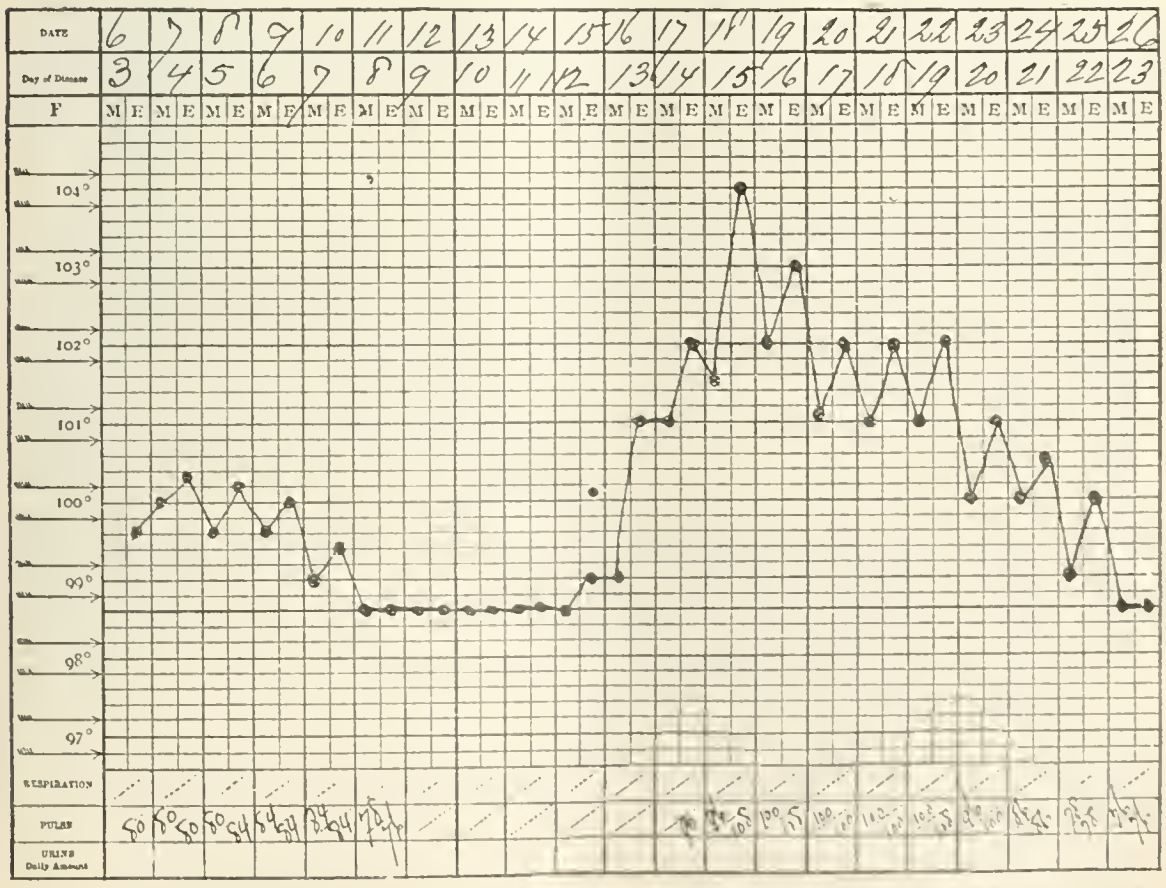
Case III.—Estelle H——, aged 10, admitted October 6, 1896; diagnosis, typhoid fever. Brand method.

History.—Sister to Mrs. Joe E. A. (Case II.), daughter to Mrs. J. C. H. (Case V.). Second case in same family, third in same house. I saw this patient on the first day of the disease and put her on the usual remedies, as she was a robust, healthy girl, and as Case IV. was also sick I decided to see the difference in effect of treatment. On the tenth day her temperature was so high and her general condition seemed so desperate that I called in consultation Dr. J. D. Valliant, who confirmed the diagnosis and approved the treatment, *i.e.*, Brand's method—calomel, tincture of iodine and carbolic acid, arterial sedatives, and opium. No hemorrhages occurred; had well-developed typhoid rash, tympanites, diarrhœa, wild delirium, and carphologia. She finally recovered after thirty-five days of intense suffering—a mere skeleton.

Case IV.—Mr. Joe E. A——, aged 28, male, admitted October 6, 1896; diagnosis, typhoid fever. Result, cured in twelve days. Woodbridge method.

History.—This patient was taken sick on the same day and in the same house as No. III. Patient was at work at his usual vocation on the eighth day after the temperature touched normal.

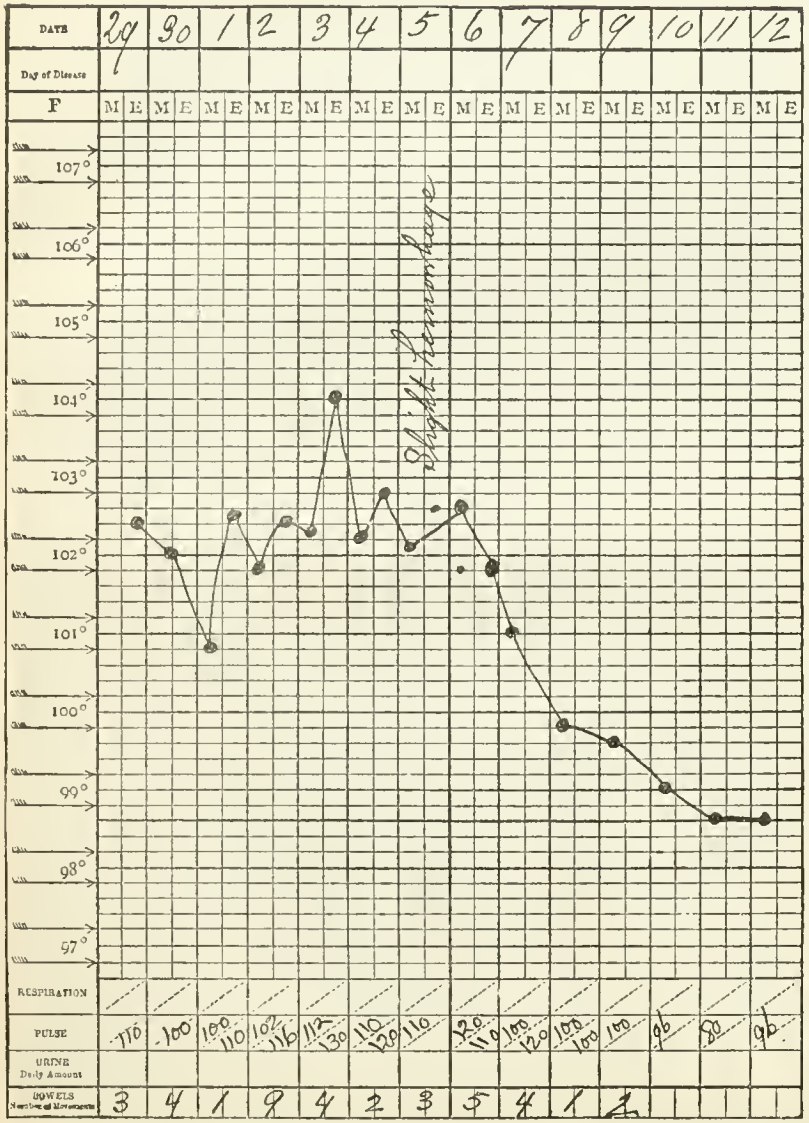
CHART V.



Case V.—Mrs. J. C. H——, aged 46, admitted November 6, 1896; diagnosis, typhoid fever. Woodbridge method. Mother and nurse of Mrs. J. E. A. (Case II.) and of Miss Estelle H. (Case III.). Case of relapses from indiscretion in diet.

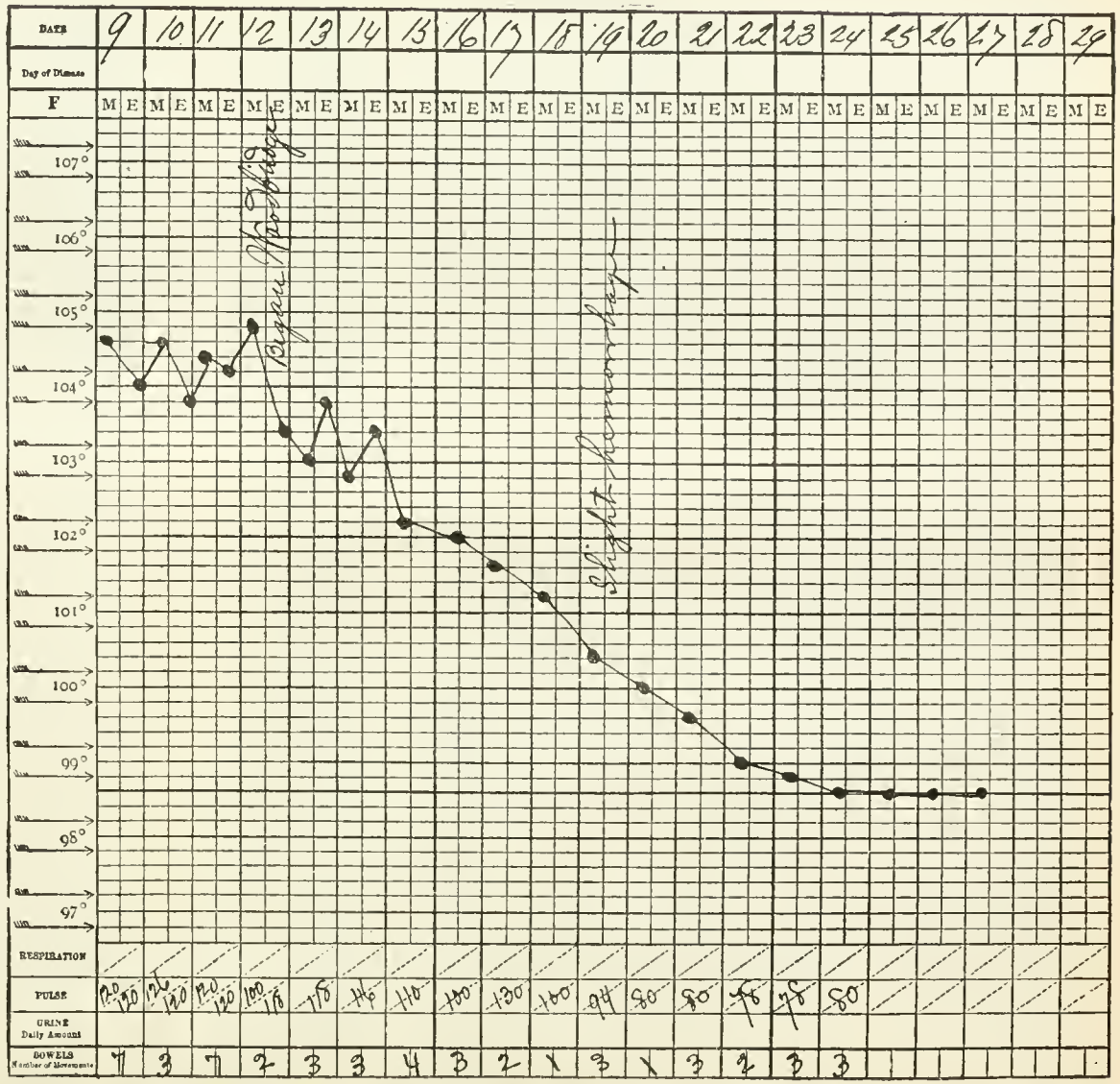
History.—Nursed her two daughters and her son-in-law through attacks of typhoid. Patient attacked on November , 1896. Put her on Woodbridge treatment immediately. Temperature ran very low and touched normal on seventh day of disease and fifth of treatment. Dismissed patient. Was called on thirteenth day. She had eaten heartily of turnips and turnip greens on twelfth day. Found her pulse 90, temperature 102. Persisted with the treatment, and temperature touched normal on morning of tenth day of relapse. Rapid convalescence. No constipation.

CHART VI.



Mrs. Annae K——, aged 29; diagnosis, typhoid fever. The patient contracted the disease while nursing her sister.

CHART VII.



Miss Amelia H——, aged 18; diagnosis, typhoid fever. Temperature touched normal tenth day after beginning Woodbridge treatment.

which the women aborted and died, eight aborted and recovered, and fifty carried their children to full term.

More than two hundred of these observers treated more than six thousand cases, with twelve deaths, or an average of more than thirty cases each, with an average death rate of less than one-fifth of one per cent. A very large percentage of these cases was treated during epidemics or local outbreaks of the disease. In many instances several cases occurred in a single house or family (see Charts I. to V.), and in some of these the physician conducted control experiments (see Charts III. and IV.), one of which is presented in the accompanying series of charts, for which I am indebted to the kindness of Dr. Nixon, of Killeen, Tex. They are self-explanatory and offer many interesting features.

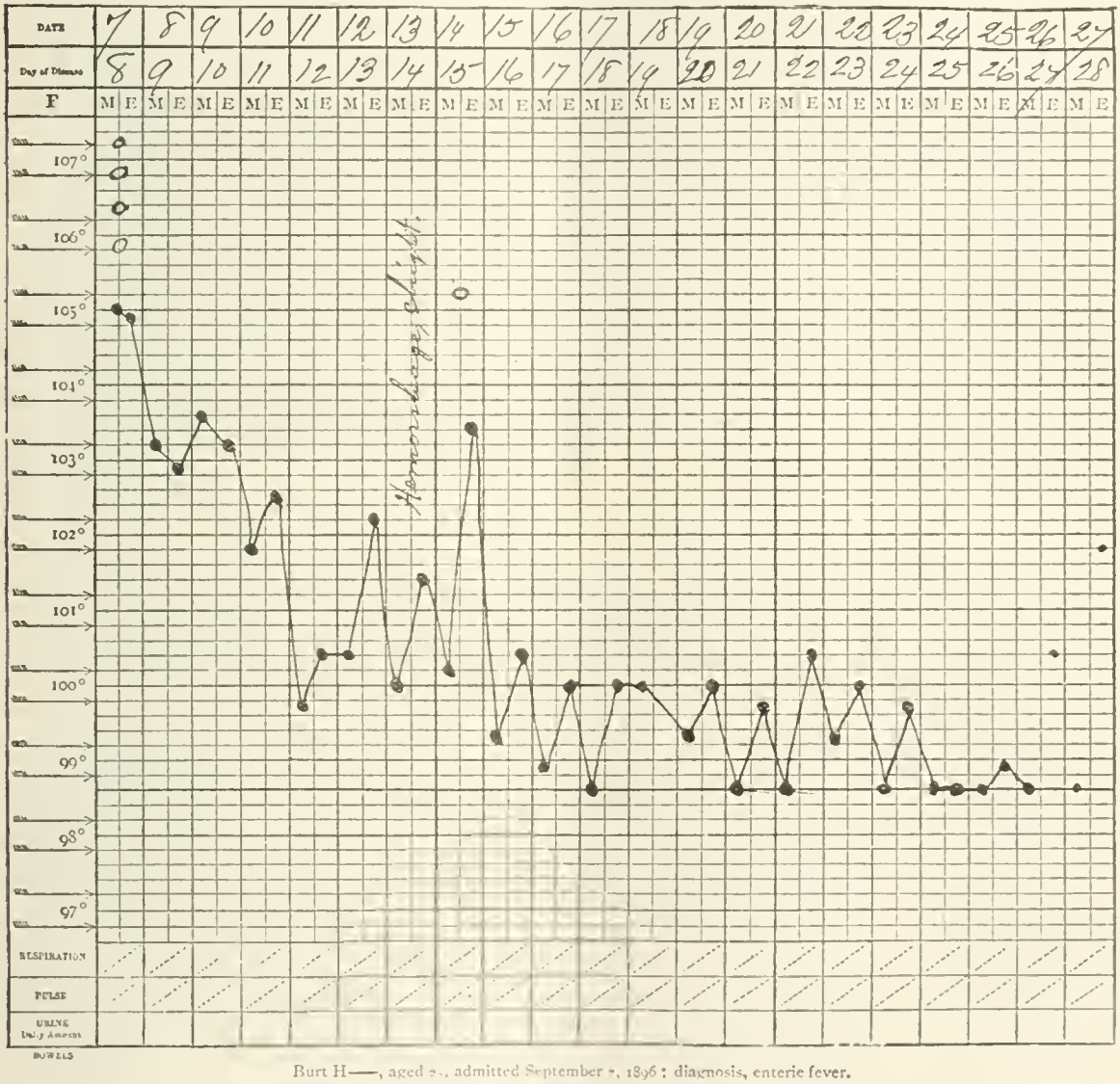
It will be observed that the control case, Chart No. III., treated by the Brand method, was, during the first week of illness, an exceedingly mild case. It is of course impossible to prove a negative, *i.e.*, that what did happen would not under other circumstances have occurred, but to those who are familiar with the effects of the abortive treatment no argument will be necessary to prove that this patient might have been cured just as quickly as any of the others in the series—that the disease might in fact have been *aborted* as quickly as was the primary attack in Case V., which is also interesting as having been jugulated in five days. it would, without the relapse, never have been heard of, but would have been lost to science, as are thousands of similar cases.

Charts VI. and VII. are of cases of Dr. Steinle, of Burlington, Iowa, treated in the same house, and, besides the fact that there were present pathognomonic symptoms of typhoid fever, both patients had slight intestinal hemorrhages.

The clinical histories from which these charts are taken show a large number of similar cases in which intestinal hemorrhages have occurred without interrupting, and apparently without retarding, recovery. They show also many cases in which the primary attack was aborted, the relapse presenting all of the pathognomonic symptoms of the disease accompanied by intestinal hemorrhage, which in a few instances proved directly fatal and in others was followed by perforation, peritonitis, and death, the autopsy revealing the characteristic lesions of typhoid fever.

Chart VIII. illustrates a case in which the treatment, never properly applied, was modified about the third day by the omission of the ingredients of which this patient stood in greatest need. Nevertheless the temperature dropped rapidly from 104.8° F. on the eighth day of illness to 99.7° F. in four days and to normal in nine days, but the patient suffered a relapse and died. At the autopsy a large amount of fæcal matter was found in the small intestines, and recent as well as old ulcerations of Peyer's glands, in one of which was the perforation which caused the death.

CHART VIII.



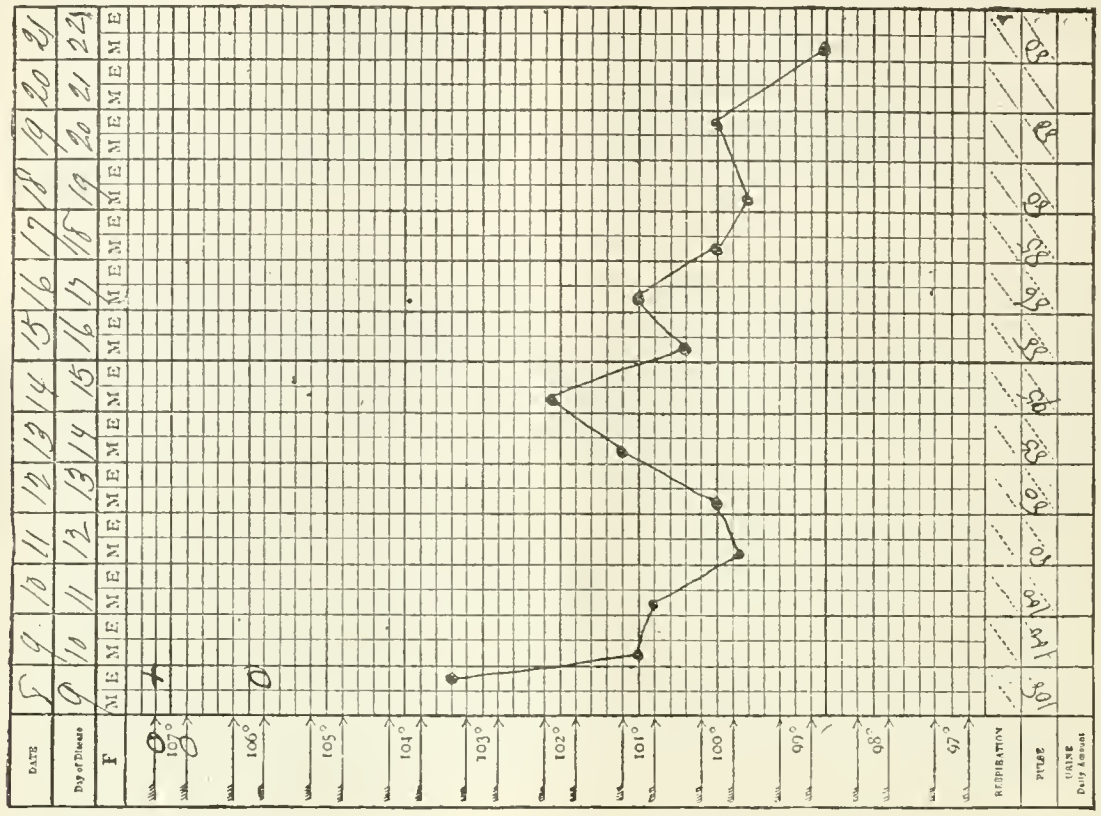
Burt H——, aged 2-, admitted September -, 1896 : diagnosis, enteric fever.

The clinical diagnosis has been verified in a large number of instances by the diazo reaction of Ehrlich. Charts that were published in previous papers, as well as Charts IX. and X., in this series, show the effect of treatment in these cases. The clinical diagnosis has also been verified by the serum test of Widal. Charts XI. and XII. and the following clinical histories illustrate the effect of treatment in a few of these cases.

Medical History Book of ——— Hospital, page 793.—"Admitted November 17th. Treatment commenced November 18th. Temperature normal November 24th. Discharged cured December 16th. Treatment began when history showed illness of one week's standing. Positive Widal test.

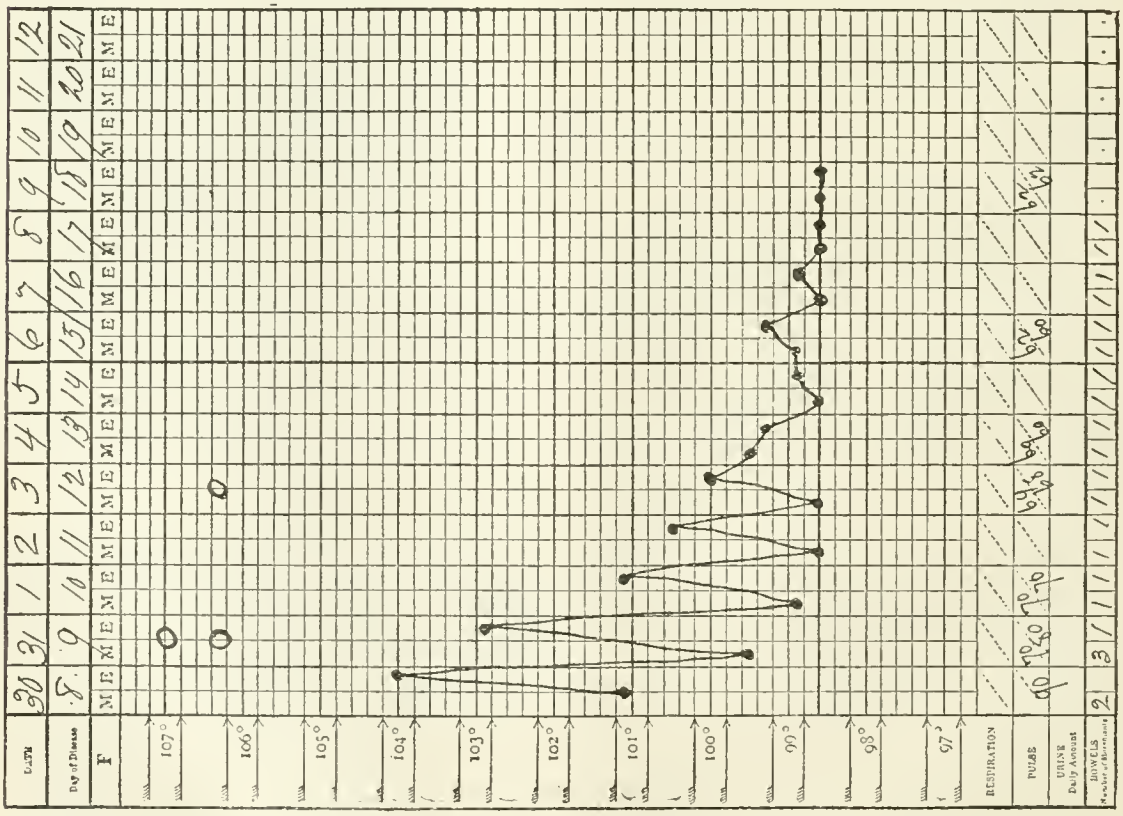
Page 791.—"Admitted November 8th. Treatment began November 10th. Illness of one week's standing. Temperature normal November 30th. Discharged December 14th, cured. Positive Widal test."

CHART X.



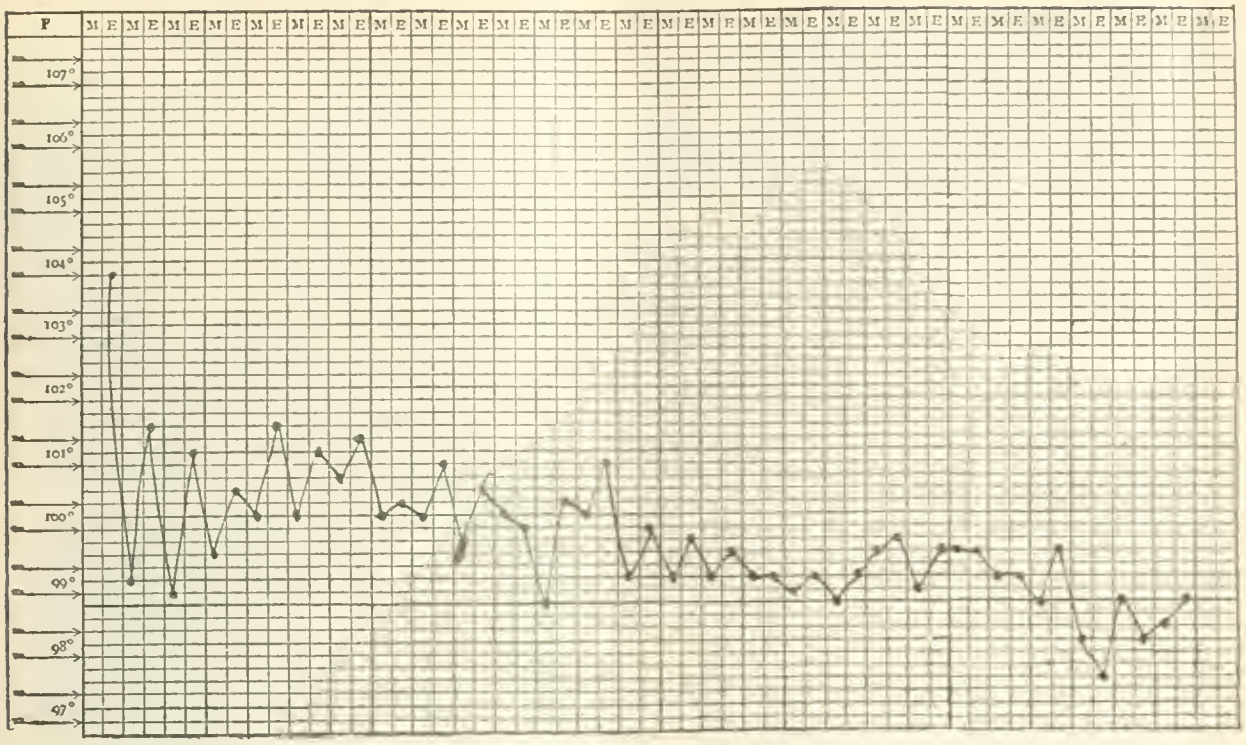
Miss W——, aged 12, admitted April 8, 1897. Widal's reaction of serum on Koch-Eberth bacilli positive; diagnosis, typhoid fever. Woodbridge method. Diet, milk and broths.

CHART IX.



Clarence R——, aged 17; diagnosis, enteric fever.

CHART XI. OF CASE NO. 9,057.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the capsules during the first two weeks of treatment. Although the temperature fell rapidly to nearly or quite normal and remained low all of the time, there was considerable tympanites, which disappeared promptly after a few hours of heroic medication. There was a slight hæmaturia late in the disease, but the patient felt remarkably well throughout his illness, his bitterest complaint being of an insufficient allowance of food. (Reported by Dr. H. B. Ormsby, of Goodrich House, Cleveland, Ohio.)

In case 9,058 not only was clinical evidence of typhoid fever presented, but the blood responded positively and characteristically to Widal's test and the urine to the diazo reaction of Ehrlich. (Reported by Dr. H. B. Ormsby, of Goodrich House, Cleveland, Ohio.)

These are a few items of evidence taken almost at random to prove a truth that needed no proving. The mere fact that so large a body of physicians continues to use this treatment is sufficient guarantee of its value. The honorable position so many of them have attained is ample assurance of their ability to diagnosticate typhoid fever, and their statement of the fact is apodeictic evidence that the treatment aborts the disease.

637 Prospect Street.

RATIONAL ETHERIZATION—A STATISTICAL STUDY.[1]

By WALTER BROOKS BROUNER, A.B., M.D.,

NEW YORK.

Recent medical journals throughout this and other countries have contained many interesting articles in reference to anæsthesia—the value of ether *versus* chloroform, the indications and the contraindications of their use, etc., have largely been entered into, but in none of recent origin has sufficient stress (emphasized by tangible proof) been laid upon the vital essential to successful ether anæsthesia, namely, the amount of ether employed. By successful ether anæsthesia I here mean an easy, gentle, unrevolting administration of ether till complete anæsthesia has been attained; the continuance of the anæsthesia during the operation, with a minimum of annoying complications; and the subsequent recovery of the patient with a minimum of the too common sequelæ of ether administration, viz., nausea, vomiting, bronchial trouble, and nephritis.

I purpose to speak to-night mainly upon the amount of ether to be employed, as modified by certain conditions, and incidentally to give a brief *résumé* of the influence upon the kidneys, the stomach, and the bronchi. Before presenting the statistical table which is the basis of this brief paper, a few introductory remarks will be in order. The subject of anæsthesia of any sort is one that will ever be pregnant with interest, but those who by precept and practice have become accustomed to the use of ether preferably as an anæsthetic will agree that too much time and study cannot be devoted to the subject; for it is a well-known fact that that which is really almost as vital to the success of an operation as the ability of the operator is too often intrusted to incompetent and inexperienced hands. Hence it is that to-day with our increased experience it is not strange that the proposition has been made to include anæsthetization in the already broadening field of specialism. I venture to predict that before long all of our medical schools will see the necessity of including the subject in their curricula.

I make bold to-night, in all seriousness, to make the assertion that no man should count himself thoroughly competent to administer an anæsthetic, ether especially, until he has had the same anæsthetic administered to himself. If while hospital interne I had any success at all in the administration of ether, if I won the reputation for gentleness in ether administration, and if I merited the gratitude of those whom I etherized, it was largely due to the sympathetic bond which held me to my patient. It is difficult to give expression to the awful sense of impending dissolution—the mental agony that seizes upon one in the futile struggle for air—more air! as the cone is held tightly over one's face and one is held in a vise-like grasp of a sturdy attendant, who, octopus-like, embraces you while you are being rapidly and forcibly smothered—technically asphyxiated. A more inhuman, a more revolting picture is hard to conceive. My blood has fairly boiled within me as I have seen, alas! too often, the so-called "force method" of etherization employed. It is unnecessary, it is cruel; nay, more, it is positively injurious—even affecting the issue of the operation.

You have now an explanation of column four of my statistical table, which shows that it required an average of eight and a half minutes to produce complete anæsthesia. Contrast this with the "force method" of a certain well-known physician who said that in over one hundred tabulated cases the average time required to produce anæsthesia was one minute and thirty-seven seconds. Picture if you can, the mental agony of those poor victims.

Method to be Employed.—The more simple and the less complicated the paraphernalia the better. I like to have near by a working hypodermic with strychnine, digitalis, atropine, glonoin, ether, nitrite of amyl pearls; also a good simple mouth gag, preferably a piece of wood, shaped like the handle of a tablespoon somewhat flattened and broad; a pair of tongue forceps and a curved needle threaded with stout silk, ready for use in fishing out the tongue. This latter obviates the sore thumbs of the etherizer and a condition more painful than mumps which a patient experiences upon awakening after the etherizer has braced his thumbs forcibly against the angle of the patient's jaw.

Some claim that the selection of a cone is very important. My humble opinion is that the simplest sort of a cone far exceeds the heavy and complicated cones so highly recommended. The cone I used in my service was a butcher's straw sleeve, something like the gauntlet of a glove, with the distal or wrist end packed fairly firmly with a piece of gauze; later on in my service one made of rubber,[1] of the same glove-gauntlet shape, was employed. A prime essential is a graduated ether bottle with a proper dropper inserted; this enables us to control exactly the amount of ether employed. The ether should be absolutely pure and fresh for each case.

Amount of Ether to be Used.—This I take to be the determing factor in the untoward sequelæ so often complained of. If after operation the patient is extremely nauseated, if he vomits much, if he subsequently has bronchial or nephritic complications, the chances are many that the ether was indiscriminately given; that, to use a common phrase, he was "soaked" with ether. A glance at the table here presented, which represents forty consecutive cases (not selected) occurring in the service of Drs. Abbe, Bull, and Murray, embracing all sorts of conditions of individuality and a variety of operations, shows that it required but an average of two and two-fifths ounces of ether for each operation, the average time of which was forty-eight and three-fourths minutes, and that it required but two and one-fifth ounces of ether to produce complete anæsthesia. The urine was from specimens ob-

[1] Read before the Society of the Alumni of St. Luke's Hospital, New York City, November 12, 1897.

[1] New York Medical Record, September, 1893.

tained twelve hours before and twelve hours after operation.

This small amount of ether necessary to keep the patient well under can be demonstrated with a little care. Of course in order to accomplish this the etherizer must devote his *entire attention* exclusively to the patient. It is surprising how easy it is to hold a patient quietly with just a drop or two of fresh ether added to the cone. It seemed to me to be not so much a question of the concentration of the vapor as it was *of ether employed.* It is always a comfort to an operator to know after his operation that he can practically eliminate the question of ether complication, if the anæsthesia has been carefully and conscientiously employed. A glance at cases Nos. 8, 9, 15, 16, 20, 26, and 40 is illustrative. I have ventured to go into detail and to append this tabulation even at the risk of tiring you, as I consider it highly instructive, for it presents on analysis and study much that is interesting. Thus, in cases Nos. 6, 10, 21, 28, 31, and 33,

"RATIONAL ETHERIZATION—A STATISTICAL STUDY."

Tabulation by Walter Brooks Brouner, M.D.

Number of Case.	Nature of Operation.	Sex.	Time in Minutes to Produce Anæsthesia.	Ounces of Ether Used to Produce Anæsthesia.	Duration of Operation Expressed in Minutes.	Ounces of Ether Used During Operation.	Urine. Before Operation. Specific Gravity.	Albumin Per Cent.	Sugar.	Microscopically.	After Operation. Specific Gravity.	Albumin Per Cent.	Sugar.	Microscopically.	
1	Laparotomy	F.	5	1.5	15	0.5	1.029	....	..	Neg.	1.032	.....	..	Neg.	
2	Skin grafting	M.	10	2	100	8	1.028	....	..	Neg.	1.015	Faint trace	..	Neg.	
3	Hemorrhoids	M.	12	3.5	10	0.5	1.019	....	..	Neg.	1.020	.....	..	Neg.	
4	Necrosis of carpus	F.	5	1.5	10	0.5	1.025	....	..	Neg.	1.015	Faint trace	..	Neg.	
5	Compound Colles'	F.	3	1.5	25	0.5	1.028	Trace	..	Neg.	1.025	Trace	..	Neg.	
6	Hemorrhoids	M.	10	2	65	5	1.020	....	..	Neg.	1.029	.....	..	Neg.	Heavy drinker.
7	Laparotomy	F.	10	3	90	2.5	1.010	10	..	Neg.	1.012	20	..	Neg.	
8	Intestinal anastomosis.	M.	8	1.5	135	5	1.022	....	..	Neg.	1.024	.....	..	Neg.	
9	Gastro-enterostomy	F.	10	2	68	1.5	1.017	....	..	Neg.	1.027	.....	..	Neg.	
10	Ischio-rectal abscess	M.	11	3	25	3	1.028	Trace	..	Neg.	1.028	Trace	..	Neg.	Heavy drinker.
11	Laparotomy	F.	10	2	55	4	1.015	Trace	..	Neg.	1.027	1	..	Neg.	History of former nephritis.
12	Removal of breast	F.	12	2.5	74	1.5	1.023	....	..	Neg.	1.032	2	..	Neg.	
13	Dermoid cyst	F.	5	2.5	35	1	1.030	....	..	Neg.	1.027	.....	..	Neg.	
14	Rectal examination	M.	4	1	24	1	1.030	....	..	Neg.	1.024	Faint trace	..	Casts.	Heavy drinker.
15	Excision of rectum	M.	12	3	65	4	1.025	Trace	..	Neg.	1.025	Trace	..	Casts.	
16	Laparotomy	M.	4	1.5	35	1.5	1.010	Trace	..	Neg.	1.020	Trace	..	Neg.	
17	Tuberculous bone sinus	F.	5	2	40	2	1.030	....	..	Neg.	1.030	.....	..	Neg.	
18	Epithelioma	M.	7	2	50	2	1.020	....	..	Neg.	1.023	Faint trace	..	Neg.	
19	Tuberculous adenitis.	M.	2	1	12	0.5	1.018	....	..	Neg.	1.025	.....	..	Neg.	
20	Excision of rectum	M.	5	2	112	3	1.010	20	..	Neg.	1.020	22	..	Casts.	Casts disappeared—albuminuria continued as before.
21	Varicocele	M.	12	3.5	15	0.5	1.029	....	..	Neg.	1.025	Faint trace	..	Neg.	Big fellow.
22	Periostitis	M.	4	1.5	20	0.5	1.010	....	..	Neg.	1.020	Faint trace	..	Neg.	
23	Ununited fracture	M.	6	2	25	2	1.020	....	..	Neg.	1.022	.....	..	Neg.	
24	Fistula in ano	M.	6	3	15	2	1.023	....	..	Neg.	1.020	.....	..	Neg.	
25	Fracture of patella	M.	9	2	30	3.5	1.027	....	..	Neg.	1.030	.....	..	Neg.	
26	Skin grafting	M.	12	2	117	3.5	1.020	....	..	Neg.	1.025	.....	..	Neg.	
27	Fistula in ano	M.	15	2	64	6	1.026	Trace	..	Neg.	1.027	Trace	..	Neg.	Big fellow; shallow breather.
28	Cellulitis	M.	20	4	25	4	1.018	....	..	Neg.	1.018	2	..	Neg.	Big fellow; heavy drinker.
29	Dislocation	M.	5	1.5	15	0.5	1.020	....	..	Neg.	1.021	.....	..	Neg.	
30	Necrosis	M.	10	3	27	1	1.024	Trace	..	Neg.	1.028	.....	..	Neg.	
31	Resection of toes	M.	15	3.5	32	1	1.025	....	..	Neg.	1.024	1	..	Neg.	Big fellow; heavy drinker.
32	Recto-vaginal fistula	F.	9	2	60	2	1.015	....	..	Neg.	1.022	.....	..	Neg.	
33	Inguinal adenitis.	M.	15	2	63	5	1.014	....	..	Neg.	1.020	Faint trace	..	Neg.	Heavy drinker.
34	Recto-vaginal fistula	F.	9	2	30	2.5	1.020	....	..	Neg.	1.020	.....	..	Neg.	
35	Varicose veins	M.	8	2	100	6	1.029	....	..	Neg.	1.030	.....	..	Neg.	
36	Plaster to knee joint	M.	6	2	40	2	1.020	....	..	Neg.	1.023	.....	..	Neg.	
37	Ischio-rectal abscess	M.	6	2	27	1	1.015	....	..	Neg.	1.015	.....	..	Neg.	
38	Axillary sarcoma	F.	4	1.5	25	0.5	1.020	....	..	Neg.	1.020	Faint trace	..	Neg.	
39	Resection of knee	F.	12	3.5	55	2.5	1.028	....	..	Neg.	1.027	.....	..	Neg.	
40	Gastro-enterostomy	M.	9	1.5	121	4	1.024	....	..	Neg.	1.022	2	.	Casts.	
	Average		8½	2½	48⅞	2⅞									

of the frequency and regularity of adding a fresh drop. In all of the forty cases here presented I did not have one cyanotic patient. There was no vomiting during operation, no tongue to be replaced, and no stimulation necessary. It is also interesting to note that such an administration of ether is entirely compatible with the frequent admission of oxygen; that is, we may even withdraw the cone from the face for two or three minutes. The advantage of this is self-evident. As a rule, when a patient swallows his tongue it is due to a saturation of the system with ether.

As I have already stated, I believe that *the bad sequelæ of etherization are in direct proportion to the amount* observe here that, the patients being "alcoholics," a longer time proportionately was required to etherize them and so to maintain them. Sex also, as shown by the tabulation, has an appreciable influence. See cases Nos. 4, 5, 7, 9, 11, 12, 17, 32, 34, 38, 39. Roughly stated, we find that it requires a longer time to etherize women than men, but a relatively smaller amount of ether is required to accomplish etherization and to maintain them in such a state. This difference as regards the amount of ether required may be due to the influence of bodily weight.

The Effect on the Kidneys.—Barensfeld, Feuter, Wunderlich, Wier, Wood, Shrady, and others have

shown the effect of ether in producing albumin and casts, so that I will not enter into a detailed discussion, except to say that in my statistics only four cases had an appreciable degree of albuminuria produced; in three of these casts were found, but all cleared up in two or three days. See cases Nos. 12, 14, 28, 31, and 40. It is interesting to note that five patients had a trace of albumin prior to etherization, but *no* increase subsequent thereto. See cases Nos. 5, 10, 15, 16, and 27. Only three patients who prior to etherization had albumin showed an increase thereof subsequent upon the ether administration.

I wish, however, to call your attention especially to the effect of etherization on the specific gravity of the urine. Twenty-two showed an increased specific gravity, eleven showed a decreased, seven showed no change at all. So far as I have been able to ascertain, this subject of changed specific gravity has never been largely investigated. Would not this be an interesting subject for research on the part of hospital internes? I had intended investigating the relation of urates, phosphates, etc., but in my day I was too much otherwise occupied. *A propos* of still further investigation on the subject of etherization, I believe we have yet much to learn from experience. I need only to remind you of the possibilities of warmed ether, as suggested by Dr. Diaz de Leaño, of Barcelona, Spain.[1] As regards the evil effects of ether causing a reduction in bodily temperature, I am of the personal opinion that the baneful effects are overestimated, and, if active, can be readily counterbalanced by seeing that the patient is well covered prior to, during, and after the administration of ether.

Other Sequelæ of Etherization.—The influence on the bronchi was practically *nil*, no patient having contracted any bronchial disturbance. As regards the nausea and vomiting I regret to state that the detailed statistics relating to this subject were unfortunately mislaid. My recollection of them, however, is that actual vomiting occurred in less than ten per cent. of the cases. I believe that the ideal plan in all cases is to administer a small dose of Magendie's solution hypodermically, directly *after* ether has been withdrawn. This minimizes the tendency to nausea and vomiting, and gives the patient a refreshing sleep, thereby permitting the acute pain felt in coming out of ether to be deadened and securing a minimum of disturbance to surgical dressings, etc.

To conclude, I would summarize as a deduction from my experience the following:

1st. That etherization should be intrusted only to experienced hands.

2d. That a special cone is not necessary for successful etherization. The simpler and less complicated the apparatus the better.

3d. That the so-called "force method" of etherization is unnecessary, cruel, and ofttimes injurious.

4th. That vastly better results are obtained by a gradual, quiet administration.

5th. That the amount of ether employed should be minimized, preferably given drop by drop after anæsthesia has been fully established.

6th. That the evil sequelæ are directly proportionate to the amount of ether employed, and indirectly proportionate to the duration of the anæsthesia.

7th. That the so-called baneful after-effects on bronchus, stomach, and kidney are largely overestimated, and in a large degree controllable.

8th. That women require a smaller amount of ether though a longer time to produce anæsthesia than men.

9th. That alcoholic subjects require a longer time and amount of ether to produce anæsthesia and to maintain it.

256 West Twelfth Street.

[1] British Medical Journal, December, 1891.

URINALYSIS OF THE SIX-DAY BICYCLE RACERS.

By DOUGLAS BROWN, M.D.,

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Believing that the apparently exhausted condition of the contestants in the six-day bicycle race, recently held at the Madison Square Garden, would yield some interesting results on the completion of a general urinalysis, I obtained, through the courtesy of the management, specimens from all the men, save one of the tail enders.

The eight leaders I examined on both the fifth and sixth days of the race. The differences between the two examinations, however, were very slight. The leader shortly before the termination of the race voided urine that was neutral in reaction and markedly charged with earthy phosphates. On the day previous the reaction was acid and the microscopical examination negative. Another specimen, from one of the first eight, showed an almost immediate change from an alkaline reaction to an acid on stimulating the rider by champagne during the last hours.

The urines were universally light in color on the last day. On the day previous two were of a dark yellow, but their specific gravities were 1.030 and 1.034 respectively.

The specific gravities were high, varying from 1.024 to 1.034, and averaging 1.028. Sugar was absent. The reactions were distinctly acid in ten, faintly acid in two, neutral in three, and faintly alkaline in one.

As to albumin, I was able to find faint traces in but two men, and one of these had been subsisting on a diet of three beefsteaks a day. He was next to the last man in the race, and had been sleeping almost as much each night as the leaders slept through the entire week of racing. The other was the fourth man. His urine yielded albumin on both days. He left New York immediately on completion of his work, and I have been unable to obtain another specimen. In his case I found under the microscope a few granular but no hyaline casts. In the other case I found a considerable amount of calcium oxalate but no casts.

As to the microscopical examination of the others, there was a large amount of uric acid and of amorphous urates in one (the man stimulated by the champagne). There were present amorphous urates in fair amount in three; calcium oxalate in one; amorphous and triple phosphates in considerable amount in two; triple phosphates in small amount in one. Six yielded either a very little mucus, some epithelial cells from the bladder, or absolutely nothing.

A large number of the men had undergone the same strain several times before, and yet the kidneys remained apparently uninjured. So it seems unfair to infer that time might bring the lesions out.

The several hearts which I examined while the men were resting showed an exaggerated action, and though the rhythm was normal the frequency was somewhat increased. Two of the hearts were slightly enlarged. Both men had previously engaged in similar contests.

Regarding their diet, there seemed to be a great diversity of opinion among the trainers. Some favored meat; others opposed it. Milk was an important element in all the cases I was able to inquire into. Oatmeal and apples they also seemed to agree upon. The winner consumed six dozen apples during the six days. Eggs were generally avoided. Some used beef tea and the proprietary beef extracts. Strychnine in one-thirtieth-grain doses was employed by some toward the end; also aromatic spirit of ammonia, champagne, and small doses of brandy.

None of the men, in spite of their almost constant seat in the saddle, complained of constipation; but

diarrhœa was more or less troublesome up to the end of the third day.

In conclusion, it seems fair to assume that in a contest of this sort, or in the case of any excessive bicycle riding, provided the diet is easily assimilated and slightly varied, but little will be felt by the kidneys. The real sufferer seems to be the heart, which either has developed or struggles to develop the necessary hypertrophy.

41 East Thirty-Third Street.

Progress of Medical Science.

The Radical Cure of Inguinal Hernia.—Drs. Nelaton and Ombredanne (*Presse Médicale*, July 31, 1897) present a new operation, whereby they divert the proximal end of the spermatic cord from the inguinal canal and cause it to run through a hole made in the os pubis. By this method they are free to treat the inguinal canal without regard to the cord and to close it more effectually than in the method practised by Bassini. The entire inguinal canal is slit up, the hernia reduced, the sac removed, and the spermatic cord freed from adhesions and from its connection with the fibres of the cremaster muscle. The posterior wall of the canal is then divided on a grooved director. Then a button of bone as large as a centime piece is removed at a point about one-third of an inch below the upper border; this is effected by means of a punch-like instrument. A chain saw is then passed through the hole and the bridge of bone is divided at its inner edge, preserving its periosteal connection. This bridge bone is then raised inward by means of forceps and the cord is dropped into the perforation, after which the bone is replaced and secured in position. The abdominal wall is repaired in two layers; the deep layer is closed with a continuous suture *en surjet*, carried in from the conjoint tendon to Poupart's ligament. With the same thread the superficial layer is closed from below upward. The advantages of this operation as a means of curing hernia appear to be undeniable. The altered course of the spermatic cord lengthens it, which allows of more complete descent of the testicle in those in whom the latter organ is unduly retracted. A disadvantage which may accrue is the danger of damaging the spermatic cord by a growth of new bone around it. This has not occurred in any of the cases operated upon by the writers; before the latter condition could advance far certain pressure symptoms would be noticed, such as varicocele and œdema; should these symptoms occur there would then be time to liberate the cord by cutting a channel downward and dropping the cord beneath the bone.

Functions of the Thyroid Gland.—Dr. de Cyon reported to the Academy of Sciences of Paris, September 21, 1897, that he had made numerous experiments to determine the physiological relations between the nerves of the heart and the thyroid gland. He thinks that he has discovered two important functions of this organ not previously known. First, the thyroid gland produces iodothyrin, which accelerates the functioning of nervous centres which regulate the beating of the heart and the circulation of the blood. The function of the thyroid gland aids in transforming the salts of iodine in the blood into an organic compound, which is iodothyrin, and in relieving the nervous centre of an exceedingly dangerous toxic substance. The heart, by the intervention of the nerve filaments that it sends to the two laryngeals, directs the production of iodothyrin indispensable to its normal functioning. Second, the thyroid bodies, situated at the entrance of the carotid arteries into the cranial vault, constitute an apparatus intended as a protection to the brain against the danger of a sudden flow of blood: as the latter are provoked by too great heart action or by a notable contraction of the circulatory vessels. This preservative function of the thyroid glands is likewise ruled by the heart. In occasioning marked dilatation of the thyroid vessels, the heart intervenes as a safeguard of the cerebral organs either (*a*) in working, so to speak, the sluice gates in case of sudden danger, or (*b*) in increasing the production of iodothyrin in the case of persistent danger. Two important points in the treatment of goitre resulted from the researches of Dr. de Cyon. In the vascular and hyperæmic form of this affection, it is necessary carefully to avoid the employment of thyroid product and to have recourse to the internal employment of iodine. On the contrary, the thyroid products will be very useful in cases of atrophy and of strumous cachexia. In cases of immediate danger section of the expressor nerves in the vascular forms of goitre, and of the sympathetic nerve in the atrophic forms, may be tried; but for these atrophied forms, extirpation of the gland will always have a more immediate and lasting effect than section of the sympathetic nerves.

Colporteur's Tic.—At a recent clinic Dr. Grasset (*Nouv. Iconogr. de la Salpêtrière*, 1897, No. 4) showed a patient with distinct professional polygonal spasm which differed from the ordinary type of functional spasms, convulsive tics, paramyoclonus, and the various forms of chorea. The spasm was somewhat complex. At its maximum the left arm was drawn in closely to the trunk, while the right was thrown backward. The muscles involved seemed to be the trapezius, the left pectoralis major, the sterno-mastoid and the dorsalis major on the right side, which were thrown into a state of clonic convulsions. Such a mixed or crossed convulsive seizure has not hitherto been described. After careful analysis the spasm was classed as one belonging to the choreic movements designated as tics. In a certain sense this tic must be regarded as functional, since the patient states that the movements involved were just such as would be called into play in attaching his package of books over the left shoulder in the occupation which he had followed for many years.

Werlhof's Disease in the Chronic Form.—An instance of this rather rare variety of hemorrhagic purpura, to which Marfan specially directed attention several years ago, is recorded by Drs. Apert and Rabé (*La Bul. Méd.*, No. 94, 1897). The subject was a boy about fourteen years, in apparent good health, without anæmia or weakness, but who, besides having frequent loss of blood from various mucous surfaces, presented finely pointed hemorrhagic eruptions and violaceous ecchymoses on various portions of the body. The following treatment was given: Citric-acid lemonade at discretion; avoidance of violent exercise; a teaspoonful of a forty-per-cent. solution of calcium chloride in a glass of water at the beginning of each meal. The morbid symptoms and the lesions disappeared eight days after this treatment was begun. The following conclusions are drawn: 1. There is a morbid type of purpura which does not belong either to purpura hæmorrhagica or to the infectious purpuras. It approaches Werlhof's disease and differs from it only in its long duration. 2. It is in this type that are constantly observed the loss of retractility of the blood clot and the non-exudation of serum. 3. It is also in this type that chloride of calcium, recommended by Wright in purpura, seems to act with the most benefit. 4. We must distinguish from other forms of purpura the chronic form of Werl-

hof's disease. The confirming diagnosis is by examining the blood and finding non-retractibility of the clot. If the latter is present, calcium chloride in one or two gram doses should be advised.

The Injection of Artificial Serum as a Method of Preventing Death from Extensive Burns.—The serum employed by Tomasoli (*Monatsschrift für prakt. Dermatologie*, Bd. XXV., No. 2) is a solution of sodium chloride and sodium bicarbonate. In a sixty-year-old woman with an extensive burn of the third degree, injections of from three hundred grams to one thousand grams of serum in three days did not prevent a lethal termination. In a second case, a young man, twenty years of age, with burns of the first, second, and third degrees, covering the entire right side of the chest, the right axillary space, the whole of the right arm, shoulder, back, and buttock, recovery took place. The patient received daily from March 13th until April 6th serum injections of from two hundred and fifty grams to five hundred grams each, and on May 3d left the clinic in an improved condition. Tomasoli experimented on animals. The hind legs of rabbits and dogs were burned or scalded by being immersed in water the temperature of which was gradually raised to 70° C. All animals burned in this manner died within thirty-six or forty-eight hours. Six rabbits of the same weight as those employed for comparison received injections of fifty grams of artificial serum immediately after being burned. Four of them died within the first twenty-four hours; the remaining two continued to live. Ten dogs, burned as has been described, were daily injected with from one hundred and fifty to two hundred grams of artificial serum. Only two of them died, and in these death occurred a few hours after they were scalded. All test animals that did not receive serum injections died within the first two days, notwithstanding the fact that they were selected and kept in a practically identical condition with the other cases. The writer also states that if serum be taken from one of these scalded dogs (not treated by saline injection), or if from the flesh of one of these animals an extract be made, and a definite quantity of this serum or extract, proportionate to the weight of the animal experimented upon, be injected into a healthy dog, the dog will die. On the other hand, if a dog in practically the same condition as the other one be injected with artificial serum immediately after receiving a lethal dose of the extract, this dog will not die.

On the Pathology of Infantile Diarrhœa.—Excluding the purely functional dyspeptic troubles, Baginsky (*Arch. f. Kinderheilkunde*, XXII., H. 3-6) distinguishes two forms of infantile diarrhœa: the catarrhal (the type of which is cholera infantum), and the real enteric or follicular (the type of which is dysentery). Intermediate forms are also noticed. Pathological anatomy: 1. The catarrhal forms show but slightly marked changes; slight swelling of the mucous membrane, abundance of mucus, more or less injection, slight or marked follicular swelling. Microscopically: Marked cloudiness of the epithelium of the stomach and still more so of that of the small intestine; often epithelial cells are cast off. Besides these are the interstitial changes ranging from a moderate round-cell infiltration to actual necrosis. The mucous membrane of the large intestine shows similar, generally more marked changes. 2. The enteric forms in mild cases show the following macroscopic changes in the large intestine: redness, hemorrhage, marked swelling, which swelling often consists of hemorrhagic zones of solitary follicles. Microscopically: Enormous infiltration of white cells, often to the serous coat of the intestine. The kidneys show marked parenchymatous and interstitial degenerations, which may lead to pyonephrosis; aside from these cases there may be a direct pyelonephritis. The liver shows marked fatty infiltration and degeneration. The lungs show broncho-pneumonia, which, in the writer's opinion, is never metastatic. Otitis purulenta is a constant accompaniment of this disease. Microscopic examinations give no ground for the belief that bacteria force their way to the blood-vessels or lymphatics from the intestines. In the kidneys the bacteria are found mostly in the uriniferous tubules. In the lungs sparse colonies are found in the capillaries and many cocci colonies in the alveoli. In the ears the diplococcus lanceolatus is found almost without exception. Cultures of the intestinal contents show in almost all instances the familiar bacillus coli and bacillus lacti. Besides these the bacillus pyocyaneus was discovered as the cause of a severe form of enteritis in a house epidemic. Summing up, the writer concludes: 1. The diarrhœal troubles of children caused by the summer heat are at the beginning only functional disturbances, and are changes in the motor and secretory functions of the gastro-intestinal canal, combined with abnormal chemism. Later, marked changes in the stomach mucous membrane occur. 2. The changes may range from catarrh to necrosis of the mucous membrane. 3. The follicular changes are entirely independent of the catarrhal. In cases of long duration the two changes are often combined; in such, ulceration is likely to occur. 4. There are no specific bacilli which cause the disease, but the ordinary saprophytes in the intestinal tract take on exceptional virulence. 5. Under exceptional circumstances bacteria not commonly found in the gastro-intestinal canal may cause diarrhœa. Such bacteria also cause marked changes in the mucous membrane. 6. The presence of these bacteria in other organs is not excluded; in fact, they are found quite often in the kidneys. Such transported bacteria can produce anatomical changes from inflammation to suppuration. Their course in the circulation is not the usual one; they occur very rarely here, and even then sparsely. 7. The severest lesions are produced by the bacterial products of fermentation, whether such products are poisonous or not. Such fermentative decompositions are either ammoniacal, as the result of by-products of decomposition of albumin, or are acid. These products, ammoniacal or acid, are the active causes of inflammation in the intestinal canal, and thus attack the wall of the intestine. They are also carried by the blood-vessels or lymphatics to the other organs, and particularly to the organs of elimination (liver, kidney, etc.), and in this manner cause inflammation, etc., there. 8. As a result of the poison thus engendered by the bacteria the whole organism is rendered less liable to withstand disease, and is a more easy prey to the inroad of other bacterial infections. Hence many complications may ensue in the diarrhœal diseases of childhood.

Treatment of Syphilis.—A. Neisser ("Die Einreibungskur," Volkmann's "klinische Vorträge," No. 199, December, 1897) considers that the results obtained in the treatment of syphilis by the inunction of blue ointment are referable, not to the comparatively small amount of the agent which actually makes its way through the skin, but to the inhalation of the vapor of mercury, which the warmth of the patient's body is constantly causing to be given off. He recommends that patients spend as much of their time as possible in a single, well-warmed room, taking as little outdoor exercise as is compatible with health, in order that they may be constantly surrounded by an atmosphere charged with the volatilized metal. His routine is to apply four grams of a thirty-three-and-one-third or fifty-per-cent. ointment, either at bedtime or on

rising (no friction is necessary), increasing the amount by one gram every tenth application and continuing the treatment for forty-two days. If the mouth is properly cared for by the plentiful use of astringent and antiseptic lotions, the author thinks that stomatitis and salivation should never be produced, although a mild degree of either does not in most cases require suspension of the treatment for any great length of time.

The Value of Operative Interference in Peritonitis arising from affections of the female sexual organs has till recently been recognized in only two forms of the disease, viz., the tuberculous and the perforative. F. v. Winckel ("Ueber die chirurgische Behandlung der von den weiblichen Genitalien ausgehenden Bauchfellentzündung," Volkmann's "klinische Vorträge," No. 201, December, 1897) recommends a much more general application of cœliotomy, and divides suitable cases into five classes: 1. Tuberculous peritonitis in all of its forms is curable by abdominal section with evacuation of the exudate, although it is still a mooted point as to whether or not the cavity should be flushed; and if the former, whether aseptic or antiseptic solution is more advantageous. The wound is to be completely closed and no provision made for drainage. 2. Gonorrhœal peritonitis, although usually not very severe, requires operation when pyosalpinx tumors exist. The size of the tumor determines whether abdominal section or an anterior or posterior vaginal operation is to be performed. Drainage is unnecessary in most cases. 3. Diffuse post-operative peritonitis is to be treated by a partial reopening of the original wound and evacuation of the pus. Drainage is indispensable. 4. Diffuse puerperal peritonitis indicates operation as soon as the pus formation has reached an appreciable degree; drainage is necessary, and most writers recommend irrigation of the cavity. 5. Perforation peritonitis is nearly always fatal unless prompt surgical measures are taken. Abdominal cœliotomy with free incision is to be performed as soon as possible, and the affected organ or organs are to be extirpated. Drainage is needed only when purulent foci are left behind.

The Attraction and Fixation of Diseased Organs to the Exterior.—The drawing of internal organs toward the exterior and fixing them in this new position constitute a recent departure of contemporaneous surgery. This method fulfils a double end: First, an organ may be fixed to the external wall, either in order to maintain it in position, or, when it is proposed to extirpate it, one may bring it near the skin and in this way avoid infecting the serous membranes which surround it. Second, sometimes the organ is maintained in this new position in order to bring about atrophy, as in the case of the thyroid gland, or in operating for hydronephrosis, or for tumors of the kidney, or of the vaginalis in cases of hydrocele, or of the ovaries and uterus. Operations having for their end the simple fixation of the organ to the wall have been practised on five organs—the kidney, gall bladder, liver, intestines, and uterus. In using this method we have in view either the conservation of the organ or else the rendering easier and less serious operations which are to be carried out later. In the case of movable kidney, Dr. Jaboulay, in 1895, reported his method, which was to incise the adipose capsule and fix it to the skin without any thread touching the renal substance. Little by little the edges of the incision and the fibrous capsule of the kidney became covered with cicatricial tissue, which held the kidney in place. This was really the proliferation of the fibrous capsule of the kidney. The fixation of an organ having for its object a secondary intervention has been applied to the liver affected with hydatid cysts or tumor. The fixation of this organ having been attained, removal of the tumor became very easy, fear of peritoneal infection was removed, and the treatment of a possible hemorrhage greatly simplified. Unfortunately this method can serve only for affections at the free edge of the liver, which alone can be drawn out. This method has been practised on the gall bladder a number of times. Bloch (*Revue de Chirurgie*, 1893) shows its superiority over cholecystotomy, which exposes to too much infection, and over methods which, in determining adhesions between the cystic peritoneum and the parietal peritoneum before opening of the gall bladder have the inconvenience of fixing the viscus to the wall by strong adhesions. Dr. Jaboulay operated on a woman who, having had intense hepatic colic, had the cystic duct obliterated by a calculus: from this there was a distention of the gall bladder, which rapidly attained the size of the fist. The bladder was very mobile and easily fixed to the wall after being incised and spread out. The patient left the hospital cured in six weeks. Atrophy of the viscus followed this exposure to the air. The clinical value of this operation can be clearly affirmed. These operations practised on the uterus have given excellent results. In all cases the uterus is fixed as a preparation for secondary intervention. We have never seen an instance in which the purpose was to bring on atrophy. When the uterus adheres to the abdominal wall, it is easy to enucleate fibromata which are present. Hemorrhages and infection of the peritoneum by the liquid of the cystic fibroma need not be feared. Necrosis of the pedicle is more rapid; the operation has also the advantage of not being done at the bottom of the cavity, where liquid stagnates. If one does not wish to extirpate the uterus, it is necessary to put it back when the wound has healed. In operations for artificial anus, infection of the peritoneum is rare except when the anus is the ending of a median laparotomy made for intestinal obstruction. In this case Dr. Jaboulay conceived the idea of drawing the intestine far out, in such a way that the incised parts would be far away from the cutaneous wound. In case of the incision having been made in the median line, a portion of the intestine drawn out was fixed for some days to a fold in the groin; then the intestine was permitted to enter voluntarily into the abdominal cavity. Another procedure, more simple and rapid, was to draw out a segment of the intestine and to fix the peritoneal covering to the edges of the incision without the thread traversing the parietal peritoneum. Without waiting for the formations of adhesions, the edges of the mucous membrane are fixed to the tegument at a sufficiently great distance from the edges of the cutaneous incision (about the width of two fingers). After absorption of the threads the mucous membrane enters into the interior of the digestive tube, the rupture being only temporary. This procedure is easy of execution and removes nearly all danger of inflammatory complications. In regard to fixation having for its object atrophy of the organs, we find that this method was first used for the thyroid gland, but it has since been applied to the testicle, kidney, spleen, and ovaries. Inversion of the vaginalis as a means for the radical cure of hydrocele offers certain advantages. It is given as one of the methods in the treatment of hæmatocele. Dr. Jaboulay reports one case of double hæmatocele, in which the wall of the vaginalis was very thick and of so fibrous a character that one naturally hesitated between decortication and castration. It was found that complete decortication was impossible, and double castration was refused. Dr. Jaboulay conceived the idea of operating as follows: The vaginalis was incised and the testicle was brought outward. The serous membrane then formed a large convex surface over the anterior part of the scrotum; it was cov-

ered with iodoform gauze. Under the influence of effusion it soon became covered with granulation tissue. The testicle entered by degrees into the interior of the sheath, and one could see only a slit in the tissue, without which it would have been impossible to distinguish between the vaginalis and the edges of the incision. The value of this operation is indisputable. It gives the same results as complete decortication. It is simpler to perform, and is free from the danger to the testicle. The only objection is the length of time necessary to obtain complete cicatrization. Atrophy of the kidney obtained in this way was more rare. Fixation of the spleen has been too rare to permit of our drawing conclusions. Fixation of the ovaries to the exterior has given good results. This is done in two ways. The ovary is spread out either on the abdominal wall or on the vagina. Under the influence of effusion, and probably also because of interference with the circulation of the pedicle, the ovary becomes atrophied. If it should be affected with a tumor, this either atrophies slowly or may be extirpated a short time after. This operation has the advantages of avoiding danger from hemorrhage or infection of the peritoneum by sutures; also of slow and progressive suppression of the ovaries and their secretions. The great inconvenience is that it can be applied only to patients in whom the ovaries are not bound down to other organs by adhesions. In conclusion, it may be said that these operative procedures are so new that we cannot as yet set a just estimate on their value. If we wish simply to transform a deep organ into a subcutaneous one, the secondary symptoms are notably simplified. The fear of infection or of slow hemorrhage is almost entirely removed. If we wish to bring about atrophy of the organ, the same advantages are present; we may also add to these advantages the rapidity of the operation and the possibility of performing it with fewer assistants and fewer instruments. If two organs are suppressed at the same time, their slow and progressive disappearance accustoms the organism to the cessation of their secretions. If one has in view the extirpation of one organ, the compensatory hypertrophy of the other can establish itself slowly. It is to be hoped that experience will encourage surgeons to follow this method.—Dr. Thévenot. *Lyon Médical*, August 29, 1897.

Surgical Suggestions.

Pressure Theory of Hernia.—The compression of the viscera by the abdominal muscles may produce a hernia suddenly or gradually at one of the weak spots of the belly wall. Some original or acquired defect of the abdominal wall at those places is present in some cases, is probable in all. In persons structurally perfect the abdominal wall may undergo changes from repeated internal pressure under certain circumstances, or from disease and other debilitating influences, whereby it is at length unable to withstand the distention to which it is subject. In those structurally imperfect defects may be so great as to give rise to early hernia. With defects of lesser degree the structures involved may undergo changes resulting from growth or from various debilitating influences, which diminish still further the strength of the abdominal wall till it no longer resists the intra-abdominal pressure. Hence the principal cause of hernia would appear to reside in imperfection of the structures which form the openings through which herniæ escape. But one factor alone is not as a rule sufficient to determine the descent of a hernia, and this is attested by the occasional presence of a congenital opening without a protrusion.—Macready.

Ballooning of the Rectum.—The phenomenon termed ballooning of the rectum has been said to be a sign of stricture of the colon. On introducing the finger into the anus in a case in which this condition exists, the bowel will be found to be empty and the rectum so dilated that the finger can at first scarcely reach the limits of its walls. The precise cause of the curious condition has not yet been defined. It evidently concerns the innervation of the bowel. Ballooning of the rectum is often met with in stricture of the colon. It is, however, not diagnostic.—Treves, "*System of Surgery*," page 642.

Obstruction of the Small Intestine.—This most usually takes an acute form. The pain is very intense: vomiting is early copious, persistent, and apt soon to become—on an average about the fifth day—stercoraceous. Meteorism appears comparatively late and is seldom of high grade.

Direction of Pressure in Reducing Hernia.—In a non-pendulous umbilical rupture the pressure is directed backward; in an oblique inguinal hernia upward, outward, and backward; in a large femoral rupture downward, then backward, and a little upward. There is no need to raise the buttocks or to flex and adduct the thigh. The former posture is supposed to allow gravity to assist the surgeon's efforts, and the latter to effect a relaxation of the tissues about the hernial opening. It has, however, been pointed out by many that the taxis is more readily applied when the margins of the opening are not fully relaxed. The flexion and adduction of the thigh are certainly quite useless in dealing with inguinal hernia, but the position appears to be occasionally of assistance in reducing femoral ruptures.—Treves.

Protection against Infection.—A series of experiments has been made which confirmed the opinion of Dr. Billroth that granulation tissue affords an excellent protection against infection. Granulating wounds in various animals were inoculated with different infectious material, and it was found that when the wounds were only two days old no infection occurred. He believes that the cell layers from the granulations form an impermeable protective wall for the open lymph and blood paths from the wound. The exudation from the granulating surface then washes away mechanically the bacteria, which are at last removed with the dressings. The writer is of the opinion that the bactericidal action of the juice from the granulating area and phagocytosis play an entirely secondary rôle. Therefore a practical point of importance is that the slightest abrasion of the granulations may give ingress to bacteria.—Noitzell.

Intussusception.—There are four varieties of intussusception: 1. Enteric: 2, colic: 3, ileo-cæcal: 4, ileocolic. The enteric involves the small intestine and especially the lower jejunum and ileum. It is usually quite short. The colic may be found in any part of the colon, but is most common in the descending colon and sigmoid flexure. It also seldom attains great length. In the ileo-cæcal invagination the ileum and cæcum pass into the colon preceded by the ileocæcal valve, which forms the apex or free extremity of the intussusceptum. This form may attain great size, so that the valve may reach the anus and project beyond it. In the ileo-colic form the end of the ileum is prolapsed through the ileo-cæcal valve. The valve and the cæcum remain, for a while at least, unmoved, and the prolapsed ileum always forms the apex of the intussusception. Out of one hundred cases of intussusception about forty-four will be ileo-cæcal, thirty enteric, eighteen colic, and eight ileo-colic.—Frederick Treves, "*System of Surgery*," page 634.

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THE NEURON.

IN the old, old days of medicine, some ten or twelve years ago, there were nerve cells and nerve fibres, and these joined in various ways were enough for the Acadian needs of those pre-neuronic times. But in the early eighties there were many startling discoveries made about the structure and relations of the nerve cell and fibre. The latter was shown to be an integral part and process of the former. The nerve fibre was no longer a thing of itself, but simply a long and tenuous branch of the cell body, living or dying just as this latter directed, and as dependent upon it as the branch upon the trunk or the proboscis upon the head. This union of cell and fibre in one nervous unit was recognized and accepted by anatomists for several years, but a concept is made clearer by receiving a good name, and in 1891 Professor Waldeyer called this unit a neuron, from the Greek word νευρόν. Along with the demonstration of this unity of cell and fibre, other equally important facts were observed. Through the influence of Gerlach, it had been generally believed that the nerve cell sent off fine protoplasmic processes, which mingled in a rich network, and that the fibres and processes of other cells penetrated and united with this, so that the protoplasm of all nerve cells was joined in one complicated *continuum*. If we should begin to mention names, there would be no end to our exposition; so we shall only say that through the labors of His, Forel, Cajal, and others, it was shown that Gerlach's ideas were false. The nerve cell does send off many fine processes (which enrich our nomenclature with the name of dendrites), but these all branch and split up to end in free extremities, never uniting with other processes or fibres of other cells. It was also found that the nerve or axis-cylinder process leaves the cell body, takes on a myelin sheath, and gives off as it passes along little side branches, which may run a long distance and are called the "nerve collaterals." The fibre itself and also these collaterals finally split up and end in freely branching tufts of fine fibrils, called the "end tufts" of the nerves. These end tufts lie close to some nerve cell, and mingle their fibres with the "dendrites" of this cell; but they never unite anatomically with them. They simply touch them. Everywhere we find that each neuron is an anatomical republic of its own, though physiologically the contact relations are so sensitive that the slightest impulse flows over from one neuron to another, so that disorders or disarrangements of this contact cause changes in the functional activity of the nerves.

The neuron is divided, like many other important things, into three parts: 1, the cell body and its dendrites; 2, the axis cylinder with its nerve continuation (forming the neuraxon), and collaterals; 3, the end tufts.

The neurons as thus composed make up the great mass of the nerve centres and of the peripheral ganglia, with their outgoing fibres. Some of these neurons are extraordinary in the length and range of their axis-cylinder processes. Thus the neurons which are found in the motor areas of the cortex of the brain send off axis-cylinder processes which reach down as far as the anterior horns of the lumbar and sacral portions of the spinal cord. Such nerve units are therefore, although microscopical in size, over two feet in actual length. Other neurons have very much shorter processes, which soon break up into terminal filaments, and have mainly the function of connecting the different internal portions of the cerebro-spinal axis.

Physiological speculation has not lost time in interpreting the meaning and function of all these different parts. The dendrites were thought by Golgi to be purely nutritive organs, but it is more generally believed now that they carry nerve impulses from the end brushes of distant neurons to the cell body. The axis cylinder is known, in most cases at least, to carry impulses away from the cell body. It is cellulifugal, while the dendrites are cellulipetal.

Ingenious applications of the neuron doctrine (for it is no longer a theory) to the phenomena of fatigue, of sleep, hypnotism, hysteria, and various other nervous and psychic states have been made. If by cellular contraction from fatigue the end tufts of the neuraxons touch less perfectly the dendrites of the next series of cells, the nerve impulses are not so easily transmitted, and consciousness is lessened or more painful, and sleep or feelings of fatigue and incapacity for attention are felt.

New words may be coined with the strictest regard to etymology and orthoepy, but they become part of language through certain inexorable laws, against which the neuronymist struggles in vain. Desperate protests have been registered against the word neuron. Kölliker prefers neurodendron; Kauber, neura; Baker, neure; Schaefer, nerve cell; and Wilder holds that neuron is the cerebro-spinal axis. But in nearly all current and standard literature—French, German, English, American, Italian, Spanish—the word is continually used as first introduced by Waldeyer. And it has at last reached a general dictionary, The Standard, with the Waldeyer spelling and meaning. Even the spelling has been trifled with, and one or two of the younger American anatomists have patched on a terminal "e," making it neurone. But it has been neuron for six years, it stands thus in all American and English literature, and is very likely to remain as spelled in the German way by Professor Waldeyer.

We may say, in conclusion, that although the term was used and described in a text-book of nervous diseases, published in 1892, it is not found in any modern medical dictionary (even the new Sydenham's) which we have been able to consult. The word neuron is found, to be sure, but it is defined as "the nerve," "the cerebro-spinal axis," or "the nervous part of the eye of the arthropod." But this is no longer correct. Neuron was practically never used in the above meanings. It now signifies to all alert minds the nerve unit, and the lexicographer, no longer *æternum meditans decus* of his authority, must adjust himself to the situation.

LEGISLATION AGAINST MEDICAL-CHARITY ABUSES.

Chapter 546 of the general laws of the State of New York provides that the State board of charities shall visit, inspect, and maintain a general supervision of all institutions, societies, or associations which are of a charitable, eleemosynary, correctional, or reformatory character, whether State or municipal, incorporated or not incorporated; shall approve or disapprove the organization and incorporation of all such institutions; shall inquire into their management, and shall establish rules for the reception of inmates, investigate the condition of the poor seeking public aid, and advise measures for their relief. The purpose of the law, in other words, is "by specifically defined action to exercise such a control and influence over the charitable activities of the State, both public and private, as will serve to raise them to a high plane of usefulness, honor, and dignity."

These powers, except to a limited degree, have never been exercised in connection with free medical dispensaries, nor has the exact status of these institutions in the eye of the law ever been clearly defined. The enormous increase of dispensary abuse has excited well-founded alarm, not only on the part of the physician, who is compelled to stand idly by and see his daily bread filched from him under the cloak of charity, but also of the sociologist, who is aware of the direct menace to the underlying principles of economics which is conveyed by universal encouragement of the evil. When the number of persons applying for and receiving free medical and surgical treatment at the dispensaries of a city bears a relation of 49.7 per cent. to the entire population, as was the case in New York last year, it would serve as an alarming commentary on the progress and wealth of the community if the figures even approximately represented the number of applicants who were in any measure worthy of the charity bestowed. On the contrary, it has been conservatively estimated, by those competent to judge, that fully seventy per cent. of these persons were abundantly able to pay a physician at least a moderate fee for his services, and, this being the case, it is evident that the time has come when the condition of affairs must be looked squarely in the face and heroic measures taken to bring about reform.

To this end the Medical Society of the County of New York and other medical societies have caused a bill to be introduced in the legislature during the present week, providing for an amendment to the State charities law of 1896. This bill clearly defines a dispensary, and provides that all such institutions shall be placed under the control of the State board of charities. All dispensaries must obtain a license from the board under which to conduct their operations, and the board is empowered to refuse such licenses, or, if granted, to revoke them in case the rules and regulations which the bill authorizes it to make are not complied with. No dispensary shall be conducted in any drugstore or tenement house, and violation of the provisions of the act or of the rules and regulations of the board is made punishable by a fine of not less than $10 and not more than $250. October 1, 1898, is the date specified for the act to take effect.

While many undoubtedly think that it is unwise and perhaps unnecessary to resort to legislative enactment for the suppression of medical-charity abuses, it must be remembered that since 1870, when the percentage of the city's population receiving free medical treatment at the dispensaries amounted only to 1.5 per cent., every combined effort to control it by other means has resulted in complete and unconditional failure. The present bill perhaps has its faults, but if it becomes a law experience with its workings will point out the best method of instituting improvements. Every medical man in the State should give it his hearty support.

THE HEALTH-BOARD BILL.

Our matutinal coffee is being daily seasoned with scare-head paragraphs in the morning journals, referring to the bill recently introduced in the legislature by the County Medical Society. As a rule, the statements made concerning it are highly flavored with error, although some of them appear to indicate the source from which they originated. Is this clamor on the part of some minor officials of the health board actuated solely by a desire for the public weal, or is it from fear that if the bill should become law their occupation would be gone? When the matters which led up to the preparation of this bill were last spring under discussion before the society, not a single voice was raised in opposition to the impending condemnation of the health board. Even the health commissioner himself, though present, failed to say a word in defence of the board. When the president of the society, in November, condemned the arbitrary and improper procedures of the board, he was applauded to the echo. When, a month later, the committee of five presented its report, including this new bill, it was adopted unanimously; and another month later, at the meeting held last Monday, there was ample opportunity for any one not pleased with the bill to state his objections, yet no one saw fit to do so. Why, we ask, why did not the sanitary officials avail themselves of these ample opportunities to defend their course before the proper tribunal, rather than at the last moment deluge the public with their complaints?

A LITTLE TOO PREVIOUS.

THE *Philadelphia Medical Journal* speaks editorially as follows: "Of the wisdom of requiring cases of tuberculosis to be reported to the board of health, better evidence could not be asked for than that furnished by a recent report of the board of health of New York City, showing a positive and considerable reduction in the mortality from tuberculous disease in that city since notification of such cases has been made obligatory." This would be very well, except that it is not quite in accord with the facts. It is true that in January a year ago the health board did promulgate an order requiring physicians to report all cases of tuberculosis. The order, however, excited much indignation in the profession, and the County Medical Society unanimously adopted the following resolution: "That in the judgment of this society the recent edict of the health department in relation to the compulsory reporting of cases of tuberculosis is unnecessary, inexpedient, and unwise." It is quite within bounds to say that the ordinance referred to has been honored more in the breach than in the observance; and that if there has been a diminution in the mortality from tuberculosis it is not due to the causes assigned by our contemporary. It concludes: "Let the good work go on." What good work?

News of the Week.

The Vermont State Board of Health has recently established a bacteriological laboratory in which bacteriological diagnoses will be made free of charge for physicians of that State. The laboratory will be opened for this branch of its work on February 1st.

Health-Board Assignments in Queens.—Dr. S. McCallum has been appointed head of the sanitary department of the health board of Queens, and Dr. Charles H. Steinsock has been put in charge of the contagious-disease department in the same borough.

Albany Medical College Alumni Dinner.—The third annual banquet of the Albany Medical College Alumni Association was held at Hotel Savoy, January 20th. The president, Dr. Horace Tracy Hanks, acted as toastmaster, and the following invited guests responded to impromptu toasts: Rev. Dr. A. V. V. Raymond, president of Union University; Rev. George Alexander, president of Union Alumni Association; Rev. W. C. Bitting, Hon. Charles M. Earle, Capt. Arthur Murray, U. S. A., and Drs. George F. Shrady, J. M. Mosher, T. D. Crothers, and H. B. Maben.

The Obstetrical Society of Cincinnati.—At the annual meeting of this society the following officers were elected: *President*, Dr. E. S. McKee; *Vice-President*, Dr. W. D. Porter; *Recording Secretary*, Dr. William Gillespie; *Corresponding Secretary*, Dr. M. A. Tate; *Treasurer*, Dr. George E. Jones; *Librarian*, Dr. C. L. Bomisfield.

The New York Medical League.—At the annual election of the New York Medical League, held on January 14th, the following officers were chosen for the ensuing year: *President*, Dr. Joseph E. Janvrin; *Vice-President*, Dr. Frederick R. Sturgis; *Recording Secretary*, Dr. John C. Schminke; *Corresponding Secretary*, Dr. Douglas H. Stewart; *Treasurer*, Dr. E. Eliot Harris; *Trustees*, Drs. Frederick H. Wiggin, E. J. Gallagher, and S. Kennedy; *Finance Committee*, Dr. W. H. Weston; *Members of Executive Committee*, Drs. J. Smith Peterson, Joseph E. Messenger, George D. McGawran, and Wickes Washburn; *Delegates*, Drs. Adolph Rupp, Heinrich Stern, and Joseph H. Byrne.

Decrease of Drunkenness in Ontario.—The license inspector of Ontario, Canada, has recently made a report in which he presents a number of comparative statistics, showing an apparent decrease in the consumption of alcoholic liquors in that province. In 1894–95, the number of licenses was 3,873; in 1895–96, the number was 3,801; and in 1896–97, 3,653. In 1894–95 the fines collected amounted to $17,243.46; in 1895–96, $16,979; in 1896–97, $14,457.01. In 1889 the number of commitments for drunkenness was 4,789; in 1890, 4,573; in 1891, 3,614; in 1892, 2,736; in 1893, 2,625; in 1894, 2,274; in 1895, 2,237; in 1896, 1,907; in 1897, 1,716.

Radical Prophylactic Measures against Rabies.—It is said that, in consequence of a death from hydrophobia in Pisek, Bohemia, the local authorities ordered every dog in the town to be killed.

Small-Pox in Cuba.—Thanks to the insanitary conditions which have prevailed in Cuba from its first settlement by the Spaniards, the island, and especially Havana, has always been a centre of deadly disease. For many years small-pox and yellow fever have been endemic in Havana and the larger cities, the former prevailing with special virulence in the colder months and the latter in the rainy season. The sanitary inspector of the United States Marine Hospital service stationed in Havana reports to the supervising surgeon-general that deaths from small-pox are now increasing in number as those from yellow fever grow less. He says that during the week ending January 14th only four cases of yellow fever resulted fatally in Havana, three of them being in the military hospital. Deaths from small-pox, however, have greatly increased, and the report predicts that the disease will spread rapidly during the next few weeks.

Antitoxin of Hog Cholera.—The chief of the bureau of animal industry in Washington has submitted a report upon the experiments made in the treatment of hog cholera with antitoxin. The serum is obtained from horses and cattle which have been inoculated with the hog-cholera virus. It was tested last fall on several herds of swine in Iowa. Out of 244 animals treated, of which 86 were already sick, only 39 died. Consequently 82.86 per cent. of the animals in these herds were saved, while about 85 per cent. of untreated herds died. The secretary of agriculture purposes to ask Congress for an appropriation which will enable the department to furnish two million doses of the serum for distribution to the farmers

during the coming year. We cannot see why the department of agriculture should go into the antitoxin business when there are enough competent persons in the country who would be glad to manufacture and sell the serum at a reasonable price. It has no more business to go into the manufacturing business than has the New York board of health.

The Late Dr. O'Dwyer.—At the recent meeting of the Medical Society of St. John, N. B., Canada, the following was adopted:

"*Resolved*, That this society has learned with profound regret and sorrow of the death of Dr. Joseph O'Dwyer, of New York, at an age at which we might be led to expect from a man of his character and accomplishments still greater achievements in the domain of science.

"That in Dr. O'Dwyer's death the profession in America has lost one of its brightest ornaments and one of its scientific heroes; who, by his steadfastness of purpose and persevering labor, initiated, demonstrated, and popularized the procedure of intubation of the larynx in diphtheritic croup, a procedure which has been phenomenally successful in rescuing from certain death tens of thousands of patients annually.

"That in the great galaxy of brilliant names which this closing century presents to the century about to dawn there is none deserving of a more honored place than that of Joseph O'Dwyer. And further

"*Resolved*, That this society desires to convey to his family, the immediate circle of his friends, and to the profession in New York, its sincere and heartfelt sympathy in the great loss they have sustained in his early removal from a sphere of great usefulness and activity."

The medical board of St. Vincent's Hospital, at a special meeting held January 8, 1898, caused the following minute, relating to the death of Dr. Joseph O'Dwyer, one of the physicians of the hospital, to be entered on its records:

"The members of the medical board of St. Vincent's Hospital have learned of the death of their colleague, Dr. Joseph O'Dwyer, with profound regret. He was faithful and conscientious in the performance of every duty devolving upon him as a medical officer of the hospital, while the scientific spirit which governed and directed his service in the care and treatment of the sick contributed both to the welfare of the patients and to the elevation of the standard of medical practice of the hospital. Dr. O'Dwyer was a most helpful companion and friend. In the field of scientific medicine he had gained a world-wide reputation by his discovery of a method of intubation in laryngeal stenosis, which has resulted in an immense saving of child life in diphtheria. Though yet in middle life, Dr. O'Dwyer had already won the highest prizes of human ambition, viz., the gratitude of the sick, the love and respect of his associates, and an exalted rank in his profession.

"C. J. MacGuire,
"P. S. Morrow,
"Stephen Smith,
"*Committee.*"

The Prevention of Typhoid Fever.—In the article on this subject in the Medical Record of January 15th, the tenth line from the end should read "one-tenth per ten thousand" instead of one per ten thousand.

For the Benefit of Overworked Drug Clerks.—A bill has been introduced in the legislature of this State which is designed to relieve drug clerks in the city of New York from extra long hours of work. The ostensible object of the measure is the prevention of mistakes in mixing wrong drugs, due to mental confusion resulting from overwork. The bill provides that no clerk shall work more than ten hours a day, except on Saturday, when he may work twelve hours. On Sundays and holidays only six hours' work is allowed.

Christian Science and the Law.—A Christian science "doctor" was fined $50 recently in a Kansas City police court for not reporting to the board of health a case of diphtheria in a family in which a ten-year-old child afterward died. The woman had administered Christian science treatment to the child. The case was appealed, but the judgment of the trial tribunal was sustained. In the opinion delivered in affirmation of the judgment of the lower court, the judge said the methods of Christian science in attempting to heal were frequently akin to murder.

Aged Parents.—A woman in Toronto who is over sixty years of age gave birth on January 21st to a baby girl. Her husband, to whom she was married seven years ago, is seventy-eight years of age. The mother has been married twice, and this is her twenty-second child. The day after this, not to be outdone by any foreigner, a woman sixty-five years old, living in Oklahoma, also gave birth to a baby girl. This mother has also a number of other children, ranging in age from thirty-five to forty-five years. Some of the male sex have, as might naturally be supposed, better records than this. A Tyrolese gentleman named Parravicini, is reported to have married at the age of eighty-two years, and to have been the father of seven children, the last of whom was posthumous, his father having died at the age of one hundred and four years. Juba, king of Mauritania, is believed to have died at the age of ninety-one years, leaving a posthumous child.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending January 22, 1898. January 18th.—Surgeon A. G. Cabell ordered home and granted three months' sick leave. January 20th.—Passed Assistant Surgeon A. W. Dunbar, order of January 12th modified; detached from the *Nashville*, and ordered to the *San Francisco* by steamer of January 22d.

A Belligerent Doctor.—A St. Louis physician was recently called upon just at the close of his office hours by a man who had accidentally shot himself in the hand, and asked to have the wound dressed. The physician, who is reported to be somewhat irascible,

and we are inclined to believe it, was preparing to leave his office, and declined to treat the visitor. When the latter insisted, the doctor chased him out of the house with a revolver. The would-be patient then returned with his father, and began to expostulate with the would-not-be surgeon, who rose in his wrath and chased them both down the street with a revolver. The wound was dressed by another physician, and the aggrieved party has got out a warrant for the doctor's arrest.

Telephones for Hospital Patients.—It is stated that telephones are to be placed in the wards of one of the Paris hospitals, within reach of the bedridden patients, so as to enable them to communicate with their friends outside. There will also be an arrangement whereby the telephones may be switched on to a wire connected with a concert hall, so that the performance may be enjoyed by the invalids.

A Proposed Quarantine Station on the Columbia River.—It is stated that, in response to urgent appeals of the Marine Hospital service, a quarantine station will be established at the mouth of the Columbia River, on the Pacific coast. There are at present no facilities on the Columbia River for the proper disinfection of vessels, the detention of suspects, or the treatment of those suffering from infectious diseases.

Hydrotherapy in Vienna. — Appliances for the employment of water in medical treatment have recently been placed in the Austrian military hospitals, and a chair of hydrotherapy is soon to be established in the University of Vienna.

Fire in a Hospital.—The hospital building of the Nursery and Child's Hospital, on Staten Island, caught fire last Saturday night at half-past ten o'clock, but the flames were extinguished before serious damage was done. The children were all removed to another building by the nurses, and none of them, it is thought, will suffer from the exposure.

The Dispensary Abuse.—A remedy for the abuse of medical charity, which has been suggested in Philadelphia, is that treatment at the dispensaries be given only to those bringing from some charitable association a certificate as to their worthiness.

To Prevent a Recurrence of Yellow Fever in the South.—The following suggestions, signed by Drs. J. H. White, of the Marine Hospital service; William Gorenflo, of the Biloxi board of health; and W. T. Bolton, health officer of Harrison County, Miss., have been published and sent to all residents in Harrison County: "1. Open wide to the cold air and sunlight every house on every cold day, not only once, but every cold day from now until March. 2. Hang out of doors all mattresses, pillows, cotton comforters, blankets, and clothing. 3. Unpack and hang out of doors all kinds of clothing, both woollen and cotton, which may be packed away in drawers, trunks, or boxes. 4. Turn over to the disinfecting service all mattresses, pillows, comforters, etc., used in or about the sick-room for any sort of fever during the past summer and fall. 5. Lastly, the mattresses, pillows, and comforters will be disinfected by steam, the other things by formaldehyde gas, and in neither case will anything be damaged. If it be necessary to burn any badly infected mattress, the government will replace the mattress with another of exactly the same quality. No discomfort and no loss to any one will occur."

"La Crónica Medica Mexicana" is a monthly periodical, established July 1st, in the City of Mexico, under the editorial management of Dr. Enrique L. Abogado, with the assistance of Drs. Demetrio Mejía, Manuel Barreiro, and Juan Duque de Estrada. We congratulate the learned editor upon the completion of the first volume, and prophesy a successful career for the *Crónica* if the standard of excellence set in the first numbers is maintained in the future issues of the journal.

The United Hebrew Charities.—A lot on the southeast corner of Second Avenue and Twenty-first Street has been purchased by a gentleman who, it is said, intends to erect a building to serve as a permanent home for the United Hebrew Charities.

The Health of Montclair.—The vital statistics of Montclair, N. J., for the past year show a remarkably low death rate. The deaths registered with the board of health represent a rate for the year of 12.98 per 1,000 on an estimated population of 12,000. The total number of deaths was 161, principally from the following causes: Consumption, 16; diarrhœal diseases of children, 15; pneumonia, 13; asthma, 13; heart disease, 12; marasmus, 6; apoplexy, 6; diphtheria, 6; typhoid fever, 4; scarlet fever, 2. There were 316 births during 1897.

Dr. Arthur B. Duel has been appointed consulting aural surgeon to the Willard Parker and Riverside hospitals in this city.

The Brooklyn Neurological Society.—At the annual meeting of this society, recently held, Dr. A. C. Brush was elected president, and Dr. W. H. Haynes secretary for the ensuing year.

The Ninth International Congress of Hygiene and Demography will be held in Madrid on April 10–17, 1898, under the patronage of the King and the Queen Regent of Spain. A most cordial invitation is extended by the secretary-general of the congress, Dr. Amalio Gimeno, to all physicians, health officers, pharmacists, veterinarians, sanitary engineers, architects, statisticians, and all interested in any of the subjects to be discussed, to prepare papers and attend in person the meetings of the congress. "This is the first time," Dr. Gimeno writes, "that an assembly of such importance as the International Congress of Hygiene and Demography is to be held in Spain, and every one of us is ready to demonstrate that, notwithstanding the political convulsions and wars that for so long a period have mostly absorbed our energies and our wealth, the care of public health and the love of science, as far as the study and acquaintance with every progress are concerned, are in a level with a superior culture, never so well understood as at present."

A Despotic Society.— According to the *Georgia Journal of Medicine and Surgery*, there is a medical society in Savannah, called the Georgia Medical Society, which has a law which requires that every man who purposes practising medicine in Savannah shall, within six months, apply for membership in the society, failing to do which no member shall consult with him; again, failing of election, no member shall consult with him.

Cholera in India.—There is reported to be a recrudescence of cholera in the Bombay presidency, especially in Mandwi, where the inhabitants are seeking safety in flight. There were 54 fresh cases of cholera and 37 deaths there from cholera on December 29th. The total cholera returns for the Bombay presidency during the year are 14,257 cases and 11,882 deaths.

A Chinese Edition of "Gray's Anatomy."—Dr. H. T. Whitney, president of the Medical Missionary Association of China, is engaged in the laborious task of translating "Gray's Anatomy" into Chinese. The undertaking has impressed Dr. Whitney's former associates in the Northern Ohio District Medical Society as one of such magnitude that they have come to his assistance by passing a special resolution congratulating him and wishing him God speed in his work.

The Æsculapian Society of the Wabash Valley is a contemporary of the American Medical Association, having been organized in 1846. Its charter was granted a year later, however, so it dates its foundation from 1847. The semicentennial meeting was held at Paris, Ill., in October last.

Contemplated Consolidation of Medical Colleges.—A mild flirtation is said to be going on in medical circles of Columbus, by which the Ohio State University desires to secure a union of the two local schools, to form a medical department of the State University.

Reorganization of the Graduates of the Charity Hospital Training-School for Nurses.—A union of the various groups of graduates of the training-school at Charity Hospital has been effected under the name of the Graduates' Co-operative Registry of the New York City (Charity Hospital) Training-School for Nurses. The members of the registry have elected the officers of the Charity Hospital Alumni Association as an advisory board.

Yellow-Fever Microbe.—At a meeting of the New Orleans Medical Society, held January 22d, Dr. Paul E. Archinard, bacteriologist of the Louisiana State board of health, made a report of his investigations during the recent yellow-fever epidemic. The experiments were conducted by Dr. Archinard, assisted by Dr. R. S. Woodson, of Johns Hopkins University, and Dr. John J. Archinard. The speaker announced that in a large proportion of the cases examined they had found the germ discovered by Sanarelli. They had also applied Widal's test to yellow fever, with success. By means of this test applied to cases of dengue, they found that in many instances dengue and yellow fever occurred coincidently in the same individual.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-Second Annual Meeting, Held in Albany, January 25, 26, and 27, 1898.

SENECA D. POWELL, M.D., OF NEW YORK, PRESIDENT.

First Day—Tuesday, January 25th.

THE meeting was opened with prayer by the REV. CHARLES A. RICHMOND, of Albany.

President's Inaugural Address.—DR. SENECA D. POWELL, of New York City, then delivered the inaugural address. He said that eight hundred and sixty-two candidates had appeared at the licensing examinations during the past year, and six hundred and twenty-seven had been accepted. The average percentage of rejection was twenty-two. The president recommended that better legal safeguards be thrown around the sale of poisons; that the place of meeting of the society remain as hitherto—Albany; and that no change be made in the method of electing the officers of the society.

Report of Committee on Legislation.—The committee, among other things, called attention to the effort made before the last legislature by the New York State Medical Association, to obtain equal recognition with the Medical Society of the State of New York. The committee of the latter society submitted to the legislature a brief, which contained such cogent arguments that the bill in question was permanently pigeonholed.

State Board of Medical Examiners.—DR. M. J. LEWI, in presenting this report, stated that the examinations of the five hundred and forty-five graduates of New York institutions were more satisfactory than those from other schools, in the ratio of two to one. In one case during the year, after proper evidence, the license to practise was revoked.

Change of Districts.—A special committee, having under consideration this matter, reported through DR. WILLIAM BROWNING that it favored the adoption of the present judicial districts instead of the obsolete senatorial districts of equal number. This measure, which was adopted by the society, involves the division of the fifth and eighth districts.

Place of Meeting.—After a long discussion on the advisability of having the society meet alternately in New York City, Buffalo, and Albany, the proposal to make this change in the bylaws was rejected.

Ear Manifestations in General Disease.—DR. WENDELL C. PHILLIPS, of New York, reported several cases illustrating the subject of the paper. He called attention to the fact that at the present time several life-insurance companies refused all cases of chronic suppuration of the ear, or else accepted them only after an expert had expressed the opinion that there was no probability of brain complications. The reader of the paper stated that ear symptoms produced by traumatism were often very puzzling. Otalgia was very common in both suppurative and follicular tonsillitis. As a rule, in such cases there was no inflammation of the middle ear. The author then considered, by reference to statistics, the important relation between deaf-mutism and adenoids of the vault of the pharynx. The paper closed with an earnest plea for more attention, on the part of the general practitioner, to the ear complications so liable to arise in the course of the acute exanthemata, particularly scarlet fever.

Cases of Acute Non-Diphtheritic Inflammation of the Larynx Requiring the Prolonged Retention of the Intubation Tube.—Dr. John O. Roe, of Rochester, reported two very interesting cases of this kind, in one of which the tube was retained for six and one-half weeks, and in the other for nine weeks. He stated that the late Dr. O'Dwyer had reported two of these curious cases, in one of which the period of retention had been ten months, and in the other fifteen months. In one of his own cases, the tube had been repeatedly coughed up, and this, too, in spite of the fact that the tube was somewhat larger than that intended for the age of the patient and that the tube had been skilfully made after the latest approved O'Dwyer pattern.

Report of a Case of Unusual Contraction of the Visual Field and Disorder of the Color Sense Following an Injury.—Dr. T. F. C. Van Allen, of Albany, reported a case of this kind, occurring in a painter, thirty-six years of age, who had been injured by a scaffold falling upon him. There was a scalp wound over the left upper and posterior part of the temporal region, but no evidence of fracture of the skull. Five weeks after the injury he discovered a blurring of vision, and some time afterward an inability to distinguish between certain colors. Examination of the eye showed, in addition to great contraction of the visual field, marked disturbance of the color field. At present the man experiences great difficulty in matching certain shades of green, except when viewed in a certain light.

The Railway Surgeon and His Work.—Dr. C. B. Herrick, of Troy, read this paper. He said that of the working force on the railroads of this country or more than one hundred a day were injured. The injuries differ from those received elsewhere in their extent and severity, the two most important determining factors being prodigious weight and high velocity. A slowly moving train crushes a limb as though it had been squeezed in a vice, but allows the proximal portions to retain their vitality. On the other hand, a high-speed train produces a form of injury which is often very misleading in its appearances. Owing to the elasticity of a limb, it is possible for a train to run over it and crush the deeper tissues without leaving any external mark. In railway surgery conservatism is chiefly practised in injuries of the upper extermity, particularly of the hand. Amputations through joints are not considered desirable, because the leaving of any part of a joint interferes with the proper application of an artificial limb. At present there are about six thousand railway surgeons, who, in addition to treating the injured, have done much in the way of establishing railway hospitals, training the employees in "first aid to the injured," and in improving the sanitary condition of railway conveyances.

The Rivals of the Physician in Practice.—Dr. Reynold W. Wilcox read a paper with this title, in which he spoke of the efforts made by certain "docs" to practise medicine, regardless of their qualifications. Among these rivals were the trained nurses who prescribe for patients, the nurses who consider themselves competent to treat heart disease by the Schott method, the chiropodists, the opticians, and the barbers. He had recently met with a case in which an obscure condition of urethral irritation and strangury had been traced to the use of a hair tonic that had been prescribed by a barber.

What Shall the State and Country do for the Consumptive?—Dr. John H. Pryor, of Buffalo, in a paper on this subject, stated that thirteen thousand consumptives die annually in this State, largely because misguided philanthropy had attended to the incurable cases, to the neglect of the many poor persons who have the disease only in its incipiency. The establishment of a proper home for such persons in the Adirondacks would probably be the means of saving twenty-five to thirty-five per cent.

The subject matter of the paper was referred to the committee on hygiene.

The Advantages of State Control in Medicine.—Dr. William Warren Potter, of Buffalo, read this paper. He urged the advantages that would accrue from having a uniform standard of requirements in all the States. Such a standard should embrace the triad of preliminary education, medical collegiate training, and State examinations for license. A national clearing-house, made up of representatives from the different States, could pass upon the diplomas of those who wish to change their residence from one State to another. The graduates of medical schools, as well as their teachers, now quite generally commend the work done under the "practice law."

Anæmia.—Dr. R. C. M. Page, of New York, read the paper. He defined anæmia as a deficiency in the number of the red blood corpuscles, and leukæmia as a condition in which there is also an increase in the number of the white corpuscles. He thought the term "chlorosis" should be restricted to that condition found in young girls in whom there is amenorrhœa or deranged menstruation, for it is not always associated with anæmia. Another variety of anæmia, and one not very commonly recognized, is that due to a relaxed condition of the abdominal walls and viscera, and a consequent increased activity of the spleen. Experience had taught him that when an anæmic woman does not readily respond to the usual treatment the spleen will almost invariably be found sufficiently enlarged to produce an area of dulness from the ninth to the eleventh ribs. His treatment consists in the internal use of iron, iodide of potassium, and arsenic, and the external daily use over the spleen of an ointment of iodide of potassium—two grains to the ounce.

The Overweighted Knee.—Dr. W. S. Ely, of Rochester, in a paper with this title, called attention to a small class of cases in which the function of the knee was affected as a result of the heavy body weight to be sustained. Knee strain can be produced just as much by obesity as by occupations requiring the lifting of heavy weights. The most troublesome cases to treat are those in which the muscles are lax, and the adipose tissue is overdeveloped.

Expert Medical Testimony.—Dr. J. B. Ransom, of Dannemora, presented a paper on this subject. He thought it was time that the medical profession took more than a languid interest in this topic, in view of a recent decision in an Illinois court (cited on the authority of Attorney-General Aitken) that the medical expert witness is in no way different from the ordinary witness. Dr. Ransom said that he had personally contested this much-vexed question three times in the supreme court of New York State, but had been supported by the court in only one of these instances. He said that it was now generally agreed that it would be better to have medical experts appointed by the trial judge for each case, and also to have some standard of qualification. It had been suggested that a certificate of qualification should be issued by the board of regents, after the applicant had passed a satisfactory examination and had practised his specialty not less than five years. In this proposed scheme of legislation, the people are protected by the appointment of experts by the court; the accused is protected by an impartial board of experts who pass upon hypothetical questions; and the medical profession is protected by the qualifications demanded of the experts.

Dr. Evarts M. Morrell, of New York, urged medical experts to insist upon proper remuneration for their services.

Dr. A. Walter Suiter, of Herkimer, described his experience in committee work during the past few years, relative to this subject. He objected to the court appointing the experts, for judges are but human and are open to the influences felt by other persons.

Dr. Landon Carter Gray expressed the same opinion regarding appointments by the judiciary, but he thought, with the safeguard of having the selections made from a list furnished by the board of regents, a good beginning in the reform movement could be made.

Dr. Edward B. Angell, of Rochester, said that this subject had recently been very fully discussed at Buffalo by a number of learned members of the legal profession, yet the consensus of opinion among them seemed to be that no plan yet proposed is feasible. Moreover, any such effort at reform would meet with strong opposition from a large class of lawyers who see in it diminished opportunities to rescue their clients from the clutches of the law.

Dr. Ransom replied that physicians should take the initiative in this matter, if the legal profession did not feel disposed to co-operate.

A Contribution to the Study of Melancholia, with a Report of the Examination of the Blood in Fifty-Seven Cases.—Dr. R. C. Loveland, of Clifton Springs, contributed this paper. His observations differed from most of those hitherto reported, in that they were made during the early stages of the disease. Attention was directed to the fact that the urine was often in a state of high concentration, suggesting that other secretions of the body were in a similar condition. In his observations the highest hæmoglobin percentage was one hundred and twenty by the Fleischmann instrument, and one hundred and thirty-five by the Gowers instrument. The lowest readings were seventy-five and ninety per cent. respectively. He stated that one observer, who had examined the blood in thirty-five cases of melancholia, had reported a deficiency in the hæmoglobin and of the hæmatocytes, but he had never met with melancholia in cases of anæmia. In the treatment of melancholia, elimination should be promoted in every possible way, not forgetting the solvent power of water when partaken of freely. Out of the fifty cases of melancholia under his treatment for a long time, thirty-five had ended in recovery, eight had been improved, and only two had remained unimproved. He attributed his success largely to the great attention paid to the proper feeding of those patients.

Dr. Russell said he would ascribe the success achieved in these cases to the careful selection of the food rather than to the quantity taken; the common fault was to give an excess of food as compared with the amount of exercise taken.

Dr. L. D. Bulkley, of New York, believed the secret of this success was to be found in the author's expression, that he takes a careful "inventory" of his patient, and does not neglect the minor details.

Dr. Edward D. Fisher, of New York, expressed the belief that melancholia, as well as other forms of mental disease, were greatly benefited by excessive feeding.

Dr. Loveland replied that both quality and quantity of food were important.

The Cold-Water Treatment of Typhoid Fever in Private Practice.—Dr. John T. Wheeler, of Chatham, read a paper on this subject. He said that scientific proof was not lacking of the value of the Brand bath treatment of typhoid fever, but human nature, which must always be reckoned with in private practice, had decided that the method was too heroic. For this reason the treatment had had but a limited sphere in private life, and other so-called "milder" methods had been used instead. Dr. Wheeler said that in his twenty-three years of practice he had treated almost all of his cases of typhoid fever—over one hundred and twenty in all—by cold sponge baths. Although he had passed through several severe epidemic of the disease, and the average type had been quite severe, he had lost only one case. His custom was to order the baths every two hours during the day in all cases in which the diagnosis was reasonably clear, and the symptoms—fever and other manifestations—were fairly active. The duration of the bath varied from fifteen to forty-five minutes in most cases, depending upon the severity of the disease, but in the severest forms the baths were used almost continuously for hours at a time. In brief his rule was to meet obstinacy of symptoms by persistency of treatment. The body temperature alone was not looked upon as the guide to the use of these baths, but rather the urgency of all of the symptoms. The temperature of the bath was a compromise, in which the feelings of the patient, his strength, the severity of the symptoms, and the duration of the bath were the determining factors. It would often be found that water at a temperature which was comfortable to the patient met all requirements If his circulation was feeble, a good preliminary measure was friction of the body surface. This made the bath more acceptable, and did not cause the temperature to rise. Intestinal hemorrhage was a contraindication to the use of the baths, pneumonia was not necessarily so, and bronchitis was not a contraindication at all. This bath treatment should be resorted to very early in the disease, for it should be remembered that the crisis in typhoid fever was not really in the third or fourth week, but in the first week.

Dr. Russell heartily indorsed this treatment, and said that it was very gratifying to see the severe symptoms of typhoid fever abate under this simple method of nature, when they had previously resisted the most scientific drug treatment. The extra trouble and labor involved in the bath treatment were more than counterbalanced by the superior results achieved.

Vagaries and Wanderings of Gall Stones, with Clinical Reports.—Dr. Henry L. Elsner, of Syracuse, presented a communication with this title, in which he related the clinical histories of several curious cases of this kind. In one case the whole clinical picture at first had been that of carcinoma of the pylorus. Finally, a gall stone, measuring thirteen centimetres in circumference and weighing twenty-three grams, was discharged. About eleven days after this event the patient developed symptoms simulating those of an acute indigestion, but the attack culminated in the discharge of a smaller stone. In another case a large gall stone ulcerated through the gall bladder and wandered into the retroperitoneal space, finally lodging behind the pancreas, and giving rise to symptoms of cancer of the pancreas. In still another case in which there was a history of biliary colic and abscess over the tumor, six hundred and one small stones were found in the gall bladder, having a total weight of four hundred and seventy grains. In conclusion, the speaker expressed the opinion that the persistence of symptoms of gall stones should be an indication for an immediate consultation between the physician and the surgeon. As in appendicitis, this practice would soon result in a lowered mortality.

Dr. Loveland mentioned some of the difficulties met with in making a diagnosis of gall stones, and heartily indorsed the opinion that surgical aid should be called in at an early date.

Dr. F. W. Sears, of Syracuse, narrated an interesting and singular case in which a woman, seven months pregnant, developed albuminuria, anasarca, jaundice, and gall-stone colic, and then miscarried. She was delivered of a dead child, and the amniotic fluid was deeply tinged with bile.

Dr. Willis G. Macdonald, of Albany, called attention to the danger of delaying surgical interference

in these cases of gall stones until a condition of cholæmia had become established.

Paralysis: Its Forms, Prognosis, and Treatment.—Dr. Edward D. Fisher, of New York, read this paper. He said that the simplest classification is that based upon the location of the lesion causing the paralysis. There are, according to this view, four forms, viz.: (1) Cerebral paralysis; (2) spinal paralysis; (3) peripheral nerve paralysis; and (4) intramuscular paralysis. Cerebral paralysis is most commonly the result of meningeal or intracerebral hemorrhage, thrombosis, syphilitic endarteritis, and tumors. The distribution is characteristic, being in the majority of cases unilateral. Another marked condition is the absence of any atrophy of the muscle at the time. There is no change in the electrical reaction. The more common cases found in the second class are acute and chronic inflammations, hemorrhage, and compressions, as in cases of spinal fracture and dislocation. The special characteristics of this class are the atrophy and flaccidity of the muscles, the loss of reflexes and response to the faradic current, the reaction of degeneration with the galvanic current in acute diseases, and decreased response to both currents in the more chronic cases. There is also an absence of sensory disturbances. Poliomyelitis and progressive muscular atrophy of the spinal type are the best examples of this class. The common causes of the third class are blood states, such as rheumatism and gout, or specific diseases, such as typhoid fever, diphtheria, and malaria. Additional causes are lead and mercurial poisoning and injuries to nerves. The paralysis is of the spinal type, but it is usually associated with marked sensory symptoms, especially in the acute disorders. There is always great tenderness along the affected nerves and the muscles supplied by these nerves, and the general sensation is also usually disturbed. The fourth class is also known under the name "muscular dystrophy." The cause is obscure, but apparently has its seat in some elemental developmental defect. It might with propriety be designated "hereditary progressive muscular atrophy." The paralysis is of the spinal type. The prognosis is on the whole unfavorable, for nerve cells once destroyed are not replaced. Regarding treatment Dr. Fisher said that much good could be accomplished by massage, galvanism, and hydrotherapy. In poliomyelitis the paralyzed muscles should be treated by massage and electricity for at least a year or more, and apparatus employed for the exercise of the muscles. When orthopædic apparatus must be worn, it should be very light, so as not to retard but rather to aid efforts at locomotion.

Dr. E. B. Angell said that in estimating the prognosis in a case of sudden paralysis due to cerebral hemorrhage the thermometer would be found exceedingly useful. If the rectal temperature rises steadily after the onset of the attack, the prognosis may be stated to be absolutely hopeless; if, however, the temperature rises in the first few hours to about 102° F., and then begins to go down, there is a fair prospect of recovery, no matter how deep the coma may appear to be. Operative surgery holds out considerable encouragement in cases of meningeal hemorrhage.

The Relation of Bacteria to the Normal Alimentary Canal.—Dr. Herbert U. Williams, of Buffalo, read this paper. He stated that at times bacteria are found which are able to digest all the different kinds of food, but it has not been proved that they are normally inhabitants of the alimentary canal. The only fairly constant organism is the colon bacillus, which has no important digestive action on the usual food stuffs; but its constant presence during health is at present inexplicable, although it suggests some unknown but useful relation.

The X-Ray in Medicine and Surgery.—This was the general subject for consideration at the evening session.

Technique and Apparatus.—Dr. Samuel Lloyd discussed this phase of the subject. He said there were three different means of generating the *x*-ray, viz., (1) the Tesla tube, (2) the static machine, and (3) the induction coil. The Tesla coil had been used by very few surgeons. The static apparatus gave excellent results, but the apparatus was more or less uncertain in its action. The induction coil was very noisy in its action, but the most reliable means. A new vacuum tube was exhibited, the invention of Dr. Rawlins, of Boston, which is so constructed that a current of water circulating about the anodal end of the tube prevents excessive heating. The intensity of the *x*-ray must be adapted to the special case to be examined, if the best results were to be obtained.

The X-Ray in Medicine.—Dr. Francis H. Williams, of Boston, spoke on this part of the subject. For medical purposes he said the *x*-ray must be elaborate and of the very best quality. The harmful effects of these rays are entirely avoidable. Many excellent radiographs and charts were exhibited in order to give an adequate conception of the possibilities in this direction. Fluoroscopic examination of the chest shows (1) the presence of dark areas in tuberculosis, pneumonia, carcinoma, gangrene of the lung, infarction, pleurisy, empyema, etc.; (2) the occurrence of abnormal brightness in emphysema and pneumothorax; and (3) restriction of the excursions of the diaphragm and the altered position of the latter. In pneumonia the affected areas can be readily recognized through the fluoroscope. In young people especially emphysema is apt to be overlooked by auscultation and percussion, but it is easily detected by the fluoroscope. Within certain limits the brightness of the lungs varies in health. For example, it is lighter during deep inspiration than on deep expiration, probably because of varying quantity of blood in the lungs.

Dr. Arthur L. Fisk, of New York, then exhibited a large number of lantern views showing the aid given to surgery by the *x*-rays.

Dr. William Hailes, of Albany, exhibited a collection of wonderfully beautiful microscopical specimens, illustrative of the teaching-possibilities of microscopic projection.

Second Day—Wednesday, January 26th.

The Hygienic Management of Dairies.—Dr. E. F. Brush, of Mount Vernon, read this paper. He spoke of the various ways in which milk may be infected in the dairy, aside from the condition of the cows themselves, and also of the many other sources of contamination. The heating of the milk may destroy bacteria, but it will not eliminate the toxins that may have already formed in the milk. The milk should be in wholesome condition when it reaches the consumer, and not need to be "doctored" by laboratory methods.

The Municipal Control of Milk Supply in Cities and Villages, with Report of Health Regulations.—Dr. W. H. Heath in this paper made a strong plea for supervision of the milk supply by the State board of health as well as by cities. The mode of transporting milk by railroad is defective in many respects. The delivery of milk inside of houses in which there is an infectious disease and the removal of empty milk bottles from these houses should be prohibited and the prohibition rigidly enforced.

The Treatment of Stricture of the Urethra by Continuous Elastic Dilatation.—Dr. R. J. Wilding, of Malone, presented this paper. He said that any method of treating urethral stricture that does not tend

to produce absorption of the abnormal bands about the urethra must necessarily result in many failures. His method of treatment does not confine the patient in bed, and usually allows him to continue his occupation. In brief, the method consists in the successive insertion of soft-rubber catheters and leaving each one in the urethra for twenty-four to forty-eight hours. The catheter should be a few sizes larger than the calibre of stricture. It is stretched over a guide to allow of its introduction, and on the removal of this guide, the catheter resumes its former size and exerts elastic pressure on the stricture. These catheters cause very little irritation and no inflammation. The catheter is of course tied in place, and the distal opening closed with a plug. The usual after-treatment, by the occasional introduction of a steel sound, was recommended.

Some Points in the Technique of the Alexander Operation.—Dr. Herman E. Hayd, of Buffalo, in a paper with this title, advocated the operation which picks up the ligament at the external ring. He laid great stress upon the necessity of saving the knuckle of fat which pops out of the external opening, as he considered this bunch of fat the landmark to the operation. His plan is to cut off the ends of the ligament and transfix the cord through a thick portion, taking care not to draw the suture too tightly in approximating the pillars. He believes that too much traction on the poorly nourished cord is apt to favor suppuration. The speaker objected to all operations which open up the canal, as he was convinced that such a course is not only unnecessary, but complicates the operation and favors the production of hernia.

The Present Status of Vaginal Operations for Diseases of the Pelvic Organs.—Dr. Edwin B. Cragin, of New York, read this paper. He said that he thought the time had arrived for a calm consideration of the utility of vaginal operations. The objections to the vaginal operation are that it is more difficult than the abdominal operation and, in inexperienced hands, is more likely to result in rectal fistula. However, in properly selected cases this operation is followed by less shock, convalescence is smoother, and the mortality is less. Hernia must certainly be a very rare sequela. The question to decide now is, not what operations can be done through the vagina, but what operations are best done by that route. His own opinion was, that with the exception of cases of small ovarian tumors, if the uterus is not to be removed, the abdominal operation is preferable—in other words, except in the case of small ovarian cysts and prolapsed and diseased ovaries needing removal, unilateral disease of the appendages is best dealt with from above. He also preferred the abdominal route for cases of ectopic gestation, except when rupture has taken place some time previously and the hæmatocele has been thoroughly encapsulated. Conservative work upon the appendages is generally better done from above. The operation of vaginal fixation for posterior displacement has been nearly abandoned. In his hands the vaginal operation has proved of great service in cases of pregnancy in which the parturient canal was obstructed by tumors. In three cases of this kind this operation has enabled him to deliver a living child. According to his experience the vaginal operation has proved a great boon in three groups of cases, viz.: (1) Pus cases in which the removal of the uterus and appendages is indicated; (2) cases in which the exudate indicates the necessity for drainage without removal of the organ; and (3) small fibro-myomata. In the matter of technique, Dr. Cragin emphasized the value of morcellation, the Mikulicz drain through the vagina, and the use of ligatures. In conclusion, he expressed the belief that, by reason of the vaginal operation, surgeons are now in a much better position than formerly to treat pelvic disease.

Remote Consequences of Excessive Uterine Hemorrhage.—Dr. W. E. Ford, of Utica, presented this paper. He said that when a laceration extends above the internal os the loss of blood is likely to be large at the time and to continue afterward. The degenerated endothelium often protracts the hemorrhage. As a result of this large blood loss, a neuritis is started up, and furnishes the beginning of the so-called neurasthenia uteri. It is in these cases that trachelorrhaphy fails to cure the nervous symptoms. Amputation of the cervix is a better operation here. The blood count in most of these cases shows no true anæmia. Rarely does the hæmoglobin fall below eighty-five per cent. All lacerations of the cervix which extend up to the internal os should be repaired early, before the development of the neuralgic condition. The author then contrasted the blood counts in these cases with those obtained in young women having delayed or suppressed menstruation, thus emphasizing the statement already made, that there is no true and marked anæmia. Diluents and diuretics seem to do more good than does iron in the way of medication.

The Anatomy and Function of the Pelvic Floor in Women, and the Operation for Repair of Injuries Due to Parturition.—Dr. J. Riddle Goffe, of New York, presented a communication on this subject. He said that while he believed in the function of the perineum he did not believe in the function of the perineal "body." The function of the perineum, according to his view, is entirely passive, and is threefold, viz.: (1) To fill in the anatomical space in that region; (2) to give attachment to one end of the levator ani muscle; and (3) to get out of the way of the advancing head in parturition, and of the fæcal mass in defecation. Under the name "levator ani" he included for purposes of description all the muscles constituting the floor of the female pelvis. This "muscle" is conical, with bony attachments to the outlet of the pelvis, and an insertion into the tendinous centre of the perineum. In parturition, as the head of the child descends on to the pelvic floor, the levator ani lifts the perineum over the face of the child. The same action takes place in defecation, except that in this instance the mass is behind instead of in front. In some cases of forceps delivery rupture of the perineum occurs in the middle line, but in the great majority of cases the rupture takes place a little to one side of the middle line. In his experience such ruptures were produced, not so much by the fœtal head as by the shoulders suddenly catching in the tissues on one side and tearing away the attachment. When this occurs, the transversus perinæi muscles immediately retract into the deeper structures, and in doing so carry the two sides of the levator ani muscle. The portion extending from the tendinous centre to the coccyx being unyielding, it follows that during the act of defecation in cases of ruptured perineum the anterior wall of the rectum is carried downward with the fæcal mass, and the tendency is for it to escape through the vulva. This leads to the formation of a rectocele. In repairing the perineum, it is important, therefore, to get rid of the rectocele, and restore to their normal position the two ends of the transversus perinæi muscles, which in retracting have drawn aside the levator ani muscle. Beginning with the carunculæ at the highest point of the perineum and the highest point of the rectocele, a triangular flap is rapidly removed; then, starting at the top of the rectocele, the two or three sutures are inserted so as to tuck back the rectocele into the vagina. The last suture passes just above the caruncle, sweeping around the entire circumference. All of these sutures are en-

tirely within the vagina. Two or three superficial sutures of catgut through the skin complete the operation. When the rupture also involves the sphincter and rectal wall, the opening beyond the sphincter is stitched up with a continuous catgut suture, after which the operation is the same as already described. After this operation, Dr. Goffe claims, the patients are free from pain, and they require little or no after-treatment. The operation can be done very successfully in tenement-house practice, the patients getting up to the commode on the day following the operation.

Dr. George M. Edebohls, of New York, in discussing the foregoing papers, expressed his personal gratification at the evidence shown in Dr. Hayd's paper that the profession was gradually coming around to a full acceptance of the Alexander operation as a perfectly physiological procedure, and, indeed, the only legitimate one for movable retroversion of the uterus. He favored opening the entire inguinal canal and then doing a Bassini operation. This, in his opinion, would leave the canal as strong as, if not stronger than before.

Dr. W. Gill Wylie, of New York, thought the Alexander operation was an ideal one in a certain limited class of cases, but he had seldom performed it, because, when all the associated conditions had been cured by well-known means, there seemed to be little need for this operation. The operation was only a simple one, when done by an experienced surgeon. The paper of Dr. Cragin was a complete expression of his own views regarding vaginal operations. The next step in this field should be to endeavor to restore the normal shape and size of the vagina. The paper of Dr. Goffe contained certain views which he had himself embodied in two papers, prepared some time ago. He believed that the function of the perineum was an active one, and that when it was ruptured some of the tissues were inverted, while the external muscles became everted.

Dr. Vanderveer, of Albany, took much the same view of the Alexander operation as did Dr. Wylie. The operator who essayed to employ the vaginal route must be thoroughly familiar with the anatomy of the region. He had probably been the first to resort to the vaginal route, in an operation done about eighteen years ago.

Dr. Sears, of Syracuse, said that his own observations served to corroborate what had been said about the shoulders being largely responsible for lacerations of the perineum.

Dr. Ford, of Utica, said that the surgeons of his city were very much pleased with a method of suturing the perineum which was very similar to that described by Dr. Goffe. At first the sutures were not passed through the mucous membrane, but about one-fourth of an inch within the denuded surface. Then, the end of the suture on the left side being taken, it was crossed over and passed in deeply on the other side.

The Other Kidney in Contemplated Nephrectomy.—Dr. George M. Edebohls, of New York, read a paper with this title. He said that while the presence of another kidney, in a case of contemplated nephrectomy, could usually be determined by palpation, this method of examination did not suffice, for it left out of consideration altogether the condition of the kidney. The fact of the existence of another kidney could also be proved by examination with the fluoroscope, as had been demonstrated by Dr. Samuel Lloyd. The cystoscope furnished useful information, as did also catheterization of the ureters, more especially in the female; but these methods did not fulfil all the requirements, and, moreover, in cases of pyuria and in tuberculosis there was a real danger of infecting the healthy kidney by catheterizing the ureters. For these reasons he advocated a lumbar exploratory incision—a procedure which he believed to be original. By this method the kidney to be examined was not only exposed but was delivered through the lumbar incision, thus allowing a critical examination. When this mode of examination was carried out in strict accordance with his technique, Dr. Edebohls claimed, the danger of the procedure was but slightly greater than that of ureteral catheterization.

Dr. Bristowe was of the opinion, based upon a large experience in the dissecting-room, that an individual having only one kidney was so extremely rare that it hardly justified such a serious examination. He had met with three cases in which one or both kidneys had been situated abnormally low, and had had an anomalous blood supply.

Dr. Willy Meyer supported the position taken by Dr. Edebohls. He described the aid to be derived, in tuberculosis of the kidney, from cystoscopic examination, and cautioned against too hasty conclusions regarding the dangers attendant upon catheterization of the ureters, in both the male and the female.

Dr. Edebohls said that he had personal knowledge of three fatal cases of nephrectomy, in each of which it was ascertained afterward that the only kidney the patient possessed had been removed. An accurate knowledge, at the time of operating, as to the condition of the other kidney would enable the operator to decide the very important question of whether nephrotomy or nephrectomy should be performed.

The Past, Present, and Prospective Methods of Treatment of Insanity in the State of New York.—Dr. P. M. Wise, of Albany, after briefly reviewing the treatment of insanity in the past, criticised the lack of proper instruction on this subject in our medical schools and the slight interest taken by physicians in general in the work of the State hospitals. He called the attention of physicians to the dangers of narcotism in the early treatment of the insane, and to the disaster that had too often been the price paid for household quiet. The present enlightened methods of treating the insane in our hospitals were founded upon the removal of toxins and all nervous irritants, the improvement of the general health, and the development of the body to a normal condition of resistance. The policy of the State government was based on the fact that every insane patient cured meant a saving to the State of the maintenance of one person for twelve years—the average duration of insane life.

Dr. Landon Carter Gray, of New York, while admitting that many improvements had been made in our insane hospitals in recent years, alluded to some of the inherent defects of the system. "Why is it," he queried, "that in spite of all the millions spent by the State of New York on its insane hospitals, not a single new discovery in the pathology or therapeutics of insanity has come from any one of them?" The medical staffs of these hospitals were in isolated places, and were not sufficiently in touch with prominent neurologists and alienists. Again, the immense mass of valuable clinical material in these hospitals should be made available to all medical schools desiring to give instruction on mental diseases.

Dr. Wise replied that the lunacy commission was doing its best to make this clinical material available.

Actinomycosis.—Dr. J. E. Walker, of Hornellsville, in a paper on this subject, gave a brief historical sketch of our knowledge, supplementing it with some personal experience. In regard to treatment, he said that of late years iodide of potassium in large doses had come to be looked upon as almost a specific in actinomycosis.

A Year's Work in Appendicitis.—Dr. Herman Mynter, of Buffalo, read this paper. He classified appendicitis under three heads, viz., (1) simple catarrhal, (2) ulcerative, and (3) infectious appendicitis.

These, it must be understood, often overlap more or less. Under medical treatment of all cases, he said, the mortality is surely between sixteen and twenty per cent.; but of the eighty per cent. of recoveries, about fifty per cent. relapse, fifteen or twenty per cent. terminate fatally in the second attack, and a similar number in the third attack. Under early surgical treatment of all cases, the mortality should not be over four per cent. The chronic cases have no important mortality under laparotomy. In his own surgical practice, in seven recent cases of perforation and local abscess there were six recoveries; in ten cases of total gangrene without perforation there were eight recoveries; in nineteen cases with gangrene perforation there were nine recoveries.

Lessons from Six Cases of Appendicitis.—Dr. W. B. Jones, of Rochester, in a paper with this title, described six cases, selected as types. A good rule, he said, was to operate whenever an opiate seemed to be required.

Dr. Willy Meyer objected to considering every case of appendicitis a fit one for immediate operation, but he advised that all cases should be under the joint observation of a physician and a surgeon, and the latter should, if possible, postpone operation until after the first attack. Then would be the time of election for that beautiful blunt-division operation of McBurney—the ideal operation for appendicitis.

Congenital Dislocation of the Shoulder Backward, with a Report of Seven Cases, and an Operation for its Relief.—Dr. A. M. Phelps, of New York, presented this contribution. He said that the first case of the kind that he had seen was in 1895, and he could then find only six other cases on record. Since that time he had seen seven cases, showing that these cases in the past had seldom been recognized. Apparently they had been looked upon as cases of "obstetrical paralysis," yet in every one of the four cases in which he had operated there had been an old fracture of the glenoid cavity. In a case of this kind the elbow stood out from the body, turning forward and outward, the palm of the hand turned backward, and there was a certain degree of fixation of the shoulder. The operation which he had done consisted in making an incision along the posterior border of the deltoid, incising the capsule of the joint, cutting away the new articulation underneath the spine of the scapula and the head of the bone, and, after rounding off the bone, reducing the dislocation. The capsule was sutured behind the head of the bone, drainage inserted, and the wound closed. The results had been very good.

Dr. Louis A. Weigel, of Rochester, believed that some of the cases of "birth palsy" were due to injury to the central nervous system at birth, but he coincided in the main with the etiology as given by Dr. Phelps. In some instances he believed the shortening of the arm was not the result of the dislocation proper, but of the trophic disturbance.

The Treatment of Rachitic Deformities.—Dr. Reginald H. Savre, of New York, read this paper. He spoke of the value of the internal use of cod-liver oil and phosphates, and of the importance in the early stages of correction of the deformity by means of apparatus or by manipulation of the flexible bones. Later on osteoclasis or osteotomy would be demanded, and here it was important to attend carefully to the subsequent protection of the bones, in order to insure a good ultimate result.

Dr. Ransom said that as he had found among the Indians so little rachitic deformity, although an abundance of rachitis, he had been led to attach much importance to their bandaging of the infant—the papoose—as a prophylactic against such deformity. Some years ago he had suggested the use of a basket contrivance, on the principle of the wire cuirass, and would again urge its claims to recognition.

Dr. A. M. Phelps expressed his preference for osteoclasis over osteotomy, and, with Dr. Sayre, indorsed the "basket treatment."

Discussion: The Management of Hypertrophy of the Prostate Gland, and its Complications.—Dr. L. Bolton Bangs, of New York, opened this discussion. He expressed the belief that hypertrophy of the prostate is present in many men long before it is suspected, and attributed this to (1) early masturbation, (2) early association with lewd women, (3) adultery and fornication, (4) sexual excess and efforts at preventing conception after marriage. He then spoke of the establishment of catheter life and of the modern methods of maintaining sterile catheterism.

Prostatectomy and Prostatotomy.—Dr. S. Alexander, of New York, in discussing this subject, said that an analysis of two hundred and five operative cases showed that the mortality had been twenty-one per cent., and that sixty-two per cent. had been cured, *i.e.*, had regained the power of voluntary micturition. Well-marked arterial sclerosis or advanced kidney disease was a contraindication to these operations.

Bottini's Galvano-Caustic Treatment.—Dr. Willy Meyer exhibited the instrument used in this operation and described the technique. The operation is done under cocaine anæsthesia, several grooves being burned in the prostate.

Castration for Hypertrophied Prostate.—Dr. L. S. Pilcher, of Brooklyn, reported upon ten cases in which he had used this method. The ultimate results had been good, and there had been no mortality.

Stone in the Bladder and Hypertrophied Prostate.—Dr. E. L. Keyes, of New York, in treating of this subject, stated that he was becoming more and more convinced of the advisability, in cases of enlarged prostate with a very small stone in the bladder, of doing a suprapubic lithotomy and a partial prostatectomy, instead of, as he had formerly advocated, performing litholapaxy. The mere size of the prostate is not a factor in the problem. If lithotomy be performed, the suprapubic route should be selected, as it allows lowering the vesical end of the urethral floor.

Excision of the Fibula for Sarcoma.—Dr. Samuel Lloyd exhibited a woman of twenty-two years, upon whom he had done this operation in June, 1895. She is in good health and walks perfectly.

Treatment of Fracture of the Femur in Children.—Dr. Theodore Dunham, of New York, described a simple "interrupted" splint of plaster of Paris and flat iron braces, that he had found very serviceable in these cases.

Anniversary Address: "The Obligations of the Physician and the Layman to Each Other."—Dr. Seneca D. Powell, of New York, delivered his address in the evening, taking for his theme the mutual relations of physicians and laymen. He touched upon the abuses that had arisen under lay management of hospitals and dispensaries, and asserted that the intricacies of this problem were largely the result of the peculiar jealousy which existed between physicians. If physicians would respect the rights and privileges of one another, this problem could be readily solved without the intervention of the law.

Officers of the Society.—The nominating committee recommended that the following be the officers for the ensuing year: *President*, Dr. John O. Roe, of Rochester; *Vice-President*, Dr. E. F. Brush, of Mt. Vernon; *Secretary*, Dr. Frederic C. Curtis, of Albany; and *Treasurer*, Dr. C. H. Porter, of Albany.

State Board of Examiners.—The following were also reported favorably: Drs. Eugene Beach, of Gloversville; J. P. Creveling, of Auburn; H. D. Wey, of Elmira; and Daniel Lewis, of New York.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, January 18, 1898.

LOUIS FAUGÈRES BISHOP, M.D., CHAIRMAN.

The Significance of Albuminuria in Otherwise Apparently Healthy Persons.—DR. BRANDRETH SYMONDS read a paper with this title. He said that by the term "albuminuria" was meant a solution of serum albumin or serum globulin in the urine. The proportion of these substances varied in different cases, but when one was present the other was also. The kidneys were by far the most common source of the albumin, and it was to this form that his remarks would be confined. Many mild and curable cases showed much albumin, whereas in one form of chronic Bright's disease there was little or no albumin present; hence the quantity of albumin bore no direct relation to the prognosis.

Tests for Albumin in the Urine.—When the amount was not sufficient to give an immediate reaction with Heller's test, many errors in observation were likely to arise. The most common source of error was undoubtedly the nucleo-protein. According to his experience it was very frequently found in urine in small quantities. Up to a few years ago this substance had been confounded with mucin, because of its physical properties. It was readily precipitated by all organic acids, and also to some extent from acid urine by boiling. These facts cast grave doubts upon the accuracy of most of the tests for albumin. He did not know of a single test for albumin which was infallible. The more delicate the test, the less reliable was it. In his own practice, in testing the urine for albumin, if the urine was not sufficiently acid it was made distinctly acid by the addition of two or three drops of acetic acid, and then the upper layer in the test tube was boiled, and compared in a good light with the lower layer. If no reaction was obtained, he was satisfied that there was no albumin present of clinical importance. If an opacity was observed, he added a few drops of nitric acid. If the opacity remained, it was due to either nucleo-albumin or albumin, and to distinguish between them he used Heller's test. The sharply defined reaction obtained with albumin and Heller's test could not be confounded with anything except certain oleo-resins occasionally present in the urine. As ordinarily applied, this test was not very delicate, but if urine so treated was allowed to stand for several hours the presence of very small quantities of albumin would be indicated. Although sometimes he employed other tests he always checked them with Heller's test. From the fact that his records showed that he found albumin in the urine much less frequently than formerly, in spite of increased experience in testing for albumin, he had been led to believe that in his earlier years he had sometimes been guilty of confounding albumin with nucleo-protein.

Varieties of Albuminuria.—Cases of albuminuria could be broadly and conveniently classified into two groups—organic and functional. Among the transient albuminurias, those of acute nephritis were the most frequent, and they often completely disappeared. Most of those subjects of albuminuria applying for life insurance should be classified as functional. These might be subdivided into several varieties: (1) There was the psychical variety, in which the albumin was scanty or absent in the morning urine, increased toward noon or early afternoon, and then disappeared for the rest of the day. These persons were usually dyspeptic and anæmic. It was a curious fact that most cases of Bright's disease showed similar diurnal variations in the quantity of albumin in the urine. (2) There was a dietetic variety, supposed to be caused by highly nitrogenous articles of food, such as milk, eggs, etc. He had never seen a case which he felt sure was of this class. (3) There was the muscular variety—that form in which the albuminuria was caused by severe muscular exercise. It came on very soon after the exercise, and lasted usually for days or weeks. It was quite common in these days of bicycle riding and active outdoor sports, and was usually found in persons under thirty years, but might occur in those much older. (4) There was the albuminuria of adolescence, found in persons between the ages of fifteen and twenty-three years. It was quite common among boys, who were sometimes anæmic, but frequently in robust health. In some cases the urine would be concentrated and loaded with urates, but in many it seemed to be normal, except for the presence of albumin. The albuminuria sometimes persisted for a long time without causing any apparent trouble. Dr. Symonds recalled a case beginning in a boy of seventeen years. After two years it assumed the muscular type, lasted three years, and then disappeared entirely. The urine had been examined many times since then, but without finding any albumin. In this age of sexual excitement it was not surprising that nucleo-protein should be found in the prostatic portion of the urethra. (5) There was a variety of albuminuria said to be the result of irritation by highly concentrated urine. In this connection it should be remembered that the urine of birds and reptiles was so concentrated as to be almost solid. The persistent excretion of saccharine urine would also cause albuminuria. (6) Another variety of transient albuminuria was that associated with influenza and ordinary colds. It had been quite common in his experience, and usually disappeared within a few days after the acute febrile disturbance had subsided.

Clinical Significance of Transient Albuminuria.—We should regard all albuminuria, whether transient or permanent, as pathological. Albuminuria was no more physiological than a heart murmur, although like the latter it might disappear entirely and permanently. He knew of no way of distinguishing the mild cases with good prognosis from the more serious forms, except by the continued absence of albumin from the urine—in other words, as long as albuminuria persisted there was a possibility of the development of some serious organic mischief. The longer the albuminuria persisted, the greater the probability of its organic origin, and if it lasted for more than a year the prognosis was doubtful, although not hopeless. A continuous albuminuria was more serious than one which came and went. The presence of renal casts was usually considered as indicative of organic renal disease, but some claimed to have found these casts in other varieties, particularly the muscular form of albuminuria. Again, some observers claimed to be able to distinguish with certainty renal epithelial cells from those of the bladder, but personally he could only express his profound admiration for such remarkable skill. If the specific gravity of the urine continued below 1.015, it was a bad prognostic sign, generally indicating renal insufficiency. These cases were much less amenable to treatment than those having a specific gravity of 1.025 or higher. A hard pulse with an accentuated sound at the closure of the aortic valves was indicative of something more than functional disturbance. Frequent or severe headache in conjunction with albuminuria might also be regarded as of evil omen. The younger the age down to childhood, the more likely was the albuminuria to be functional: if the age was over forty, the cases should be regarded with a suspicion, which increased with every year. The most advanced age at which he had observed albuminuria in a man otherwise healthy was seventy-

two years. In this individual there was no evidence of organic disease. Another bad prognostic sign was an extremely low or an extremely high body weight. A very light weight was often associated with the albuminuria of the young, and in many instances seemed to be due to the albuminuria. On the other hand, overweight with albuminuria was apt to occur in persons over thirty years of age, and was of graver significance than underweight. A particularly unfavorable combination was albuminuria with the constant moderate use of alcoholics. In still another class albuminuria persisted steadily, although the individual was apparently in good health otherwise. These cases were certainly very puzzling. The amount of albumin was usually very small—a "trace"—and in most of them undoubtedly nucleo-protein had been mistaken for albumin. The hypothesis had been advanced regarding these cases that an acute nephritis had occurred and passed away, leaving a small but non-progressive lesion in the kidney. The remainder of this organ being sufficient to carry on the work, the general health was not impaired. The theory was plausible, but was unsupported by post-mortem examination. From an insurance standpoint he would not admit that such persons, as a rule, lived as long as others.

Life-Insurance Examiners Look through an Albuminous Haze.—Dr. S. S. Jones said that the positions occupied by the general practitioner and by the life-insurance examiner sometimes seemed to be antagonistic. When albumin was found by acetic acid and boiling, or by Heller's test, it was right for the family physician to state to his patient that his rejection by the life-insurance company was well-founded; but it had happened repeatedly with him and others that no albumin had been found. The reason for this was that life-insurance examiners had employed too delicate tests. For example, one of his patients had been rejected by a life-insurance company fifteen years ago. This individual had been under his observation ever since then, and an examination of the urine two days ago showed a specific gravity of 1.022 and 1.024 for the morning and evening specimens respectively, an absence of sugar and casts, no albumin by Heller's test or by acetic acid and boiling, and only an equivocal reaction with the ferrocyanide test. During these fifteen years the man had been in excellent health. In another case a man had been rejected by two large companies in this city and accepted by a third. He had obtained no reaction in this urine with Heller's test or the ferrocyanide test, or on boiling; there was a sufficient quantity of urea excreted in the twenty-four hours, and he could find no reason for the rejection.

Spurious Albuminuria.—Another source of error was "spurious" albuminuria. He thought some of the albuminuria of adolescence was due to spermatorrhœa and congestion of the genital canal, possibly from masturbation. One of his patients he was sure had been declined some years ago because of a slight cloud in the urine, due to a trace of an old urethritis. He stated this, because no reaction had been obtained with the urine after the canal had been carefully washed out. Life-insurance examiners unfortunately too often took a one-sided view of a risk. He could recall every year a number of patients who had been accepted, who certainly were not good risks, chiefly on account of intemperance. He protested against looking at the applicant for life insurance too much through this little albuminous haze. In his opinion it did not follow that patients with slight albuminuria did not pass well through the acute diseases, provided their habits were good.

Consider the Individual.—Dr. F. W. Jackson said that apparently the life-insurance examiners were not any more certain regarding the significance of albuminuria than was the general practitioner. The larger his own experience, the less satisfaction he derived from speaking about "albuminuria." He had known a very considerable quantity of albumin to persist in the urine for a long time without any apparent deterioration of the general health. He thought that in the class of patients seen at Bellevue Hospital fully eighty per cent. had chronic nephritis, and yet they showed considerable resistance to disease. In discussing albuminuria we must consider the individual with it, and establish our prognosis rather by the general health and habits than by the quantity of albumin in the urine. A gentleman had been under his care for ten or twelve years who had had a marked tuberculosis of one lung, from which he had entirely recovered, so that he was in active legal practice. At one time he had been surprised to find at least one-fifth of albumin by volume in the urine, as the history did not explain the condition. He had followed this man for ten years, and during all this time the albumin had existed in considerable quantity in the urine, with no deterioration of the general health.

Dr. W. Moore said that from the insurance records of over eight thousand cases he had found that albuminuria had been noted in about six per cent. The instructions to medical examiners issued by eight of the largest companies all stated that a trace of albumin was sufficient cause for refusing a risk, and several stated that even if that trace had disappeared and was again found it was good ground for permanently rejecting the applicant for insurance. In his experience stricture had been a common cause of slight albuminuria and of the rejection of the applicants. In these cases the specific gravity of the urine was normal, and the quantity of urea excreted was also within the limits of health. In every instance, after the stricture had been cured the individual had been accepted for life insurance. Albuminuria, he believed, was due either to disease of the walls of the renal blood-vessels or to increased blood pressure. When dyspepsia and disease of the liver, heart, and blood-vessels could be excluded, he thought the albumin was probably the result of inflammatory changes along some part of the genito-urinary canal. It was common to find the quantity of urea normal in cases of intermittent albuminuria. He believed that as long as the percentage of urea was nearly normal the prognosis was quite good. The presence of albumin was often overlooked, owing to an improper application of the test. It was important to test the urine carefully with litmus paper before applying the heat and nitric-acid test, and also to allow the urine to stand for a half hour or more before positively deciding as to the presence or absence of albumin. It was quite conceivable that as a result of a simple congestion of the kidneys there might be a transient albuminuria, and that this might absolutely and permanently disappear. Nor did he see any reason why this should not occur in men over forty years of age. His experience had been that albuminuria was very common in those over weight.

Dr. W. Evelyn Porter said that the class of cases considered acceptable insurance risks at the present time was that in which there was not a true albuminuria, but rather a condition in which nucleo-albumin or mucin was found in the urine. Microscopical examination had often shown existing nephritis, and he thought the present tendency of the companies to avoid such examinations was a mistake. The presence of true serum albumin in the urine, even in small quantities, he believed should be considered a cause for at least temporary exclusion from life insurance. The majority of companies still held that as long as albumin existed in the urine the applicant should not be accepted, although some companies still accepted such ap-

plicants as "bad risks." This latter practice had been carried on longer in England than in this country, and with fairly satisfactory results. In considering the different standpoints of the general practitioner and the life-insurance examiner, it should be borne in mind that life-insurance companies must make certain rules, to which they can make but few exceptions, and that they did not have the same opportunity for considering in a broad way the general health of the applicants, as did general practitioners. If persons applying for life insurance, and found to have slight albuminuria, were referred to a careful clinical observer for prolonged observation, it would be possible to obtain after a period of years some very valuable information as to the clinical significance of albuminuria.

Serum Albumin Derived from Decomposition of the Blood.—Dr. Heinrich Stern said that if serum albumin was the only substance essential to true albuminuria, then we should ask if serum albumin could exist in the system. It was a proteid body which could not exist in life, as it was produced by the coagulation of the fibrin of the blood. If the serum as such could only be produced after the coagulation of the fibrin—in other words, after the decomposition of the blood, especially of the blood plasma—he did not see how we could say that serum albumin, which formed three or four per cent. of the serum, could exist in any physiological state; if it did, we should have thrombosis and embolism at the same time. Eisenbach had lately examined the urine of one hundred and thirty individuals who had been subjected to an anæsthetic. To sixty of them ether had been administered, and to the remainder chloroform. Albuminuria was found in twenty-five per cent. of the persons who had been etherized, and in forty-two per cent. of those with whom chloroform anæsthesia had been used—in other words, interference with the physiological activity of the system by the induction of general anæsthesia by ether and chloroform tended to produce a temporary disintegration of the blood. He was of the opinion that if the albumin in cases of albuminuria was serum albumin, it could be derived only from the blood. It was very probable that as a result of the non-elimination of certain substances the blood plasma was decomposed with the consequent elimination of the serum albumin.

Albuminuria Not Necessarily a Precursor of Renal Disease.—Dr. William Henry Porter said that he had for a long time been of the opinion that there was no such thing as a "physiological" albuminuria. He thought much of the confusion regarding albuminuria had arisen from the tendency to think that we were dealing with serum albumin. On the contrary he was inclined to believe that albumin found in the urine was an isomeric condition of the albumin as it existed in the blood, and that sometimes it might be one thing and sometimes another. We started always with the albumin as an alkali albumin, and it must be transformed into a peptone before it could get through the epithelial walls of the blood-vessels and into the blood. After having reached the blood it existed in three forms—serum albumin, serum globulin, and fibrinogen. The albumin in its transit through the body was constantly undergoing isomeric transmutations. Having gone through the body it came around a second time to the cells of the various glandular organs, and if the intake of albumin was not too great, and there was sufficient oxygen to enter the cells with the albumin, the proteid body would be oxidized in the cells of the liver and kidney, and would be eliminated as were the ordinary catabolic products—the excreta of the body. But if the individual took more albumin than he could oxidize (*e.g.*, in muscular albuminuria), the albumin could not be perfectly oxidized into urea, uric acid, creatin, creatinin, etc., and the protoplasmic tissue of the renal cells simply excreted that albumin as a catabolic excretory product. Looking at the subject from this standpoint, the albumin was not necessarily a forerunner of renal disease. Hence in people who eat more than they could readily oxidize, there might be for years a hypertrophic condition of the renal cells, allowing the excretion of the albumin, but not necessarily meaning that these individuals were going to have renal disease. He thought the more we studied these so-called temporary albuminurias the more we found that they were always associated with a clinical history of that kind. If this went on indefinitely, however, it must necessarily result in a degeneration of the kidneys. But it was a condition, he believed, which could be easily arrested, provided we could control the habits of life of the individual. In many nervous people the albumin was not properly oxidized, and hence was eliminated in the urine. In many of these instances, if the hypertrophic condition of the epithelial cells had not become too fixed, the condition could be completely cured, so far as the albuminuria was concerned.

Significance of Casts.—With regard to the casts, he would differ a little from the statement made in the paper, in that he believed that the cast was absolutely indicative of an abnormality. But the kind of cast was of much importance. He was of the opinion that in the majority of individuals, particularly in those who eat too much, and in whom there was a tendency to oxidation and overproduction of uric acid, hyaline casts could be found in the urine; the albumin was precipitated in the tubules, and the albuminous plug was washed out. The presence of hyaline casts, therefore, in the urine simply meant that an isomeric albumin had been excreted through the renal cells and had been precipitated by the uric acid. If with these casts there were epithelial cells undergoing various degrees of degeneration, there was reason to believe that the cells were desquamating with undue rapidity, and that there was evidence of positive renal disease. Of course for clinicians it was common to meet with a great variety of these casts, and yet there would be a rapid restoration of the individual to a perfectly normal condition. This was observed very frequently after the administration of ether. Probably if the cases were carefully examined, fully fifty per cent., and possibly even a higher percentage, of those subjected to prolonged etherization would be found to have in the urine after the third or fourth day an abundance of hyaline, epithelial, and nucleated casts. A very large percentage of these subjects recovered, and after a week or ten days no casts or albumin would be found in the urine. He recalled a very interesting case, examined by him before operation, in which there was absolutely no albumin, but the urine had a high specific gravity, and contained a large amount of urates and uric acid, and a few hyaline casts. The uterus and appendages were removed, the operation lasting about four hours. About twelve hours afterward the patient died, and within four hours he had had a section of the kidneys under the microscope. At the autopsy about half an ounce of urine was found in the bladder, and it contained a fair percentage of albumin and an abundance of casts. The tubules of the kidneys were loaded with hyaline, granular, and nucleated casts.

The Prognosis of Albuminuria.—He thought the clinician could state pretty accurately just what kind of an albuminuria was under observation. Regarding the prognosis, he said that the previous habits and methods of eating would determine the prognosis quite accurately in cases of albuminuria. If the patients were largely animal feeders, they stood the treatment remarkably well and a fair percentage recovered; but if they were largely vegetarian, or ate freely of fruits, a bad prognosis was usually warranted.

Albuminurics Not Good Insurance Risks.—Dr. Thomas W. Bickerton expressed the belief that the presence of albumin in the urine should always be looked upon as pathological, although the kidneys were not necessarily damaged. If the albuminuria persisted or recurred frequently, the kidneys were surely damaged. In his work as a life-insurance examiner, he had found that most of the simple cases terminated fatally. Out of one hundred and forty-eight cases he had been able to trace one hundred and fourteen, in a period of about eight years. Of this number thirty applicants had died. He thought, therefore, that life-insurance companies could not accept such cases under the ordinary rules of selection, although possibly a certain percentage might be accepted after careful study.

Albuminuria of Adolescence.—Dr. Paul E. Tiemann spoke of the albuminuria of adolesence, and cited a case that had been under his observation. He had first seen in 1892 a boy of fifteen years, who exhibited all the characteristic signs of psychical albuminuria. There was no albumin in the urine in the early morning, but it soon appeared and increased toward noon, and was scanty or absent at night. The urine also contained a good deal of uric acid, urates, and oxalates, and occasionally a few red or white blood cells in the sediment. In a number of microscopical examinations he had found only a very few casts, although the specimens had been examined by the ordinary method of sedimentation and by the use of the centrifuge. Dr. J. E. Weeks had examined the fundus of the eye twice in 1896, and again last March, and had found it absolutely normal. The boy had continued to grow and thrive, although somewhat under the standard of robust health. Six months ago he had been in good health. A few days ago the boy reported that he was not working, and, being in the house a good deal, was suffering from dyspepsia; yet the urine showed no trace of albumin and the microscopical examination was entirely negative. The speaker had never found evidence of spermatorrhœa. He would like to hear an expression of opinion regarding the ultimate fate of this individual.

Dr. Henry Dwight Chapin cited a case of a very nervous gentleman, aged forty-five years, who had applied for life insurance, and had been rejected. This had produced a very bad mental effect. Having restored him to good condition he had consented to the man's again applying for life insurance, believing that his acceptance would have a beneficial effect upon his mind. Just before the man went for examination Dr. Chapin examined his urine and found it free from albumin. The man then took lunch and went to the examiner, reaching the office in a state of excitement. He was again declined because of albuminuria. This time the albuminuria persisted for a considerable period. Dr. Chapin expressed the belief that the burden of proof often rested with the insurance companies, and that too many cases were rejected on insufficient evidence.

Dr. Symonds, in closing the discussion, said that in many cases of transient albuminuria the albumin disappeared within twenty-four hours. It was just such a case that had been cited by Dr. Jones this evening. He had known this to happen repeatedly, even when there was a considerable quantity of albumin present. The insurance company which he represented would accept such a case when assured of the continued absence of albumin. The rule with his company was to test for albumin; if present, to test again in two or three days, and after a week or two to test a third specimen. If three specimens contained albumin, the company postponed consideration for a period of a few months. In 1878, albumin had been found in the urine of a man in this city who obtained some little notoriety in the last political campaign. That albumin was almost constantly present, and had existed since the age of twenty-eight years. His expectation of life was thirty-seven years, making his estimated period of life sixty-five years. He died recently at the age of forty-eight—seventeen years short of the expectation. Dr. Symonds said that the companies were willing to make the investigations desired by the general practitioners if the applicants were willing to co-operate. They were not so much alarmed by the mere presence of albumin in the urine as formerly, but just as long as the albumin was present they had the right to be afraid to accept the risk. Functional disturbances of any kind, of the kidney included, were much less liable to occur after the age of forty years. In an investigation made some years ago, all of those in whom albumin had been found after the age of forty years, without exception, did not live out their expectation.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

NEW-YEAR HONORS — TYPHOID — ORRHO-THERAPY — NUMBERS OF THE PROFESSION INCREASING—DEATHS OF THE LAST YEAR—MEDICAL BOOKS OF '97—DENTISTS—INFLUENZA—MEMORIAL OF HAUGHTON—ZOÖLOGICAL SOCIETY—DEATH OF DRS. WARD, CLARK, WILLIS, CALDERWOOD, PATERSON.—THE DEBATE ON THE PREVENTION OF TYPHOID BY THE MEDICO-CHIRURGICAL SOCIETY—ADHERENT PERICARDIUM—SPECIAL DISCUSSION BY THE MEDICAL SOCIETY OF LONDON.

London, January 14, 1898.

The new year brought as usual a list of honors conferred by the Queen. It is a pretty full list, considering the number of distinctions conferred at the jubilee. The medical profession receives some knighthoods and orders, and this time Scotland obtains the share expected at the jubilee. Professor Gairdner becomes a K.C.B. A few years ago he declined the offer of a simple knighthood, to the gratification of his numerous pupils and admirers, who felt that distinction inadequate for the leading Scotch physician and clinical teacher, who is also physician to the Queen and member of the General Medical Council. The K.C.B. is a higher distinction, as the Order of the Bath takes such high rank among these distinctions. Professor Struthers, the great anatomical teacher of Scotland, and Dr. Batty Tuke, president of the Edinburgh College of Physicians, receive knighthood. Brigade-Surgeon Lieutenant-Colonel King gets K.C.B. He was superintendent of the Botanic Gardens at Calcutta, and succeeded in cultivating the cinchona tree in India, a service which has been of immense value to the empire. Surgeon Lieutenant-Colonel Thomson and Surgeon-Major MacCartie take C. B.

Though outside the profession, one well known to us, and to many of your countrymen who visit Europe, was the late principal librarian of the British Museum, Mr. E. A. Bond. From 1832 to 1888 he faithfully served his country—the first five years in the record office, the remainder in the museum. After these fifty-six years of work he retired. On Saturday came the announcement of his promotion to the K.C.B. The next day he died, at the age of eighty-two. Had the distinction been given when he retired, nearly ten years ago, it might have been acceptable. But to offer it to a dying man!

Typhoid is still the leading topic with us. Maid-

stone is rejoicing over the conclusion of her trial, and on Sunday last thanksgivng services were held in all her places of worship. At Lynn only seven new cases were notified for the week, and the deaths remain at forty-three. The water supply, however, is causing no little anxiety, and it is hoped the new works will be carried out as rapidly as possible. At Camborne, since December 5th, when the first case was notified, the number has gone on increasing and is now above eighty. A doubtful water supply was cut off a fortnight ago, and the whole is now obtained from one source, said to be above suspicion.

The adjourned discussion on the prevention of this disease will be resumed by the Medico-Chirurgical Society next week. Meanwhile the Pathological Society has been considering another aspect. At its meeting on Tuesday Dr. T. J. Bokenham took up the orrho-therapy of typhoid, and pointed out that the principles involved differed essentially from those applicable to diphtheria and tetanus. There is, he admitted, no definite proof that true toxins are produced by Eberth's bacillus or by the streptococcus. It is not, therefore, justifiable to speak of a typhoid or streptococcus antitoxin. Yet clinical observation seems to show that serum from animals immunized against typhoid cultures has valuable therapeutical effect. Having pointed out the distinctions between Eberth's bacillus and the bacillus coli, and given some account of his experiments, Dr. Bokenham concluded that non-toxic filtrates of fresh cultures have distinct immunizing power; that the immunizing action is displayed toward both living and dead cultures; that the serum of animals treated with filtrates of fresh cultures acquires agglutinative and bactericidal properties; that mixed in sufficient proportion with living cultures the serum renders them harmless; and that to some extent the serum has preventive and curative powers. On the toxic filtrates of old and dead cultures Dr. Bokenham admitted with other observers that the serum had no antitoxic properties, but he did not despair of obtaining a serum which would possess such powers.

There is no doubt now that we shall follow the example of the continent, and store glycerinated calf lymph for vaccination. The report of Sir R. Thorne and Dr. Copeman on their tour of investigation is altogether in favor of the plan. The best laboratory in connection with the vaccination institutions which they visited was at Cologne, but in all the utmost care and cleanliness prevailed. They recommend that calf lymph be exclusively used, and that the distribution from the national establishment should be limited to glycerinated lymph. To carry out the plan the existing animal vaccine station will have to be reorganized. A properly equipped laboratory should also be added under the supervision of an experienced bacteriologist.

The 1898 Medical Directory has been delivered this week. It grows thicker every year. The number of practitioners included is 34,903—an increase of 619. This number includes the naval and military officers and practitioners settled abroad. The London list extends to 6,081; the provincial in England to 15,400. Wales has 1,081; Scotland, 3,412; and Ireland, 2,615. In spite of the overcrowded state of the profession the increase seems to continue, and what the young men now qualifying at the colleges will do to secure a living no one seems to be able to guess. The deaths recorded for the year number 599, or an average of about 1.75 per cent.

The medical books published last year were two hundred and eleven, of which one hundred and fifty-two were new works and fifty-nine new editions. This is more than one hundred above the number for 1896, but about the same as in 1895. These numbers are given in the *Publishers' Circular*, but it may perhaps be permissible to feel a doubt as to the classification adopted, for books called medical by the public are some of them such as the profession would scarcely acknowledge as its products.

The dentists are crying out for representation on the Medical Council, as they contribute a considerable amount to its income. Several incidents have occurred which show that a dentist's advice would be advantageous. They should press the government to select a dentist for the next crown vacancy.

Influenza has been rather prevalent during the last month, but scarcely amounted to an epidemic. The deaths registered in the last four weeks from the disease have been ten, seventeen, fifteen, and twenty-nine.

It has been decided in Dublin to erect a memorial to the late Dr. Haughton. This is promoted by the Dublin Zoölogical Society, of which he was president, and will probably take the shape of a building in its gardens. I wonder if it was due to his influence that the Dublin Zoo has so long been better managed than ours. The London Society should look to this. It is to be feared that scientific zoölogists do not make their voices heard in the London society, and leave the management of the gardens to traditional notions. With the International Congress of Zoölogy approaching, the London society should awake to its responsibilities.

Dr. Montgomery Ward, surgeon to Mercer's Hospital, Dublin, died unexpectedly at the close of the year. He had been a little out of health lately, but was not thought to be suffering from serious disease; in fact, he was at his work on Tuesday and dead on Friday. His death removes the last of the old staff at Mercer's; so now only those remain who applied for the vacancies so irregularly made, and who, I suppose, will be ready to be as summarily removed as their predecessors when the board thinks it pleasant to show off its importance.

The late Mr. O'Grady, you will remember, was about to fight this in the law courts, but death intervened. A memorial is being raised to him, and nearly £200 has already been collected.

The death of the Rev. T. E. Clark, M.D., took place on Christmas eve. He was once surgeon to the Bristol Infirmary. Some years ago he left the medical profession for the church, but he retained the respect of both until his death, in his sixty-third year.

Dr. J. A. Wallis, one of the commissioners in lunacy, died suddenly, on the 30th ult., from angina pectoris, of which he had previously had attacks. He had had great experience in asylum work before being appointed to the commissionership, in which office he gave great satisfaction.

The death of Dr. Calderwood is also announced. He was a young man of great promise, who graduated at Glasgow University in 1896 after a brilliant career as a student, and was then appointed demonstrator of anatomy.

Another promising young man's career is closed in early death—Mr. W. H. J. Paterson, house surgeon at St. Thomas' Hospital. He died on the 2d inst., after a few days' illness. He was, in fact, at work on December 26th, next evening felt rather ill, and soon jaundice appeared, followed by delirium and then coma.

LONDON, January 14, 1898.

THE adjourned discussion on the prevention of typhoid fever has now occupied two evenings, and the space at my disposal precludes more than a brief notice of the most important points. Special interest attaches to the debate, as fresh outbreaks of the disease have occurred.

Dr. Payne thought it not impossible that the bacil-

lus might exist as a saprophyte, and became pathogenic only under certain conditions. Moreover, he thought it likely that the fever could be taken in certain cases by inhalation. Cotton and linen garments were easily disinfected, but woollen ones were scarcely ever made safe by the usual washing.

Surgeon-Major Jameson (director-general of the army medical department) discussed the relative frequency of the disease in various countries. From his statistics it appears that in India it occurs in young soldiers and recent arrivals, women and children suffering less frequently than men; it appears also in isolated cases distributed over wide areas and in posts occupied for the first time.

Professor Kanthack said it has been shown that the bacillus exists in the pus of abscesses formed during an attack, and may be found in abscesses years after the attack. So, too, it has been found in the gall bladder years afterward. It is not known how long it may remain in the fæces, but the cholera bacillus persists long after the motions have become solid, so it is probably unsafe to consider a patient free from infection as soon as he has recovered from the attack. The bacillus has been found in ploughed land when typhoid almost certainly could be excluded; it could multiply in the soil and find access to water supplies. Dr. Kanthack suggested that disinfection of intestines taken from typhoid cases should be more carefully attended to in post-mortem rooms.

Dr. Sims Woodhead said that cisterns might be a source of infection to the family, but were protective to the mains, in which it is impossible to keep the pressure constant. It was, he thought, easy to check an epidemic from milk compared with one due to water infection, and he considered frequent, almost constant, examination of the water desirable. The cholera bacillus may be present before an attack of the disease, and it may very likely be found that the same is the case in typhoid. The bacillus coli and that of typhoid grow under very similar conditions, so that where one flourishes the other is likely to flourish also.

The debate was renewed on Friday, when Dr. Corfield took the part of the water system, which had been assailed by Dr. Poore. The latter, however, had not proposed to do away with water carriage in large cities, and in his reply complained that some speakers had scarcely represented his remarks accurately. Dr. Corfield said that London shows a lower death rate from typhoid than all England and Wales; but it is the city in which it is the most universal. Till lately it was thought this fever might arise *de novo* from decomposing excrement, but he had shown twelve years ago that isolated cases occurred only when a fresh case was introduced from without. Until lately one of the chief sources of propagation was the connection of cistern waste pipes with soil pipes.

Dr. Seaton referred to the reduction in the mortality of typhoid, amounting to no less than sixty per cent., and urged the extension of notification and the efficient organization of the sanitary service as the chief points in prevention. He accepted Dr. Poore's views for rural districts, but not for large towns. He even admitted that there are many such districts, where elaborate systems of water carriage have been carried out, where the dry method would have been safer as well as better.

Dr. Squire said that in hot, dry climates the disease was spread through dust carried by the wind.

Dr. F. Little proposed universal notification, compensation to bread winners, municipal laboratories, supervision, inspection, and exclusion of excreta from the soil.

Dr. T. Williams attributed something more than had been admitted to the vulnerability of the individual and of the Anglo-Saxon race.

Dr. Horton Smith referred to the long time the bacilli persisted in the excreta—twelve days after defervescence according to one observer, and forty-one according to another. He had himself detected them twenty-two days after, and therefore disinfection should be carried out in the most complete manner during convalescence. Even after the bacilli have disappeared from fæces and urine, they may remain in the marrow of the bones and set up osteomyelitis. In two cases they have been found in a cavity containing a sequestrum six years after the attack. He would advise burning the excreta where possible, and thought it dangerous to put them on the soil, as the bacilli had been shown to grow there.

Mr. H. E. Durham said that much that has been written on the bacillus is not to be relied upon, as the tests employed have been imperfect and there are several organisms which grow under similar conditions. He did not consider Widal's test, as it is usually applied, of much clinical value.

Dr. Childs would hold water companies responsible and give sanitary authorities more power, and said Munich might be instanced as showing what sanitation could do, for it had reduced the typhoid mortality of that city to one-twentieth of its former rate.

Dr. Seymour Taylor commented on some clinical points, and, in reference to the proclivity of newcomers to suffer, suggested that perhaps the dwellers in a house might have become immune from long exposure to the poison.

Dr. Poore, in reply, defended his position, but of course had not time to answer each speaker in detail or to refer to all the points raised. As to India, he referred to the natives washing in tanks and the thirst of the tropics inducing men to drink water of any kind. Then, he said, though the mortality is high in India, it is low in China, where the fæces are applied to the soil. With reference to the bacilli growing in the soil, it should not be forgotten that they flourish most in filthy soil. Excreta should not be thrown into a deep trench, but laid on clean soil and covered with a small quantity of fresh earth—a plan as old as Moses, as recorded in the Pentateuch.

On Monday evening the Medical Society held the discussion of which notice had been given, on "Adherent Pericardium." Sir William Broadbent opened by reference to the difficulty of diagnosing the condition, which may easily be overlooked, as it does not always set up any marked disturbance of the heart's function. An approximate diagnosis can be made by considering the probable effects of other lesions present and the significance of symptoms which those lesions cannot themselves produce. Dilatation and hypertrophy without valvular affection suggest the possibility of adherent pericardium, and sometimes a distinct systolic tug is given through the diaphragm to the left false ribs. Though the condition may not be giving rise to symptoms, it is not without importance, as it may aggravate bronchitis, interfere with compensatory hypertrophy, and in old age favor degenerative processes.

Sir Douglas Powell followed. He remarked on the untrustworthiness of the signs which have been considered pathognomonic. He said that often when the condition is diagnosed during life the post-mortem shows no such condition; on the other hand, the autopsy often reveals a very marked adhesion which had never been suspected during life.

Dr. John Broadbent quoted the late Dr. Sturges, to show that only six out of one hundred cases of heart disease in children escape adhesions. He directed attention to the early appearance of increased dulness due to dilatation. Adhesion formed during this state will interfere with the return of the heart to normal size, and the speaker therefore inferred so that when

the organ remains permanently enlarged the adhesion has taken place early.

Dr. Ewart did not accept the common notion that the right side of the heart is most affected by adhesion. On the contrary, it seemed to him that when adhesion causes limitation of the movement it is the left ventricle that must be incommoded.

In his reply Sir W. Broadbent said he could not accept this view, as the symptoms of cardiac failure associated with adherent pericardium certainly point to the right heart.

Dr. S. West and Dr. Lees had in the mean time spoken, the former insisting that dilatation is the rule—not hypertrophy; the latter calling attention to the rapidity with which dilatation occurs in acute rheumatism. This he thought due to the toxic influence of a microbe.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE NEW YEAR—PROFESSOR JACCOUD—PRESIDENT OF THE ACADEMY OF MEDICINE—RADIOGRAPHY OF THE CRANIUM AND LUNGS—A MEANS OF ERADICATING TUBERCULOSIS FROM THE ARMY—ELONGATION OF THE SPINAL CORD—MASSAGE IN THE TREATMENT OF FRACTURES, ETC.

PARIS, January 7, 1898.

THE advent of the new year in Paris is not an occasion of any special note professionally. There is, of course, the vacation at the academies and the Ecole de Médecine; also there are a few doctors' receptions and dinners, but ill people must be attended to, whether in the hospitals or in private practice, so that the medical profession moves on while the rest of the world stops for a moment to enjoy the festivities of New Year's, the greatest day of the year in France.

The year is so very young yet that we must look to 1897 to find anything of unusual interest. The dying year was marked at the Academy of Medicine by Professor Jaccoud taking the chair of president and Professor Panas that of vice-president, occupied last year by Professor Jaccoud. Those two elections are universally applauded. Professor Panas, a Greek by birth, and professor of diseases of the eye at the Faculty, has written voluminously, and is one of the leading authorities on diseases of the eye to-day. His works on inflammation of the membranes of the eye, on retinitis, on diseases of the lacrymal system, on the nasal fossæ and the lacrymal ducts, strabismus and ocular paralyses, were worth to him a nomination to the chair of ophthalmology in 1879 and an election as member of the Academy of Medicine.

At this meeting of the academy, Professor Le Dentu presented an apparatus exceedingly ingenious and one likely to prove of the greatest value in surgery. It was conceived by M. Contremoulin for cranial radiography. Professor Péan in his turn presented another apparatus of the same sort. Although Professor Péan's instrument, if it may be so termed, appeared to be less perfect or perfected than that presented by Professor Le Dentu, it had the advantage of being more maniable. It was invented by M. Mergyer. By means of either or both of these instruments, looking for intracranial projectiles, such as bullets, bits of glass, bone splinters, ends of steel instruments, or weapons, etc., becomes greatly facilitated and simplified, and we all know how difficult, groping, and even perilous it has been up to the present time. But the most important and far-reaching application of the Roentgen rays is that proposed by Professor Kelsch, one of France's most eminent military doctors, and is nothing less than the precise precocious diagnosis of pulmonary tuberculosis. Professor Kelsch brings us the possibility of promptly eliminating from the army all those young latent tuberculous patients whose disease cannot be detected by the ordinary means of percussion and auscultation, but who soon become worse, contaminate their comrades, and finally, too late, are reformed, as the French say—that is, taken out of actual service. The great value of this application of the Roentgen rays is apparent when we consider the alarming number of such cases—one or two cases in five soldiers examined. The number of men in the service will be thus diminished very sensibly. That, I admit, is a drawback from a military standpoint, but only apparently. On the other hand, how many young men saved from the overcrowding in barracks, dampness, hard tasks, and exposure to the weather, may be returned to the pure air and simple life of the country, at a period when tuberculosis is still curable! I have known such cases cured simply by living in the country and riding on horseback. And when we think that one-fifth of the total mortality rate is due to tuberculosis, we are more than ever impressed with the great scope of usefulness of the Roentgen rays in this particular, to say nothing of its application to civilians.

Dr. Kraus next occupied the attention of the academy with the eunuchoid voice. He considered this high-pitched, weak, effeminate voice that most of us are familiar with to be due to a simple malformation of the larynx, which a properly applied apparatus of compression causes to cease in a very short time. Dr. Kraus loses sight of those cases of atony of the vocal cords of nervous origin and as a sequence to diphtheria, which no amount of compression has any effect upon, the remedies indicated being electricity and massage: even these are too often of no avail.

It was a meeting of apparatus, this reunion of the Academy of Medicine during the last days of the old year.

Drs. Gilles de la Tourette, Chipault, and Gashe, took up the question of true elongation of the spinal cord by mechanism, from which it appears real services are thus rendered in a large number of cases of locomotor ataxia. Finally, Dr. Heide presented an apparatus for buccal prosthesis, which remedies in an astonishing manner an enormous loss of substance comprising the palate or the cartilage of the septum with sinking in of the nose. Dr. Heide is professor at the dental school.

As a fitting end to this mechanical sitting, Dr. Lucas Championnière spoke about a case very much in point, and adduced it to defend a doctrine that appears to be a favorite one of his. I refer to the treatment of fractures by massage. Massage, although chiefly of manual application, is also done by means of certain instruments and appliances, and may therefore be properly classed as a mechanism. Massage, according to Dr. Lucas Championnière, has given the death blow to the time-honored treatment of fractures by immobilization. Although Drs. Péan and Labbé made some restrictions regarding cases and the actual application of massage in the treatment of fractures, they recognized all the merits of this invention, which, in so far as my personal experience and observation of it goes, will prove to be one of the most ingenious discoveries in the domain of surgery.

Among the principal works presented to the academy were the new book of Dr. Henri Monod on "Public Hygiene," an instructive essay on hygiene, ancient and modern; and the "Treatise on Microbiology," by M. Duclaux, of the Pasteur Institut, which is really a model of its kind, and may truly be called an historical and critical *chef d'œuvre*.

Uterine Injections.—The nurse may be intrusted to administer vaginal injections, but uterine injections should be given by the physician himself. PARVIN.

MOVEMENT OF BOWELS AFTER OPERATION.

To the Editor of the Medical Record.

Sir: My remarks at the January meeting of the Medico-Surgical Society have been somewhat erroneously or rather insufficiently reported in your last issue. The subject being one of some importance, I should not like to go on record as having made exactly the statements attributed to me.

I did say that after operative interference with the intestines themselves I always give opium. If the small intestine has been dealt with and an exact approximation of peritoneal surfaces has been possible, I see no object in further continuing the administration of the drug beyond a few days. But if we resect the large intestine and suture parts of the bowel that have no peritoneal investment (mesocolon), I believe the bowels should be kept quiet, in the interests of complete union, as long as possible, as I have seen leakage on the tenth day.

When I have opened intraperitoneal abscesses, not adherent to the anterior abdominal wall, I pack with gauze and open the bowels no sooner than the fifth day, when I trust fairly firm adhesions have formed. But I do not give opium in these cases.

In clean abdominal sections I open the bowels on the third day, and I do not hesitate to administer morphine if required. F. Kammerer, M.D.

January 22, 1898.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 22, 1898:

	Cases.	Deaths.
Tuberculosis	241	94
Typhoid fever	7	1
Scarlet fever	210	23
Measles	361	16
Diphtheria	180	15
Laryngeal diphtheria (croup)	7	0
Chicken-pox	31	0
Cerebro-spinal meningitis	1	1
Pertussis	6	0
Parotiditis	2	0
Erysipelas	3	0

Ex-Ring Therapeutics threaten to outdo x-ray medication, and the solar plexus seems destined to have a greater influence upon the science of cure than the solar spectrum has ever had. An aggravated dyspepsia from which Mr. Corbett suffered prior to the receipt of the prostrating plexus punch has disappeared since that very date, and the cure is now attributed by the patient himself to Dr. Fitzsimmons. The frequency with which the treatment has since been tried by others, according to newspaper reports, must have impressed the public as noteworthy, but the mortality attending the shock would tend to render the average dyspeptic cautious about undertaking the cure. It might be well in this instance to resort at first to homœopathy, and take the medicine in small and mild doses.

Spread of Tuberculosis by Meat and Milk in Great Britain.—*The Lancet* says, in relation to the subject: "During a considerable part of the year a royal commission has been sitting to report on the administrative measures which should be adopted to control the spread of tuberculosis through the use by man of meat and milk as articles of diet, and we learn at the last moment that a considerable portion of the final report has been discussed by the commission, which is expected to report finally early in the ensuing session of Parliament. Perhaps the two most pressing matters to be dealt with are, first, how best to prevent the milk supply of our child population from serving as a means for conveying tuberculosis; and secondly, how far the demand for compensation for carcasses and for milch cows seized because they are tuberculous is to be conceded to butchers and dairymen. On these two points it is to be hoped a very definite opinion will be expressed."

Neurasthenia may be called forth in an individual suitably predisposed by active life with its modern needs on any pretext—over-exertion, excesses, trauma, constitutional diseases, acute and chronic infections, syphilis, intoxications.—Binswanger.

Eclamptic Albumin.—After examining three women in eclampsia Drs. Bar, Meun, and Mercier have concluded (*La Méd. Mod.*, December 8, 1897) that the urine in eclampsia contains an albumin which differs from other varieties, in that even in large amount it is wholly soluble, or so in great measure, in the presence of a minute quantity of acetic acid. This peculiarity is noted especially at the moment of access or in the premonitory period. The proportion gradually diminishes and finally the albumin disappears wholly.

Pulmonary Anthrax.—An instance is reported by Petrov, in which, without skin lesions or other signs of anthrax infection, death occurred upon the fifth day, after symptoms of chilliness, pain in the side, and shortness of breath. The autopsy revealed an abundance of anthrax bacilli in the pulmonary lymphatics. —*Archives Russe de Neurologie*, No. 32, 1897.

Health Reports.—The following statistics concerning yellow fever, cholera, plague, and small-pox have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended January 22, 1898:

Yellow Fever—United States.

		Cases.	Deaths.
Mississippi, Edwards	January 20th	1	

Yellow Fever—Foreign.

Brazil, Bahia	December 27th	3	2
Ceara	November 1st to 30th	..	1
Para	December 26th to January 21st	..	9
Cuba, Havana	January 7th to 13th	4	
Manzanillo	December 15th to 31st	..	7
Jamaica, Kingston	December 11th to January 1st	1	2
Manchester	December 11th to January 1st	1	1
St. Andrew	December 11th to January 1st	1	1
St. Catherine	December 11th to January 1st	1	
St. Elizabeth	December 11th to January 1st	1	1

Cholera—Foreign.

India, Bombay	December 7th to 21st	..	9
Calcutta	November 28th to December 11th.	..	23
Madras	December 4th to 10th	..	5
Singapore	November 1st to 30th	..	1

Plague—Foreign.

India, Bombay	December 7th to 21st	..	253

Small-Pox—United States.

Alabama, Birmingham	January 20th—Small-pox epidemic.		
Georgia, Atlanta	January 17th	131	now under treatment.
	January 18th to 20th	6	
North Carolina, New Hanover County	January 14th	1	
South Carolina, Swansea	January 15th—Small-pox reported.		

Small-Pox—Foreign.

Bohemia, Prague	December 19th to 28th	10	
Cuba, Havana	January 7th to 13th	12	
Sagua la Grande	December 25th to January 8th	70	8
England, Sunderland	December 15th to January 1st	1	
Gibraltar	December 27th to January 2d	1	
India, Madras	December 4th to 10th	1	
Netherlands, Amsterdam	January 2d to 8th	1	
Russia, Odessa	December 26th to January 1st	10	1
Warsaw	December 19th to 25th	..	5
Scotland, Glasgow	December 19th to 25th	1	1
Spain, Barcelona	October 1st to 31st	..	6
Wales, Cardiff	December 17th to 24th	..	1

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Original Articles.

GENERAL PARESIS—REMARKS ON ITS PRESENT-DAY CLINICAL DELINEATION.[1]

BY JOSEPH COLLINS, M.D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO THE CITY HOSPITAL; ATTENDING PHYSICIAN TO ST. MARK'S HOSPITAL; NEUROLOGIST TO THE POST-GRADUATE HOSPITAL, AND TO THE ST. JOHN'S GUILD HOSPITAL FOR SICK CHILDREN.

Statement of Fact.—Every one who sees much of general paresis must admit that the clinical features of the disease to-day are not the same as they were twenty-five years ago, and that the majority of cases do not conform in their symptomatic features to the descriptions given in the books. Such symptomatic transformation is not exceptional in diseases of the less highly specialized systems of the body; typhoid fever, for instance, differs materially to-day in the way it unfolds itself from that seen by Gerhard, of Philadelphia, and Jackson, of Boston, who were the first to describe that disease in this country. When the nervous system becomes disordered in such a way as to constitute a definite disease, however, the symptoms that accompany are rather constant. In fact, general paresis would seem to be the only organic disease of the nervous system known, let us say to the previous generation of writers, that requires a re-statement of the symptoms.

Early Notions of General Paresis.—When the disease which is known as paresis, general paralysis of the insane, paretic or paralytic dementia, was first described by Haslem, Perfect, Esquirol, and other clinicians writing at the end of the eighteenth century and in the beginning of the century now waning, the motor paretic manifestations which are to-day the pathognomonic features of the disease were thought to be dependent upon some pathological process complicating acute mania or other form of insanity. It was not until Parachappe, and indeed before him Boyle and others of the school of French alienists, successfully combated this view and showed that the symptoms, mental and bodily, were dependent upon definite lesions of the central nervous system, and constituted a distinct form of insanity, that the disease was recognized as an individual one. When it came to be understood that the motor symptoms and the progressive mental decay formed a pathological and clinical entity, a detailed enumeration of the physical and psychical symptoms constituted the clinical delineation of the disease. Soon, however, one symptomatic concomitant of the disease seemed to become so prominent that it towered above the others. The feature to which I refer was the expansiveness of the patient's delusions and the exaltation of his waning ideas. So important a place did they come to occupy in the clinical descriptions of paresis that one readily infers from reading these descriptions that the disease did not exist without this delirium of grandeur, or megalomania, as it has been called, and, if it did, such cases might be looked upon as atypical or aberrant forms of the disease.

The Signature General Paresis.—General paresis, although a distinct clinical and pathological entity, reveals itself in a number of different ways, and it is quite impossible to describe the features of one or two cases and endeavor to maintain that all succeeding cases will parallel them. Nevertheless, the disease has, it matters not what clinical forms it assumes, certain definite bodily accompaniments which constitute the signature general paresis. These symptoms or physical signs are by far more important in suggesting or showing the presence of the disease, even in the earliest stages, than are the mental symptoms. Not that it is at all novel to mention or discuss these physical symptoms in general paresis, for they have always been recognized, but the mental symptoms have been given such undue prominence by the majority of writers on psychiatry that the former are not given due weight by the general practitioner. I have been a physician a sufficient number of years to have witnessed a change in the character and development of the symptoms of this disease, and the experience of each succeeding year convinces me that the form of general paresis described by writers on psychiatry as the typical, I might say the pathognomonic one is becoming less common, while the motor type, if I may so designate the form to which I ask your attention, is becoming more evident.

Symptoms of General Paresis, as Usually Given.—The symptoms of general paresis are divided usually by systematic writers into three or four stages, the customary division being into a prodromal or early state, an acute stage, and a terminal stage, each of these of from one to two years' duration. As portrayed in text-books the development of symptoms is somewhat as follows: The prodromal stage is attended and characterized by alteration of the patient's character and judgment; a perversion of his disposition, of his sentiment, of his probity—in brief, of his mental integrity; and by a progressive diminution of physical strength. It is oftentimes difficult to say wherein the patient has changed mentally, so slight is the alteration in the beginning and so insidious the onset. He may show it by intolerance of the ordinary harassments of life, forgetfulness of customary social and family amenities, by the habitual elaboration of commonplace incident or occurrence, or by indulgence in business transactions not fortified by good judgment. Or his mental derangement may be manifest by a selfish indifference to most pressing personal and family entailments, by a heedlessness of customary conventionalities, by indulgence in generosity and purchases incompatible with his financial status, or by perversions and brutal indulgences of sexual desires.

The second stage sees a continuance of all these symptoms and is accompanied even at the beginning by a remarkable degree of eupathy. The patient, although brought even at this stage by his mental infirmity to a cessation of his customary duties as a member of society and as a factor in the community, and robbed of the capacity legitimately to care for himself or those dependent upon him, is nevertheless filled with an immeasurable and boundless feeling

[1] Read before the Bridgeport Medical Society, December 7, 1897.

of his own importance, of his possessions, of his capacity to conquer and maintain, of his irresistibility—in short, of the Alexandrian feeling that the world, its denizens and its possessions, have been conquered. More than this, he professes the capacity to enjoy, to revel in, to extract the supremest pleasure from his talents and all that they have compelled. Unlike Alexander, he harbors not for a moment the querulous, sentient feeling of unhappiness in having no more worlds to conquer. Nothing is needed to complete his euphoria. His cup of bliss is overflowing, and he fears not lest it be overturned, for the conviction is full upon him that it could be easily righted and refilled. He distributes with a liberal hand; he is astonished that his generosity should excite comment; and he considers it unwarrantable infringement upon his personal liberty if an attempt is made to stay his hand by word or deed. He enjoys the astonishment which his purchases or his attempted business transactions cause. Everything is done on a magnificent scale in keeping with his colossal egotism, vanity, and manner. This is the stage of megalomania which writers have described so carefully, and which every one who has had to do with paresis recognizes as a mirror held up to the mental features of an uncertain number of cases. This stage is of course attended, as well as are the preceding one and the stage about to be described, by the presence and development of other symptoms, particularly motor symptoms, but I shall not attempt an enumeration of them, for they form the most important features of the disease as it unfolds itself to-day.

The third stage, the stage of dementia, the stage of rapid and complete mental decay, sees the patient at the beginning in the possession of that euphoria previously mentioned, but it is shrinking fast and there is becoming ever more manifest diminution of mental reaction and dissociation of mental components. These gradually extend until the mind becomes as blank as it was before the first neural constituents of the brain became medullated and functionable.

Motor Type of Paresis Occurs in Majority of Cases at Present Day.—I recall in my earlier experience many such cases of general paresis, and descriptions of them, as I have already said, are to be found in all text-books of mental diseases. That they are becoming less common may be evidenced to you by the fact that in the last three years, during which time I have seen thirty-one cases of general paresis, less than one-third of that number, viz., ten, have had any expansive delusions or exalted ideas whatsoever.

That you may address your attention more closely to the clinical form of general paresis that was in bygone years the common variety, I shall cite one example seen seven years ago, and which is most typical of the form characterized by delirium of grandeur. It may better portray perhaps the *tout ensemble* of this variety of alienation than would a long detailed clinical description.

G. D——, forty-three years old, an American, was brought to me by a brother in the autumn of 1890. He had reduced himself by dissipation and excesses of all kinds, from a desirable commercial position to that of a dependant and a vagrant. Twenty-three years before I saw him he was treated for the primary lesion of syphilis. The kind and duration of the treatment he received I am unaware of. His habits and indulgences had in later years ostracized him from his family, so that they were unable to give much information concerning the early symptoms of his present disease. He had been restored to them through the medium of a police court, where he attracted a great deal of attention by his asseveration of his personal worth and the persistent reiteration of his enormous possessions. On being rescued by his brother, he was quite devoid of chagrin or contrition, and continued to talk of his wealth, of his estate, and of his personal commendatory possessions, quite unconscious of the lamentable incongruity between his assertions and his real state. He was very forgetful, absolutely heedless at one minute of what he had said, done, or promised the minute before; easily excited and prompted to boisterousness; apparently devoid of either desire or necessity for sleep, and maintaining what appeared to be a superabundance of animal spirits, although getting very little of either of these restorers in the customary or habitual way. In other words, unless compelled to, he would go for long intervals without eating, and then eat ravenously and gluttonously, and it was the same about sleep. Although he would not sleep at night, he might sink into the slumber of exhaustion even while boasting of his millions and his "oceans of gold." When I saw him he had the striking and characteristic motor accompaniments of general paresis, viz., the spluttering, stumbling, inco-ordinate speech; the tremor of the facial and buccal musculature; the unsteady gait and tremulous hand; the unequal, stiff pupils; the exaggeration of the knee jerks; in short, the motor accompaniments which constitute the signature general paresis. His delirium of grandeur was evidenced from the moment of his entry, which was one indicative of an exalted personage condescending to favor a fellow-being with his presence. But there was no reserve in the condescension. He told me in the most matter-of-fact yet eager way of his intellectual possessions and personal adornments. He was not adverse to letting me know that they had both caused him to be much sought after. His capacity to do, to execute, was limitless. Slight reference to his financial status provoked the offer of $100,000 as a loan or a gift; either disposition was apparently of equal pleasure to him. His estate encompassed a large part of the State of New Jersey, and its arrangement and disposition were in keeping with its size. The most constant assertion in regard to his wealth, however, was that he had "oceans of gold." Prompt his thoughts to any fancied possessions, and he would dilate upon them in the most expansive way. He was particularly proud of his procreative organs and of his fertilizing capacity. Not only the size of the former but the ease with which he had fathered more than a hundred children were spoken of with evident pride and satisfaction.

I had opportunity of studying this patient to the time of his death, and it would be but a repetition of the symptomatic features above hinted at, if not mentioned, to describe the change and evolution of his symptoms to the ending. The dementia, which was well pronounced when I first saw him, increased week by week; the somatic accompaniments of the disease, particularly the inco-ordination as manifest by defective speech, became more striking; the physical strength gradually ebbed away. But even to the very end of speech capacity, at a time when the last vestige of similarity of words had departed, I could still discern in the lalling which replaced articulate speech the ghost of the phrase, "oceans of gold," almost automatic and like an echo. He died about two years after I first saw him. A few months before death he became completely bedridden, the four extremities paretic, the functions of the bowels and bladder almost derelict, the swallowing capacity seriously impaired, and finally he died under the auspices of an attack of hiccough.

Cases of this kind could be duplicated from my histories, but I have selected the one most typical of them. It has astonished me that I saw them in the earlier years of my interest in neurology and that during the past few years I have encountered them more rarely, although naturally the opportunity for seeing cases of general paresis has been more abundant.

This experience has impressed upon me the justification of the title of this paper. Moreover, I embraced the opportunity which was given to me during the past summer to talk with some of those to whom we are indebted for much of our knowledge of the nature and history of this disease, such for instance as Mendel, and was much gratified to learn that the same opinion or conviction was shared by them.

The Present-Day Type of Paresis.—The type of general paresis which I encounter most frequently today is one that conforms more closely to the original descriptions of the disease before the time that the expansiveness of the patient's delusion and the exaltation of his ideas were made such an important integral part of the clinical picture. In other words, the prominent symptoms of by far the majority of cases that have been recently under personal observation may be summed up in a few words. They are the predominance of what we may call the somatic symptoms, viz., the pupillary symptoms—stiff, rigid, unequal pupils; the facial tremor and the emotional reflex; the changes in speech, which are by far the most striking and diagnostically the most important; the disordered handwriting; the alterations of knee jerks; the manifestations of inco-ordinate muscular activity; the spasms and the paresis, on the one hand; and by progressive dementia on the other: a progressive failure of all the components of intellectuality, beginning with the highest and most developed, and ending with those which may be called the result of activity beneath the threshold of consciousness, and extending to embrace those almost reflex and automatic. To bear me out in these assertions, I shall cite a few unselected cases, taken mostly from my records of private cases, for it is in this kind of practice that one has opportunity to study his cases most satisfactorily. There he may witness the phenomena attending the onset of the disease and study the early manifestations of it with the patient, while sufficient mind is still vouchsafed the victim to make his statements credible.

Case I.—Mr. X——, forty-four years old, a banker, married, the father of two healthy children. He denies syphilis. He did not marry until his thirty-third year, but nevertheless he and his family say that he had been a temperate man. Since then he has smoked excessively and has been a steady drinker, oftentimes indulging too freely. He was never an intellectual or a sociable man—retiring, non-communicative, of no considerable mental ability; an unnoticeable man. He dates his ill health back only a few months, but on close inquiry he says that it is at least seven or eight years since he was perfectly well. The first symptoms seem to have been unaccountable fugitive pains in different parts of the body. At one time there would be a painful area no larger than the end of a finger or as large as a silver dollar on one arm or the other, in one thigh, in the neck, and in different parts of the body. These pains were not lightning-like pains; they were not traceable to any cause; they would come and go suddenly, and the only accompaniment or sequence was a sore feeling where they had been manifest. He says that at this time a physician whom he consulted noticed an irregularity of the pupils, and that one of them did not retract to light. These pains continued for a few years, sometimes causing much complaint, at other times little, and later there were added frequent cramps in the legs at night and a restlessness of which he was not cognizant. Three years before coming to me he consulted Dr. Noyes at the request of his physician, who noted: "There is paralysis of the pupil and accommodation of the right eye, together with an affection of some other twigs of the third nerve which is obscure and which I cannot make out with exactness, on account of the indefiniteness of the symptoms. The latter, however, point to spinal sclerosis. He denies syphilis, but he has had it."

When he consulted me, the story was that he had fulfilled the offices of cashier in a banking establishment until three months before, but for the past year or two the patient's family has noticed that he was gradually becoming changed. Formerly he took a lively interest in his personal appearance, but latterly this has been very much neglected. He has lost interest in his children and affection for his wife. He has no particular inclination or desire for anything that is proposed, either for his amusement or for his advantage. Although he reads the papers he does it in a perfunctory sort of a way, and it is apparent that he absorbs neither what he reads nor what he hears. He is inclined to talk of incidents and happenings of twenty years ago, and to go over them even to the most unimportant and uninteresting details, to the great fatigue of his hearers. For recent events he manifests decided aversion, is unconcerned and forgetful of them. When asked a simple question requiring for its answer slight mental activity, he puts off his interlocutor with an evasive reply. Yet oftentimes he amuses by *à propos* comments and more or less humorous sallies. Perhaps it should be said that his most developed possession when normal was a keen sense of humor. He avers that he is quite well except that he has cramps in the calves of the legs and pains in the extremities, which he calls rheumatism. He becomes fatigued very easily, sleeps badly, and is extremely restless at night. This restlessness or agitation persists during sleep, and in reality it would seem to be a convulsive movement of the extremities; a quick, short drawing up of the legs and arms and then a shooting out of them, followed by relaxation.

An examination of this patient shows practically the same condition of the eyes as reported above by Dr. Noyes, but in addition it is seen that there is no response to light in the left pupil. There is decided tremor in the facial and buccal musculature, especially marked immediately preceding an effort at speech, and preceding emotional display. Speech is stammering, word production indistinct; the consonants are elided or left out, and when he attempts to say complicated words, such as "incompatibility," "artillery," "rural intelligencer," the result is a mixture of vowels blended with aborted consonant sounds, the whole being quite unintelligible. The diction itself is disturbed: oftentimes the patient uses incorrect words and constructs ungrammatical sentences, and very frequently is at entire loss for a word. There is pronounced tremor of the hands, which is very manifest in writing. The knee jerks are exaggerated and the station and gait are uncertain, although there is no real ataxia. The patient still controls the urine and bowels, and says that the sexual functions are unimpaired; in fact, that there is a mild degree of satyriasis.

About a month after I first saw him he began to complain of stiff neck, and of increased restlessness at night, and of slight exacerbations of all the symptoms. The dementia, which was manifest at his first visit in his being unable to tell me the street in which his wife had recently purchased a house, to tell me what he had had for breakfast that morning, to compute correctly six times eight plus one, and to answer a number of equally simple and easy requests, was continually becoming more apparent. He became weaker physically and complained of the stiffness and pain in the neck. Shortly after this he had one evening, while walking to the bathroom, a typical epileptic attack: universal twitching, frothing at the mouth, biting of the tongue, and loss of consciousness. When he recovered consciousness he acted as if nothing had happened, and there was no immediate paralysis. He

told me that he did not recall having had an attack of any kind. The next morning, however, the left upper extremity was somewhat flaccid. During the next two or three days he had several epileptoid convulsions. At night the evidences of motorial irritability manifesting itself by short, sharp jerks of the extremities, very much like the twitch of a tic or an electric shock, occurred during sleep. A few days after this the right upper extremity became paretic, and later still the lower extremities became flexed, and when one made an effort to extend them there was involuntary and forceful resistance, and the patient would cry out as if it gave him great pain. There was a considerable difficulty in swallowing, and hiccough was occasionally a very annoying symptom; and the patient had a sinking sensation, a feeling as if he were falling off the pillow and off the bed: a symptom that may best be interpreted, I think, if we look upon it as a vertigo occurring to one in the reclining posture. The patient had to be catheterized, but there was no incontinence of urine and fæces. There had been no delusion of any kind from the beginning to the end of the disease. A few hours before his death he recited with childish enjoyment some experiences of a fishing-trip made in his youth, and talked until exhausted. He had no idea of the gravity of his condition, and was apparently quite indifferent to the occurrence of such ominous symptoms as palsy, first in one extremity and then in another, until all four were involved. He did not appreciate that he was on the threshold of dissolution, and joked with me about going out to eat a rarebit in the early hours of the morning that he died. The symptoms that had antedated death for a few days, in addition to those already mentioned, were difficulty in swallowing, paresis of the facial musculature, and progressive impairment of the muscular act of respiration—general paresis in the fullest sense of the term. Naturally, he had become more and more demented, but to the casual observer he would seem to have been of sound mind, even on the day of his death. Death occurred six months after he was compelled to relinquish business and about six years after the first manifestation of symptoms of the disease. The autopsy and microscopical study showed typical and characteristic changes of general paresis, and as I intend to report these in detail in another connection I shall make no further reference to them here.

I have described this case at some length because it illustrates the clinical type of general paresis which I am desirous of having you believe is continually becoming more common. Naturally, no two cases of the disease are alike, but this one may be taken as an example of the motor type—the type in which the physical symptoms are prominent and the psychical ones are in the background.

Another feature of general paresis that has impressed me very much is the attributed abruptness of the onset of the disease and the comparatively short time that elapses between the time of incapacity of the patient and the occurrence of death. It is not uncommon for patients or members of their families to fix a certain day, or even hour, when the symptoms appeared. This feature is well illustrated by Case III., and it, as well as absence of conspicuous mental symptoms, is shown by the following histories:

Case II.—A. H——, an unmarried man, thirty-one years old, occupied as a clerk in the comptroller's office in New York, was brought to me by his mother, January 16, 1895. He sprang from sturdy ancestors, and so far as could be learned he had led a moderately temperate, uneventful life. He had been fond of outdoor sports, but did not care particularly for society or social dissipations. As a boy and young man he was bright and active, and of a cheerful disposition. He denied syphilis, although he was in a mental condition to inspire no trust in his statements. He attributed his sickness to women, but it was impossible to get from him any statement as to how the weaker sex had injured him. His mother declares that he was quite well and attentive to business until three weeks before his visit to me. The first noticeable change was a suddenly developed reticence and a desire to be left alone. Without apparent cause or word of explanation he remained at home one day, moped about the house, and after that refused to go out. When urged to do so he made incoherent or unsatisfactory answers. He became extremely nervous, and it was remarked that speech was becoming stumbling and difficult to understand. He lost all interest in his personal appearance and in his family, and became apparently an element in, but without distinct relationship to, his surroundings.

When I examined him the most striking objective features were inequal and immobile pupils; expressionless, sluggish countenance; tremor of the face and tongue, more marked preceding emotional display and attempts at speaking, but also present when the patient was quiet. Stammering, almost unintelligible speech; tremulousness of the extremities so great that he could scarcely write his own name; exaggeration of the knee jerks, and a wobbling gait of weakness. Mentally, he was much demented, but apparently had no delusions. There was no exaltation, no self-satisfaction, no boastfulness or display. He was sent to a private sanatorium where he steadily grew worse, and died eight months from the time that he relinquished his position, having become completely paralyzed some weeks before death.

Case III.—C. S——, thirty-nine years old, a merchant, seen with Dr. Powell, November 1, 1897. He is married and his wife has had one child and three miscarriages. Specific infection is denied, but he is not in a mental condition to have credence given to his statements. He has been a strong, healthy man and has had only trivial illnesses. The history obtained from his wife is that he was well and attended to his business until two weeks before I saw him. On the morning of that day he was sitting at the breakfast table when he complained of feeling dizzy and of seeing double, and she noticed that his eyes were not straight. After this his complaint was of headache and of dizziness, but he did not complain very much. The principal symptoms that followed immediately after this were loss of memory, crying-spells occurring without apparent cause and without justification, silly snickering and causeless laughter, thickness and jumbling of speech, restlessness and jactitation. Careful and repeated inquiry reveals the fact that although the disease manifested itself in this abrupt fashion, in reality the beginning of it can be traced back three years, when it was remarked by his family that he was not looking after his business with his customary interest and ability. It is also recalled that his memory had been ailing for at least this length of time, and that he acted a bit odd, confused, preoccupied; indulged in day dreaming, and made some complaint of occipital and vertical headache. He engaged in some business transactions the outcome of which did not redound to his credit, but notwithstanding all this he kept to his business with a good deal of regularity, and his wife avers that she noticed no change in speech until the onset mentioned above.

Examination shows a poorly nourished man, who bursts into tears when I ask him his name. The pupils are irregular and do not respond to light and shadow; the countenance is vacuous; the face is the seat of tremor, especially preceding emotional display; there is inability to whistle; speech is very defective, sputtering, and indistinct, quite pathognomonic of general paresis. There is such marked tre-

mor of the hands that the patient can scarcely sign his own name, even if the physical weakness were not so great as nearly to incapacitate him, as it is. The knee jerks are exaggerated and attempts at standing and walking are abortive, owing to weakness and inco-ordination. Memory is almost effaced: he makes no request or complaint, has no delusions of any kind so far as can be determined; he is demented and becoming more so every day. Dissolution went on progressively, and the end came six weeks from the day that he gave over attendance on his customers. The immediate antecedent phenomena of death had been those of universal paralysis.

The next case is one of a somewhat different clinical type, but nevertheless distinctly "motor." It is one often duplicated in my experience.

Case IV.—E. A——, thirty-seven years old, seen with Dr. C. S. Eleabash, April 9, 1896. He is a temperate man, has been married eight years and is the father of four healthy children. He has never been ill except with what he calls "nerve fever," which he had when twelve years old. He and his family date his illness to the occurrence of varicose veins of the leg which ulcerated, in the summer of 1895. As the result of this he lost considerable blood and became weak. He kept at his work, however. In August of the same year he had a convulsive attack, of which it is difficult to get a clear account, which was followed by transitory left-side hemiplegia and impairment of speech. After this it was remarked that he was weakening in bodily and mental strength. Speech began to be altered, memory became unreliable; he lost his position, to all of which he seemed to be quite indifferent. One of the earliest symptoms in this man's mental impairment was difficulty in finding his way back to Brooklyn after his work was done. Occasionally he would get over to Jersey City or Staten Island instead of taking the ferry to Brooklyn. There have been no delusions, no exaltations: simply a mere indifference, a lack of interest, no matter what predicament he finds himself in.

Examination shows irregular myosis of both pupils, the left slightly larger than the right, and both inactive to light and darkness; marked tremulousness of the face and tongue, but not of the extremities: speech sputtering, indistinct, and jumbled. When he is excited or emotional it is quite impossible to understand him. The voice is tremulous and interrupted and of uniform intonation. The knee jerks are enfeebled, the pulse is small, the extremities are cold, and the digestive apparatus is disordered. The gait is uncertain and is like that of one suffering from bodily weakness. The memory is very unreliable; he has no interest in his family or in himself; ordinary family amenities are no longer recognized, and he does many things which a scrupulous father and husband would blush to do. In the past four months he has had three convulsive attacks, and after each one it has been noticed that he is more nervous, less dextrous in the use of the hands, less agile on the feet, and weaker mentally. He died in an asylum one year after I saw him.

The next case is one of considerable interest because the traumatic origin of the disease is clearly apparent, and because the case is said to have been diagnosticated by a neurologist as one of brain tumor.

Case V.—J. D——, an employee of the elevated railway, forty-seven years old, was seen with Dr. James Moran on the 9th of February, 1896. The patient's history previous to the onset of his present illness was that formerly he drank a good deal, and that he never had syphilis. In fact he declared that he never had sexual intercourse until after marriage, which event occurred in his forty-second year. His wife has borne three children and has had two miscarriages. Three years and seven months before I saw him he was struck on the right side of the head by a falling weight. He was not made unconscious. He went to the hospital to have the wound dressed, and its extensiveness is indicated by the fact that the surgeon gave him ether. He was laid up about a fortnight as the result of this accident. Then after a week or so longer he returned to work and stayed at work until four weeks before I saw him. When I asked him why he gave up his position, he answered in a tremulous voice and with disordered articulation:

"I'd lose everything that I'd be doing: I don't know how to use my tools any more. I take hold of them and then don't know what to do with them."

"You do not mean to tell me that you pick up a familiar tool and wonder what it is for?"

"Yes, and if I should leave it down out of my hand for a moment, I would not know where it was, and when I am looking for it I do not know what it looks like." (A condition known as apraxia.)

When the patient was asked what he complained of, he said:

"I am dizzy occasionally: I used to think there was a tight band around my head, especially over the forehead and eyes: and now I have headache, most on the left side, and a feeling in the top of the head as if there were small shot kernels in there."

Although it will be noted that the patient says he kept at his work until four weeks ago, close inquiry reveals that symptoms of his disease have been noticed for at least two years and perhaps longer. His wife states on being questioned that she remarked a thickness and uncertainty in the patient's speech about one year after the injury. She says, moreover, that he has been extremely irritable, very excitable, and easily aroused to manifestations of temper or emotion. She also recalls that as far back as three years ago there were periods when he staggered very much the same as if he were under the influence of liquor, but that he has not staggered much since then until lately. Perhaps the most suggestive statement that she makes is that the patient has had what she calls "attacks," during which his speech would become worse, tremulousness of the hands well marked, and uncertainty in locomotion very evident. For the past two years, she says, he has been getting forgetful, querulous, and devoid of interest in his family and surroundings. Two or three times he has lost himself. About four weeks ago he went to a church in the neighborhood, one to which he had been accustomed to going, and he could not find his way back home. He passed through the street in which he lived, apparently saw the house, but he could not be convinced that he lived there. He maintained stoutly that his house was on the other side of the street. Another time he started down town on an elevated train, intending to get off at Franklin Street, but he got off at some other station and could not orient himself, and it was with great difficulty that he was got back home. Latterly he is not allowed to go abroad alone, on account of this difficulty in getting back. When at home he sits about all day, oftentimes apparently engrossed with a paper or with a book, which he appears to read, although he rarely turns a page. He may be poring over the print as if he were very much interested. He says he understands what he reads when he reads it, but he cannot understand it afterward, which on being interpreted probably means that the letters and words are still recognizable. He has apparently had no delusions, although his wife says that during the beginning of the present attack he spoke about taking a trip to Europe for the benefit of his health, and when she pointed out that although this would be a very commendable performance it was scarcely possible without some funds, he replied that he had plenty of

money and could go very easily if he so desired. When I questioned him about this, he said that if he had had such ideas they were delusions, and that he had none of them now. At times he has been so forgetful that he would start to undress at bedtime and forget to take off the most essential part of his clothes, such as his shoes.

Examination shows a well-dressed and apparently well-groomed man. His wife says that formerly he was extremely careful of his appearance, but that now she has to look out for it. When the patient speaks the voice is unsteady, there are a slurring of the words and an indistinctness of articulation due to elision of the syllables and incomplete pronunciation of the consonants, and explosiveness of the sounds and lack of uniformity in the tone, all of which simulates the speech of an intoxicated person. The pupils are irregular, the right is larger than the left, but the right does not respond to light, while the left does somewhat. The knee jerks are exaggerated and there is a pseudo-patellar clonus. He causes a very stiff dynamometer to register 85 with the right hand and 90 with the left. (The patient I might say was a right-handed man.) He still possesses a degree of sexual potency, and there is no dereliction of either sphincter. There was no particular tremor of the hand at the time of this examination. Mentally the patient is incapable of attention or connected thought, and although he answers questions rationally he very soon becomes fatigued and loses interest. Lately he has been praying a good deal and has a desire to go to church very often, but he can give no reason for such revival of religious interest. Just before he was sent to an asylum he had an epileptoid attack, and after that his mind became more disorganized and he died in an asylum a few months after I saw him. The course of the disease from that time on was typical of the terminal stage of general paresis.

The next case may serve to point the perniciousness of overwork in a syphilitic person.

Case VI.—P. I——, thirty-four years old, by occupation a piano maker, seen July 2, 1896. He is married, the father of two healthy children. His wife has had one miscarriage and one stillborn child. The family history is negative. Fourteen years ago the patient had a sore on the penis, followed by the customary secondary cutaneous and mucous-membrane manifestations. He was treated with some degree of regularity until the latter disappeared. Possibly he was under treatment for six months altogether. Eight months before he came to me his friends noticed for the first time that there was something wrong with the patient's speech, and that soon after this he lost the ability properly to control the extremities. The speech disturbances, however, they are sure were the initial and prominent condition. His family and friends attribute his illness to overwork. They say that until a few months before speech disturbance was first noticed he worked at his trade for upward of sixteen hours a day for more than three years. About six months after his disturbance of speech was first noticed he was obliged to forego his work because of tremor of the hand.

Examination of this patient revealed the stumbling, jerky, dysarthric speech, tremor of the tongue and of the lips, slight exaggeration of the knee jerks, slight impairment of station and locomotion, impaired smell and taste, marked tremor of the hand, and some cutaneous anæsthesia. The pupils maintained a slight response to light, but they were comparatively sluggish. In other words the somatic symptoms were monotonously those of general paresis. The mental symptoms which the patient had had may be summed up in a line: Progressive dementia and uniform feeling of well being. About three months after I first saw him he had his first epileptiform attack, and following this a transitory left-side hemiplegia. After this he was mentally and physically much worse than before, and soon after had to be sent to an asylum, where he now is in the terminal stage of the disease.

I shall not take up more of your time in relating histories of cases of this disease. Those that I have spoken of may be taken as fair examples of a great number that I might detail.

The Variability of the Mental Symptoms and the Invariability of the Physical Signs.—Naturally, the complexity of the symptoms constituting general paresis varies with almost every case, but no disease with which I am acquainted has such invariable diagnostic features as the one under discussion; and although the statements that one gets from different patients and their families will seem on casual hearing or reading to be quite unlike, when they are examined carefully and analyzed it is plainly evident that victims of general paresis have certain unfailing somatic symptoms which were alluded to in the beginning of this paper, and which have often been repeated in the enumeration of the symptoms of the cases reported herewith. The psychical symptoms are the variable ones in reality, but this should not astonish us when we consider the different types of mental reaction or the different types of mind that we continually encounter. It would be just as rational to expect that every man should think alike, have the same sentiments and emotions, as it would be to expect every man to have the same manifestations of mental dissolution when the brain is diseased.

Perhaps I have said enough to compel your attention to if not to convince you of the fact that general paresis is undergoing a clinical rehabilitation at the end of the nineteenth century. Naturally I do not mean to say that all cases of general paresis conform to the type of those above cited; no more do I wish to convey that I do not encounter cases that conform in every particular to those described in the books of a decade or two ago. I do meet such cases, and, as I have said, they constitute in my experience about thirty per cent. of the entire number. General paresis will probably continue to manifest itself in an uncertain proportion of cases by exalted mental states, delirium of grandeur and megalomania: but at the present day some unknown forces are at work shaping the human mind in such a way that those conditions and eupathy are not engendered when it undergoes that form of dissolution attending general paresis.

Causes of the Clinical Transformation of the Disease.—It is scarcely possible to do more than to hint at the probable causes of this clinical transformation. They may have to do with the pathologic process forming the anatomical basis of the disease, or they may be the consequence of latter-day variations in the occurrence of the disease. To pursue this statement further and illustrate what I mean: Formerly paresis was a comparatively rare disease, and, although it was described nearly a century ago, yet in the early part of the present century it was practically unknown. Even as late as 1867 it formed but one-sixth of all the insanities. But to-day it forms between one-fourth and one-third; in other words, during the last quarter of the present century its frequency of occurrence has been nearly doubled. Moreover, whereas even up to a short time ago the disease showed a special predilection for certain peoples, nowadays it is less selective and elective. Formerly paresis occurred almost exclusively in men, and, moreover, in men of the upper classes socially, intellectually, and financially. Nowadays it is often seen in women, the proportion being, according to the statistics of some countries, five to one, and in others two to one. But what is more surprising is that it

does not gather its female victims from the upper classes but from the lowest. Another point in the occurrence of general paresis that is worthy of consideration in an endeavor to interpret the change in the clinical features of the disease of which we have spoken is that to-day general paresis is recruiting its male victims more and more from the lower classes, and that it is seen with greater frequency in rural districts than it was in former years. It should not be forgotten, therefore, that the type of mind inherited or developed which undergoes disorganization to-day as the result of general paresis is materially different from that of twenty-five years ago. Moreover, the average age or time of life at which the disease develops is becoming every decade much less. Formerly it was about forty-three years, but to-day it is well down in the thirties, and it is not uncommon to encounter it in the twenties and even earlier.

When such a large number of all general paretics come from peoples of small intellectual possessions, it may be that the explanation for the change in the clinical picture is that the rudiments of expansiveness and exaltation of ambitions and conceits, never having been present in the normal mind, are not engendered when the mind disorganizes. On the other hand, the explanation may be that the morbid process has a different intensity or a different point of attack than formerly. It is a well-known fact that when cases of general paresis come to autopsy the lesions in the brain are of both cell and fibre, but in the beginning of the disease either the cell or the fibres must be first attacked. It has been taught by some pathologists that the cell is invariably the first to be affected, but this has not been demonstrated convincingly. If the brunt of the lesion were to be borne in the beginning by the motor cells of the Rolandic cortex and their axis-cylinder processes, the early manifestations of the disease would be predominantly motor, while if other cell bodies and their protoplasmic processes were the first to become disorganized the psychical and special symptoms would be in the foreground.

It is not probable that the attributable causative factors of general paresis have had anything to do with causing the clinical transformation, except in so far as they have been the cause of the racial, social, and sex distribution mentioned above. The causes of the disease to-day are the same as they were a decade or five decades ago. Syphilis, trauma, and excesses are the tripod upon which rests the genesis of the disease. All these have increased in frequency of occurrence latterly, and they are continuing to increase. Any one of them is sufficient apparently to cause the disease, but if the most potent one in conditioning general paresis, viz., syphilis, has added to it any one of the others, be it excess of alcohol, tobacco, sexual indulgence, overwork, or any other form of dissipation, or if such a patient is subjected to physical or mental trauma, the danger that such a patient will develop paresis is enormously increased. The disease is increasing, and, as Krafft-Ebing has truthfully said, its increase has been proportionate to "syphilization and civilization." Indirectly it may be that these causes have conditioned the change in the symptomatic accompaniments of the disease by rendering it less elective in its occurrence and less selective of its victims.

Perhaps the treatment of syphilis has had something to do with the clinical transformation of the disease but personally I am not inclined to such a view. The treatment of syphilis to-day does not differ materially from that of a quarter of a century ago, except that perhaps it is carried out more energetically and for a longer time, and it is difficult for me to see wherein this thoroughness of treatment can have any bearing on the change of symptoms in a disease which it conditions years after.

My object in this communication, however, has been to invite your attention to the disease as developed, and to hint only at the factors that develop it and the elements that shape its course.

47 West Thirty-Eighth Street.

IS SEXUAL NEURASTHENIA IN THE MALE AS FREQUENT AS IS COMMONLY SUPPOSED?[1]

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It would be out of place for me, accustomed to busy myself with genito-urinary questions, to present a paper before this section, composed of expert neurologists, with the idea of enlightening any of you on the subject of neurasthenia pure and simple; and if I were foolish enough to do so, I should fall as a result of your critical attack. I am therefore going to keep on safe ground, and if I provoke a quarrel with you it will be one simply over the distribution of professional spoils. The general practitioner in an able manner distributes a considerable portion of the patronage allotted to the special workers in medicine. He sometimes errs in sending a person to a wrong department. Most mistakes of this nature are, however, made by those who of their own knowledge select a medical adviser expert in some special line of work. In dealing with this latter class it devolves upon the specialist, if wrongly selected, to rectify the mistake; and in this connection I take the liberty of suggesting that a goodly proportion of the males who think themselves afflicted with sexual neurasthenia are in reality suffering from inflammatory disease of their sexual apparatus, their nervous symptoms being simply reflected from and dependent on such inflammation. In part proof of this assertion, I think I am safe in saying that there is no other class of patients presenting neurasthenic symptoms which the neurologist treats with less assurance in his own mind of benefiting than these. The reason for this is that he cures only such of them as are truly suffering from sexual neurasthenia, the treatment in the other instances being inappropriate, since it is not directed toward the seat of disease. I think it probable that many neurologists would criticise my last statement, by the assertion that a considerable percentage of the cases presenting the symptoms under consideration which they have failed to benefit has been sent to them by genito-urinary surgeons after they themselves had failed.

In my earlier years of practice I was forcibly impressed by the unsatisfactory general results with which these sufferers were treated. Still, on comparing the results obtained by neurological methods with those obtained by the genito-urinary surgeon, I must say that the neurologist had the advantage, since he cured some of his cases and did not aggravate the condition of the others, while the genito-urinary surgeon rarely cured any of his, unless perchance he borrowed his methods from the neurologist, and made matters worse for many of them. The reason why genito-urinary surgeons formerly aggravated the symptoms connected with many of these cases (and some of them, I am sorry to say, still persist in these methods) was because they sought to correct some supposedly causative lesion situated in the urinary tract—the fact that such a thing as a lesion in the genital apparatus could exist as a cause being completely ignored. With this end in view the urethra was vigorously stretched with

[1] Read before the section on neurology of the New York Academy of Medicine, December 17, 1897.

sounds, its deeper portion bathed by strong stimulating injections, or a stricture of large calibre found in the anterior portion and divided.

In true neurasthenia, no matter what the special features may be, the symptoms complained of arise from some functional disturbance in the nervous system itself; and if in a given case an organic lesion exists as the cause for the nervous symptoms, then that case is not one of neurasthenia. The diagnosis of neurasthenia in any instance, it seems to me, should be most carefully pronounced, for such a decision always means that the investigator has failed to find any tangible cause for the symptoms complained of, and so, as the result of a process of exclusion, has laid the blame on a disordered condition of the nerves themselves. Most patients accept such a diagnosis with reluctance and dissatisfaction, and if, on seeking further advice, a second investigator, more clever than the first, discovers some sufficient cause for the symptoms outside of the nervous system, then the one who has made the diagnosis of neurasthenia is apt to be blamed not only for his mistake, but especially for injuring the feelings of the patient by having insinuated, as it were, that the symptoms of complaint arose simply from the condition of the nerves—or, according to the patient's interpretation, were imaginary in character. I recall with feelings of pain, although the lesson it taught me was of value, a case occurring in my early years of practice, in which I made a diagnosis of facial neuralgia, the patient being a very gossipy young woman. After failing to get relief at my hands, she quietly consulted a dentist, who quickly and permanently relieved her by pulling a tooth.

If one systematically investigates his cases presenting symptoms sexually neurasthenic in character, he will generally find, first of all, that there is something wrong with the sexual act itself. If desire is abnormally great and persistent, satisfaction derived from the act is apt to be correspondingly slight. Desire may seem natural, but erections may be wanting. Of special importance, however, are irregularities in connection with the act of ejaculation. It may be very premature, although sometimes the opposite state of affairs may exist, it being long delayed and apparently largely beyond the control of the individual. It is often described as lacking in force, the volume of semen ejaculated frequently striking the individual as below normal, or it may be *nil*. Ejaculation may be painful at the time, or followed by pain, or it may arouse disagreeable localized sensations. In a few instances there is nothing apparently abnormal in this particular. In many cases it will be found that an attack of gonorrhœa apparently shortly antedates the period at which the symptoms complained of seem to have originated. At other times one may find a previous history of marked excess or abuse. There may be coincident urinary disturbances, such as a urethral discharge, pus or shreds in the urine, frequency in the act of urination, etc. Complaint may be made that semen is lost, possibly at stool, and the microscope may find it in the urine. Annoyance from emissions is not unusual. These may be frequent during sleep, and accompanied or followed by the same subjective symptoms which have been enumerated in connection with ejaculations during coitus. The material ejaculated may be bloody or purulent, but rarely excessive in amount. Then, again, it may be that emissions are described as occurring while the individual is awake, in spite of his will power and from no sufficient exciting cause. Although other symptoms indicative of derangement of the sexual apparatus might be enumerated, still the ones just cited are the commoner and are sufficient for illustration in this connection.

The numerous mental and nervous disturbances which may be the prominent feature in such cases as are representative of true neurasthenia, and in those in which the symptoms are simply dependent on disease of the sexual apparatus, need not be here detailed. The mental symptoms are usually of a melancholy character, associated with much lassitude and inability to apply one's self.

If, in a given instance, as a result of careful questioning, one finds evidence that the sexual function is itself more or less deranged, certain of the above-enumerated symptoms being present, and especially if there has coexisted in the history a preceding cause such as might tend to inflame the sexual apparatus—then in all probability the case is not one of neurasthenia, but of localized disease of the sexual apparatus. Such localized disease, to affect the active exercise of the sexual function, must lie in or about the seminal vesicles and their ejaculatory ducts. The positive diagnosis of morbid conditions in these parts can be determined by the sense of touch imparted to the tip of the forefinger, that member being introduced into the rectum so that its tip can pass over and press against the rectal wall covering the sexual organs just mentioned. If sufficient evidence of disease is so discovered in this region, then the idea that the case is one of sexual neurasthenia should be dismissed and a diagnosis of seminal vesiculitis made.

As the outcome of much investigation and study in this class of cases, I feel justified in asserting that out of twenty consecutive instances fully nineteen are on the average representative of seminal vesiculitis in some form to one of sexual neurasthenia.

It would be natural for some one to inquire at this juncture upon what I base my reasoning that neurasthenic symptoms are so frequently dependent on diseased conditions of the seminal vesicles. To such a query I would reply that I base it on the fact that the nervous and mental symptoms disappear as resolution in the seminal vesicles is effected, or, in case complete resolution cannot be effected, that these symptoms almost always disappear, provided the disease in the seminal vesicles can be so far ameliorated that the performance of the act of ejaculation can be accomplished without hindrance from a coagulated or catarrhal condition of the contents of the sacs, from atony or inflammatory rigidity of the sac walls, or from perivesicular inflammatory adhesions which bind down the seminal vesicles and render them immovable. If, also, as a result of the improvement due to treatment, the nervous and mental symptoms have largely disappeared in a given instance, there is almost always a speedy reappearance of these symptoms provided a relapse occurs in the morbid condition of the seminal vesicles, such relapse being due in most instances to indiscretions on the part of the patient or to the production by the surgeon of too great a reaction from overtreatment.

The physiology and pathology of the seminal vesicles, together with the methods of diagnosis and of treatment, which I take the credit of having in large measure developed, are fully detailed in my book, "Disorders of the Male Sexual Organs," and consequently need no reiteration in this connection.

One might suppose from what has been said that neurasthenic symptoms are necessarily associated with seminal vesiculitis. Such, however, is not the case. Very many individuals having localized disease of the part have no such symptoms, and it is only in a minority of them that nervous and mental disorders are prominent. Neither are these manifestations, when they do exist, evidence of the grade or extent of the seminal vesiculitis, since many times a moderate lesion may be accompanied by intense neurasthenic symptoms, while a serious one may have few or none. This latter condition of affairs, however, is perhaps better designated as the exception rather than as the rule.

For the termination of my paper, I will briefly relate the histories of two cases, which I think will serve to illustrate my remarks.

Case I.—A gentleman, thirty years of age, presented himself somewhat less than a year ago, complaining that he was mentally harassed by sexual ideas and desires. He could not sleep peacefully, being frequently awakened by vivid erotic dreams, accompanied by strong priapism. When he would awake at such times he would always have a desire to masturbate, which sometimes was so pronounced as to be irresistible. In fact, occasionally when so awakened he would find himself in the act of masturbation. He had given up the society of ladies, as being in their presence even seemed to excite him. He found that the unsettled condition of his mind prevented him from applying himself to his profession. He was morbid, melancholy, and extremely irritable. His ideas of propriety were very elevated. He had never had sexual intercourse, and owing to his moral scruples declared he never could until married. He told me that in his present mental state he thought it wrong for him to think of associating socially with pure-minded women, while women of the other sort he could not endure. His mental distress, which was very keen, seemed centred in the idea that he was naturally impure minded; that he was, as it were, possessed of the devil. Before consulting me he had been advised that he had too much animal passion, and that in order to subdue it he should deny himself nutritious food—in fact, he should go to bed hungry, should sleep on a hard, uncomfortable mattress, and be provided with insufficient covering. As a result of this course of "pains and penalties," as it were, he had become worse, his animal passions being intensified rather than diminished. I asked him regarding his family history, and he pronounced it good. Afterward, however, I found that he had misunderstood me somewhat in this particular, thinking that my question referred to the mental status of his family. I also was somewhat at fault, perhaps, for not having cross-questioned him in this particular. I did, however, question him considerably, to see if I could find any evidence of perversion in his sexual instincts, but could not. His urine was absolutely normal, as was his function of micturition. On making a rectal digital exploration, I found a marked amount of chronic inflammatory thickening about both seminal vesicles, which rather surprised me in the absence of any venereal antecedent. I investigated the condition of the seminal vesicles very thoroughly, and as they were not so tender as usual I stripped them rather vigorously, in order to obtain some of the contents of the sacs. As these sacs lay in a mass of surrounding inflammatory exudate, some of which was organized, light digital pressure upon them would not have been productive of results in expressing anything along the ejaculatory ducts and into the urethra. The fluid so expressed was slightly purulent. As a result of my examination, I felt certain that all the symptoms complained of in this case were dependent on the seminal vesiculitis.

After several days the patient returned, stating that he had felt better in every way since my exploration. I accordingly stripped his sacs again, using moderate pressure, as they seemed rather more tender than when first examined.

In somewhat less than a week he came again—the third visit. He was greatly discouraged, stating that he was worse than ever. He was afraid he would lose his mind, or during a fit of despondency do himself bodily damage. On slipping my finger into his rectum, I found the seat of disease to be hot, throbbing, and congested, it being evident to me that my previous manipulations had been followed by an unduly severe inflammatory reaction, and this to my mind was the cause of his present distress. In my experience, no chronic seminal vesiculitis, unless it were tuberculous in character, presenting the evidences found in this case, would have been so affected by the treatment I had already given. Becoming suspicious that such was the probable nature of his seminal vesiculitis, I again questioned him regarding his family history. I then found that his mother had died while quite young, of some lung affection; that a sister had died of some wasting disease, she having previously suffered greatly from a painful swelling of a knee-joint, which caused her to be bedridden. A brother had been pronounced a consumptive, and had given up business for a life in the open air. As a consequence I immediately stopped all local treatment, and put him on a course appropriate for a tuberculous diathesis. Creosote, cod-liver oil, and moderate stimulation were prescribed, together with a rest in the country, combined with a liberal diet, the orders being to consume as much highly nutritious and easily digested food as possible. The patient gradually and steadily improved, and as his local inflammation became quiescent his nervous and mental symptoms disappeared. He is now happy and content. The inflammatory infiltration about his sacs has been absorbed, the organized cicatrix only remaining.

Case II.—A gentleman, about fifty years of age, first consulted me about nine months ago. For several years he had been much troubled by tingling, prickling sensations, extending down both thighs: by painful sensations shooting into the testicles, together with a feeling that those organs were heavy and required support. There were also at times a pain in the back and burning feelings in the rectum and urethra. He had been married about thirty years; had never had a venereal disease, and, in fact, declared that he had never had sexual intercourse with any woman save his wife. During the period his troublesome symptoms had persisted, he had spent most of his spare time and earnings consulting eminent medical authorities, the only result being that he was gradually getting worse and worse. His general physical condition was very satisfactory. He obeyed to the letter the rules of life which neurological authorities had prescribed. Not getting better under their directions, he had sought the advice of numerous surgeons. He had been to urinary specialists, who had washed his bladder, made all sorts of applications to his urethra, and finally cut and recut his urethra in the vain idea that perhaps a stricture existed. He had been to rectal specialists, who had performed several operations on his rectum. The operations on his urethra and rectum had done his symptoms no good, and had to a degree crippled those organs in the performance of their functions. On questioning him regarding his sexual function (and I was apparently the only one who had ever so questioned him), I found that at the present time he was weak and unsatisfactory in that particular, and that when he did perform the act ejaculation caused him pain, and for several days afterward his symptoms of complaint were worse. For several years he had attempted coitus very infrequently. During the first portion of his married life he was very amorous, and had indulged himself much, but never naturally, a systematic practice of withdrawal being observed, in order to protect his wife from conception—the sole legitimate object of marriage. On making an examination of the seminal vesicles, I found the cavities of both of them much distended, the walls of the organs being atonic, and also rigid and somewhat thickened, due to inflammatory infiltration. The prostate felt normal, and the loose connective tissue in the post-prostatic vesico-rectal space had been but little involved by inflammatory exudations. On stripping the sacs, the distention of which collapsed under the fin-

ger, a large amount of purulent material ran out of the ejaculatory ducts, a drachm or more of it dripping from the meatus. This material was swarming with infection, investigation showing the causative agent to be the colon bacillus. The portion of urine also passed immediately after the exertion of such pressure on the distended seminal vesicles was heavily charged with pus and bacteria, while the portion passed just before this manipulation was in great measure free from these pathological elements.

As a result of treatment directed solely toward the seminal vesicles, these sacs being methodically emptied according to my method by means of the finger introduced into the rectum, the element of infection has been in great measure eliminated, while the sacs are gradually losing their inflammatory thickening and regaining their muscular tone. Owing to this local improvement the patient has already been freed from many of his neurasthenic symptoms, while those that remain are greatly modified as regards intensity. The symptoms which persist will wholly disappear with further resolution in the seminal vesicles. In a case such as this, owing to the age of the patient and the chronicity of the lesion, it is probable that several months' more treatment will be necessary before the end result is obtained.

THE ASCH OPERATION FOR DEVIATIONS OF THE CARTILAGINOUS NASAL SEPTUM, WITH A REPORT OF TWO HUNDRED OPERATIONS.[1]

By EMIL MAYER, M.D.,

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Deviations of the cartilaginous septum may be of recent origin, or they may have existed for a long time. If of the former class, they are invariably due to some form of violence, while in the latter they may have other causes due to some faulty development, being practically congenital in their origin.

When they are of recent origin, the surgeon is most apt to be consulted. If of long standing, they are generally discovered by rhinologists in their search for the cause of the train of symptoms complained of and which they occasion. These symptoms are mainly permanent obstruction to respiration on one side, mouth breathing, dryness of or excessive secretion in the throat, constant rasping, fitful sleep, nasal voice, epistaxis, aural diseases, diminished hearing, persistent headaches, and many reflex disturbances. It frequently happens that the patient is not aware of the nature of the diseased state which causes his complaints.

Deviation of the cartilaginous septum may be defined to be a deflection from the normal straight line to one side, filling the nasal cavity more or less completely, accompanied by a corresponding depression on the side opposite. For simplicity of description the deflected or obstructed side is called the convexity, the other the concavity. It offers no difficulties in the way of diagnosis, and can be ascertained to exist by either or all of the following methods: Obstructing the nostril on the concave side and requesting the patient to blow, either no air or a very thin stream is felt upon the hand. Reversing the procedure, a full free current is obtained. By dilating the nostril with a speculum, or even raising it with the finger, the deviated portion is readily seen, the convex side filling the nasal space. Touching with a probe reveals its firmness. Cocainizing produces no retraction, and usually the probe, having passed beyond the obstruction, readily enters the nasopharynx.

Deviations may be differentiated from tumors and exostoses by the presence of the concavity on the opposite side, as also by the touch.

It would prolong this paper unnecessarily to mention all the various methods that have been proposed to remedy this condition. Suffice it to say that most of them have a technique of so intricate a nature that the ordinary human mind despairs of following their bewildering details. Others again are simple enough, but are only rarely employed, because the results do not justify their continuance.

The importance of protecting the nasal mucous membrane, and not destroying it, is now so fully recognized that the galvano-cautery may not be employed, and for the same reason the saw must be condemned. Many have discarded the use of the saw altogether, but, as I find it still mentioned in text-books, I may say that the manner of procedure is to cut through the convexity "deep enough, but not too deep," from below upward, until the membrane opposite is reached, when with the cold wire snare the dangling piece is removed.

The objections to this method are destruction of a large surface of normal mucous membrane, possible perforations or adhesions, and practically a continuance of the diseased state. The cartilage of the septum is very resilient, and only that operation can be successful that leaves the mucous membrane intact, results in a straight septum, destroys its resiliency, and is lasting in its results. All this has been invariably achieved by the operation I now describe.

This operation was first performed by Dr. Morris J. Asch, of this city, in 1882, and a report of it was made at the twelfth annual session of the American Laryngological Association, at Baltimore, in 1890. In this paper but six cases were reported. In a subsequent paper on this subject by myself twenty successful operations by this method were presented. It would seem that the number of cases heretofore reported is not sufficient to secure the unqualified indorsement of the profession. This becomes apparent if we note that a careful research in many of the text-books devoted to rhinology and its allied branches fails to disclose any mention of this operation, and that Dr. Victor Lange, of Copenhagen, who is the author of the article on deviations of the cartilaginous septum in Heymann's "Handbook of Laryngology and Rhinology" (Vienna, 1897), after describing many of the operative measures devised for the cure of this condition, concludes thus: "We are assuredly unable to judge of the merits of any operative procedure as long as it is based on a few cases. No method can be fully accepted, nor ought it to be, until a reputable number of cases, carefully noted and criticised, shall have been presented."

The two hundred cases, all successful, embodied in this report will, I trust, be considered sufficient to enable an unprejudiced observer to judge of the merits of this operation.

To avoid any possibility of question, no mention is made here of any cases performed in private practice by any operator. Those taken from the report of Dr. James F. Grant, house physician at the Manhattan Eye and Ear Infirmary, and compiled by him from the public records of that institution, are seventy-eight in number, and were operated upon by various surgeons during the past eight years.

The one hundred and twenty-two remaining cases were operated upon at the New York Eye and Ear Infirmary, from 1888 to November, 1897, and are tabulated from the records of that institution by Dr. Frank G. Ketcham, house surgeon.

A summary of these shows that there were ninety-six

[1] Read before the section on surgery, New York Academy of Medicine, January 10, 1898. (The tabular list of operations is omitted here for want of space, the author having given his summary of them in the body of the paper.)

males and twenty-six females operated upon; the youngest being five years old and the oldest sixty-seven years old, the average age being twenty years. The operation was performed thirty-nine times by Dr. Asch; thirty-five times by Dr. Mayer; eighteen times by Dr. Hitchcock; sixteen times by Dr. Adams; three times

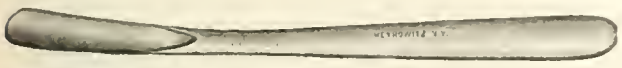

Fig. 1.—Gouge.

by Dr. Waterman; three times by Dr. Simpson; twice each by Drs. McKernon and Gage; once each by Drs. Whiting, Leonard, Concannon, and Bardes. One was operated upon under cocaine anæsthesia, the others under ether. Of the seventy-four cases operated upon by Dr. Asch and myself, the after-treatment was under my immediate supervision, always enabling me to note their progress. These cases are all marked "cured" in the column of results. That is to say, in each and every instance the stenosis was permanently relieved. In eighty-five per cent. a perfectly straight septum was the result, while in the remainder the septum retained some degree of curvature, but never sufficient to cause any stenosis or discomfort whatever. This I was able to demonstrate by presenting cases to the laryngological section of the New York Academy of Medicine, operated upon five, six, seven, and eight years before.

Perforations occur in about two per cent. of the operated cases, are usually about the size of a pin's

Fig. 2.—Elevator.

head, and are caused by the curling up and sloughing of the edge of one of the segments. In no single case was there any alarming hemorrhage, either at the time of operation or subsequently. No septic conditions resulted, no disagreeable after-effects; no disturbance traceable to the operation occurred, nor was there at any time any danger to life. These results are the more remarkable in that these operations were performed upon dispensary patients, whose physical conditions are rarely of the best.

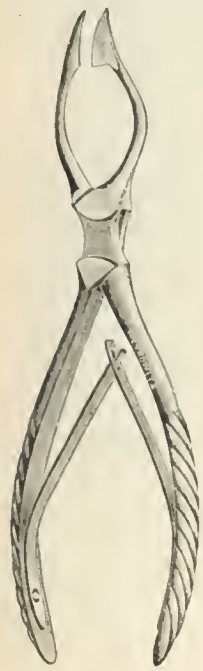

Fig. 3.—Straight Scissors.

The instruments devised by Dr. Asch are here presented. There are two separators (Figs. 1 and 2), one with a blunt edge and the other sharp, to break up any adhesions existing between the septum and the turbinate on the affected side, as also to destroy any posterior obstructions. The scissors (Fig. 3) are of two sizes. These are powerful instruments, curving outward from the point of crossing and meeting again in front. One blade is blunt, while the other is sharp with a triangular blade, the apex of which is at the tip. The other scissors (Fig. 4) are made with the blades bent at right angles, and are occasionally necessary for those deviations that lie low down on the floor of the nose.

There are two compressing forceps (Fig. 5), one having a long and the other a short beak.

Hollow tubes of vulcanite are made (Figs. 6 and 7) with a slight curve on the under surface, in accordance with the normal curve at the entrance of the vestibule of the nose. These tubes have perforations to prevent their slipping out when inserted. They are of differ-

Fig. 4.—Angular Scissors.

Fig. 5.—Compressing Forceps.

ent sizes and shapes. Those known as the Asch tubes are of five sizes, somewhat oval in shape, and those known as the Mayer tubes are of six sizes, more oval and considerably flatter on the sides. These vulcanite tubes are so prepared that they retain their shape when subjected to the heat of a sterilizer.

The operation is best performed under complete anæsthesia. Cocaine does not appear to be of value here, it being necessary that the patient be recumbent, and in the efforts to dislodge the blood flowing into the pharynx the operator is seriously interfered with. The nose is sprayed out immediately preceding the operation, for which purpose an alkaline antiseptic, like the Dobell solution, is used. The usual preparations for anæsthesia are made, ether or chloroform being the anæsthetic used. All instruments are carefully sterilized. The use of an antiseptic spray and the sterilization of instruments for an operation when the air cannot be excluded either before or after operation may be explained by stating that we know that by such care we are surely not adding any infection by our operative procedure. Complete anæsthesia is required. The cone being removed, it never becomes necessary to have recourse to it again, as the operation

Fig. 6.—Asch's Hollow Splint.

Fig. 7.—Mayer's Hollow Splint.

is rapidly performed and completed before consciousness is regained.

The head is well drawn backward, in order that blood may not enter the larynx, the table being so placed that either the direct or artificial light may be used.

The blunt separator is now introduced sideways on the deviated side, in order that any adhesions existing between the septum and its adjacent mucous membrane may be broken up, enabling us at the same time to ascertain the presence of bony obstructions posteriorly. Should these latter exist or the adhesions be non-yielding, the separator with sharp edges is re-

quired: this, however, is rarely necessary. There may be some hemorrhage after the adhesions are broken up, but it is readily checked by an iced spray, or by pressure of cotton applicators. The open scissors are now introduced parallel to the floor of the nose, the blade in the concavity, the blunt edge over the point of greatest convexity. They are then firmly closed, the blade cutting through the cartilage into the opposite side with a distinct snap. The scissors are then opened and completely withdrawn. They are immediately reintroduced, the direction of the instrument being upward this time, pointing to the frontal bone, the blade again in the cavity and crossing the line of the first incision at as nearly a right angle as possible, and at its centre. In this way the incisions will intersect each other: the scissors are now firmly closed and the second incision is made, after which the scissors are opened and withdrawn.

We now have four segments as a result of this crucial incision. The finger is then introduced in the deviated side and the segments are forcibly pushed into the concavity, effectually breaking them at their base.

The powerful blunt forceps is now introduced, one blade in each nostril, and firmly closed, thus straightening the septum and forcing the broken segments to override each other in the concavity. The compression aids also in controlling hemorrhage, and the parts are firmly held in apposition. An iced antiseptic solution is sprayed in both nostrils, the forceps being withdrawn. The sterilized tubes are then introduced in the nose, a snugly fitting one on the stenosed side and a smaller one in the opposite nostril, thus causing equable pressure, their presence being usually all-sufficient to control hemorrhage. The operation is now completed. The amount of blood lost varies with each individual, but is invariably promptly checked when the pressure is applied.

The patient is placed in bed, cold antiseptic sprays are used half-hourly, and iced cloths are applied externally.

Twenty-four hours after operation the tube in the former concave side is withdrawn and not replaced. The antiseptic spray is used once every hour or two and the compresses are continued. Twenty-four hours later the tube on the stenosed side is removed and thoroughly cleansed. The nose is freely sprayed and cleansed with cotton probes, cocaine being used if sensitive. The same tube is reinserted, unless too large for comfort, when a smaller one is used, the rule being to use a tube large enough to be introduced without force, and yet to fill the cavity, no part of it protruding from the nostril. On this day patients are permitted to arise from the bed and assume other than a recumbent posture, the compresses being discontinued. On the third day the tube is again removed, cleansed, and reinserted, and the patient allowed to go home. For the next three or four days the patient presents himself daily for the removal, cleansing, and reinserting of the tube. At each time of removal the nose is thoroughly cleansed and freed from secretion and clots. Within this first week the patient has learned to extract and reintroduce the tube himself, in the presence of the surgeon, and hereafter performs it once or twice daily at home. The directions are given to remove the tube, spray out the nose, or insufflate warm salt water to which an alkaline antiseptic is added, and then to reintroduce the cleansed tube. The extraction and reinsertion of the tube are quite painless after the first week, and it is remarkable how easily the youngest patient becomes accustomed to it. The patient is now seen once or twice a week for the next four weeks, at the end of which time, five weeks from the day of operation, the tube is finally withdrawn for all time.

The mass of bent cartilage has disappeared, the septum has become straightened and remains so, and very often the external deformity no longer exists.

Sometimes during the five weeks that the tube is in use it may appear that the septum is bulging greatly on the stenosed side, but it is well to leave it quite alone, as the constant pressure reduces it finally, for there seems to be a resorptive process going on.

It occasionally happens that the lower segment remains thickened after the five weeks have elapsed, and presents the appearance of a spur or enchondrosis. This is treated as such and removed by the electrotrephine or galvano-cautery. The latter has worked splendidly in my hands, especially in nervous individuals and children. The parts are cocainized and then cauterized with a platinum knife. There is no bleeding and the patient is not aware of any operative procedure. A light packing of iodoform or sublimate gauze is introduced daily for the next few days after cauterization.

During the five weeks that the tube is in place, excepting the first three days, the patient resumes his usual vocation, children go to school, and adults find no interference in their work.

The segments which were pushed into the concavity, thus destroying the resiliency of the cartilage, overlap each other, become firmly adherent, and in a short time there is no evidence of any unusual condition whatever.

The advantages of the tubes can hardly be overestimated, establishing comfort at once by allowing air to pass through, and acting as splints to keep the septum straight; the readiness with which they are removed and reinserted making them infinitely superior to the original method employed of packing with absorbent cotton about a tin splint.

When deflections are very recent a modification of this operation may be advisable, as I have successfully tried it in a case referred to me by Dr. C. E. Clark.

Mr. H——, aged twenty years, clerk, presented himself on July 18, 1895, with the following history: On July 1, 1895, while riding a bicycle at full speed and meeting an obstruction, he was thrown forward, falling on his face. His nose was much swollen and had bled profusely. After most of the swelling had subsided his nose was flattened and painful, and stenosis was almost complete.

An examination showed fracture of the left nasal bone, with depression and a deviation of the septum to the right. The deformity was very great. With the nasal forceps I compressed the septum, straightening it and raising the depressed nasal bone. I then inserted a conical nasal tube, on the withdrawal of the forceps. This tube was perforated and of vulcanite, and was shaped like a truncated cone. The tube came out the next day and was again replaced, after straightening. It then remained *in situ* for three days, when I removed it, cleansed it, and reinserted it.

After the first day there was no pain or discomfort in wearing the tube, and the patient breathed freely through both sides. The tube was now left *in situ* for a week and then removed, cleansed, and reinserted. After this the patient removed the tube daily.

On August 26th, after he had worn the tube for five weeks, it was discarded altogether. He has now no difficulty in breathing and there is little deformity.

Re-examined, October 21st: Septum nearly straight, free current of air established. Some bony irregularity felt on the left nasal bone, where the fracture was. There is an entire absence of deformity.

It is now fifteen years since the Asch operation was first performed, during which time I have had ample opportunities to note every possible form of deviation and complication. A retrospect of the many cases

attended, all of them permanently benefited by this operation, places me in the position of having unbounded confidence in this procedure, and enables me to state as a result of my experience that this is the best operation yet devised for the cure of deviations of the cartilaginous septum, because of its simplicity, the immediate benefit following it, and the permanent nature of the results thereby attained.

List of Asch operations for deviations of the cartilaginous nasal septum performed at the Manhattan Eye and Ear Hospital and the New York Eye and Ear Infirmary, from 1888 to 1897.

Year.	Manhattan Eye and Ear Hospital.	New York Eye and Ear Infirmary.
1888–89	1	1
1889–90	3	1
1890–91	2	4
1891–92	5	3
1892–93	4	3
1893–94	13	6
1894–95	10	15
1895–96	19	47
1896–97	21	42
Total, 200.	78	122

REPORT OF A CASE OF NEPHRECTOMY FOR STRICTURE OF THE RIGHT URETER AND EARLY TUBERCULOSIS OF THE KIDNEY.[1]

By HIRAM N. VINEBERG, M.D.,

NEW YORK.

Mrs. S. L—— was referred to me by my friend, Dr. M. Manges, on June 15, 1897. She was forty-eight years of age, married twenty-one years, and had had five children. The menopause had become established four years before. Six months ago she began to suffer from attacks of pain in the right loin and back. These attacks were attended by nausea and vomiting. Three months later she came under the treatment of Dr. Manges, who examined the urine and found a small quantity of pus in it. He prescribed methylene blue, which at first afforded very great relief, but for the past few weeks the remedy had lost its efficacy and the symptoms now had changed their character. The pain was situated more in the hypogastric and right iliac regions, and the frequent micturition which had been a symptom from the outset now became more severe. The pain, however, at times would extend to the right lumbar region.

The patient was of medium build and rather old in appearance for her age. The right kidney could not be distinctly palpated. It certainly was not found enlarged. On bimanual examination a cord-like structure, about the size of a lead pencil, was palpated in the anterior vaginal fornix, running upward to the right. This was taken to be the right ureter, which had undergone thickening. A cystoscopic examination after Kelly's method, with the patient in the knee-chest position, disclosed the orifice of the left ureter apparently normal, emitting jets of clear urine from time to time; and adjacent to it were a small patch of redness and a bleeding spot the size of a pin's head. The orifice of the right ureter was irregular in outline, swollen, and presented a nipple-like projection. Urine was seen oozing from it, continuously rather than in jets. Scattered over the whole trigone of the bladder were small red areas, such as one usually sees in localized cystitis in women. At a subsequent examination a catheter was readily passed into the left ureter and clear urine withdrawn. On attempting to pass a catheter into the right ureter, it was found to meet with an obstruction about one inch from the bladder. One of Kelly's ureteral sounds of small calibre was obtained, and this also was arrested at about the same distance in the ureter.

A diagnosis of stricture of the right ureter with localized cystitis was made. Under the direct application of a five-per-cent. solution of nitrate of silver, the red patches disappeared and the bladder symptoms—such as frequent micturition and pain over the hypogastrium—were completely relieved.

The urine was frequently examined during this time. No abnormal elements were found, excepting a few red blood cells and leucocytes. Dr. Heiman kindly examined the urine a few times for tubercle bacilli, and always with negative results.

The patient's general condition improved, and she gained considerably in weight. For a time it seemed as if she were going to make a complete recovery; but on the night of August 19th she had a severe attack of pain in the right iliac region, extending backward and upward to the back. Toward the end of the attack she passed urine containing considerable blood. This was the first time to her knowledge that she had passed any blood with her urine. The specimen of bloody urine was sent to Dr. Heiman, who reported he could find no kidney structures, no tubercle bacilli, nor any oxalate-of-lime crystals indicating a calculus. He gave it as his opinion that the blood came from the lower urinary tract and certainly not from the kidney.

August 20th, at 2 P.M., I made another cystoscopic examination. The urine now withdrawn was of a clear amber color and entirely free from blood. The bladder surface appeared perfectly normal. The right ureteral meatus, as before, was seen to be irregular, reddish, and swollen. The left ureteral opening was normal in appearance.

The patient was one of those highly intelligent and superior women in whom one unconsciously takes a great interest, which in this particular instance was heightened by the fact that the welfare of a growing-up family depended solely upon her. I was therefore doubly loath to subject her to a radical operation before exhausting all other means. Consequently, after securing Dr. Manges' approval, I advised her to go to Baltimore to consult Dr. Howard Kelly, in the hope that he might be able to suggest some plan of treatment which would obviate a major operation. His letter to me, after seeing the patient, is so interesting and instructive that I may be pardoned for transcribing it in full.

"Baltimore, October 4, 1897.

"Dear Dr. Vineberg: I was glad to see so interesting a case as that of Mrs. L——. I thank you for your courtesy in the matter. I found her well prepared for examination, and was able to do all that could be done in a twenty-four hours' visit.

"I found a healthy bladder and an apparently sound left ureteral orifice issuing jets of clear urine. The right ureteral orifice was flattened, mammillated, slightly dull, white in the trigonal, and injected on the outer side. Urine escapes on the right but not regularly, as on the left side. Testing with a ureteral catheter, both elastic and metal, I find she has a marked stricture of the lower end of the right ureter.

"On attempting to pass a wax-tip bougie (one part oil, two parts wax), the hard wax tip was wiped clean of its wax by the tight, rigid stricture. Separated urine from this side could not be secured. It is probable from this that all abnormal elements came from this side; but this can be assured by emptying the bladder and passing a 2 or 2½ mm. catheter into the left side and isolating left urine, and leaving a soft

[1] Presented at a meeting of the obstetric section of the Academy of Medicine, October 24, 1897, and at a meeting of the Metropolitan Medical Society, October 23, 1897.

rubber catheter in the bladder, at the same time draining off urine escaping from the right ureter into the bladder.

"The diagnosis, I think, rests between calculous pyelitis and stricture of the ureter due to traumatism or ulceration. I think the symptoms are abundant to warrant your making incision, exposing and opening the kidney, and thoroughly exploring for calculus. I would then pass a catheter, say No. 2¼ or No. 2½, down the ureter as near as possible to the bladder; by locating the end of the catheter by the rectum or by the vagina, you will be able to discover the upper limit of the stricture, and to determine whether it would be possible to overcome it by slitting up the ureteral orifice in the bladder or by turning the ureter into the bladder at a point a little higher up. If you found a stone, you would of course be encouraged to keep the kidney; but if the pain comes from the backing up of the urine behind the stricture, and the stricture is of such length that the prospects of relieving it are but slight, I would not then hesitate to sacrifice the kidney in order to give entire relief to the symptoms.

"I shall feel deeply interested in hearing from you as to your further treatment in such an interesting case. Very sincerely yours,

"Howard A. Kelly."

Both Dr. Manges and myself favored the diagnosis of a tuberculous lesion, inasmuch as the patient's family history manifested a tendency in that direction—a brother having died of Addison's disease.

On October 11th I carried out Dr. Howard Kelly's suggestion to isolate the urine from each kidney in the manner described in his letter. I left the catheter *in situ* in the left ureter for about one-half hour, and the procedure was progressing satisfactorily — the urine from the left kidney being quite clear; that from the bladder, and hence from the right kidney, slightly turbid; but just as I was about to withdraw the ureteral catheter, some blood appeared from the catheter and some escaped also in the bladder.[1] This unfortunately is not an uncommon occurrence in catheterization of the ureters, and is due to traumatism. Casper states that it occurs in fifty per cent. of his cases. In my patient there was no further discomfort from the examination than some pain in the left side for the next twenty-four hours. The microscopic examination of the two urines was negative, excepting for the presence of the numerous blood corpuscles.

On October 22d I operated upon the patient at St. Mark's Hospital. After exposing the kidney and finding it rather extensively adherent to the perirenal fat, and being unable to detect any stone in it, I decided to extirpate it without any further experimentation in the direction of the ureter. The extirpation was done in the usual manner and the wound sutured in layers, a gauze drain being left at the upper angle.

The patient made a good recovery, and left the hospital before the end of the fourth week. The urine is now voided normally, without any pain, is quite clear in color, and is free from any abnormal elements.

The removed kidney presents the following characters: It is rather long and narrow, giving the following measurements: length, 11 cm.; circumference at the lower, larger pole, 13 cm.; circumference at the upper pole, 10.5 cm. The capsule is of a dark bluish color. On longitudinal section two small abscesses are disclosed: the one, about the size of a small kidney bean, is situated in the cortical substance immediately beneath the capsule, at the junction of the middle with the upper third; the other, about the size of a split pea, is situated just internal to the first, and seems to involve one of the pyramids. Its walls are corrugated, looking not unlike a "corpus luteum." A short distance above the abscesses, immediately beneath the capsule, is a group of about twelve miliary tubercles. The pus obtained from the abscesses contained tubercle bacilli.

It was fortunate for the patient that in addition to her tuberculous kidney she had a stricture of the ureter; for in its absence I question very much whether we would have felt justified in resorting to a major operation for the indefinite clinical phenomena present.

The discouraging features generally attending operations for tuberculosis of the kidney arise from the circumstance that they are not undertaken as a rule until the disease is far advanced and probably transmitted to the opposite kidney. But with more general cystoscopic examinations there is hope that in the future early tuberculosis of the kidney will be more frequently recognized. One of the valuable signs of such a condition is marked changes in the orifice of the corresponding ureter. Hurry Fenwick and Willy Meyer have each reported a case of early tuberculosis of the kidney in which this was the only prominent sign present. Willy Meyer goes so far as to say that, if he found marked redness of one ureteral orifice without any changes in the bladder elsewhere, he would diagnosticate tuberculosis of the corresponding kidney. After rather an extensive experience with the results of cystoscopic examinations in women during the past three years, I would not be willing to subscribe to so radical a statement. In women (my experience extends only to the female sex) it is not infrequent to find a small red area, which may be situated about one of the ureteral orifices, and which readily disappears with appropriate treatment, as do also the urinary symptoms present. I recall one case in particular, of a woman who had suffered for months with frequent micturition and pain in the left iliac region, extending to the left lumbar region. Cystoscopic examination revealed a moderate-sized red patch immediately surrounding the left ureteral orifice, the lips of which were considerably swollen. The red patch totally disappeared after a few direct applications of a solution of nitrate of silver, and the patient was relieved of her symptoms and has remained well now a period of several months.

In the foregoing case, besides those already emphasized, there are three points of particular interest to which attention was drawn by Dr. M. Manges, when the case was presented at a recent meeting of the Metropolitan Medical Society: (1) The marked improvement in the symptoms at first afforded by the administration of methylene blue. (2) The decided increase in weight of the patient and improvement in her general condition for the three months prior to the operation, though the local tuberculous affection must have been extending. (3) The absence of tubercle bacilli in the urine, in spite of the repeated examinations by Dr. Heiman and himself.

The centrifugal process was made use of in the examinations.

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[1] It may be of interest to add that all of the examinations were made without general anæsthesia and that they were attended by little or no suffering.

Contusions.—Dr. Namé (*Journal de Médecine*, September 12th) gives these directions for the treatment of contusions: 1. Rigorous antisepsis, careful cleansing of the parts with ether. 2. The application once or twice daily of collodion, containing from ten to twenty-five per cent. of menthol. Under this treatment the pain quickly subsides, and the constrictive influence of the collodion causes the disappearance of the effusion in from two to five days. Extensive contusions about the joints are not so favorably influenced.

NOTES OF A MEDICAL MISSIONARY.

By J. HUNTER WELLS, M.D.,
PYENGYANG, KOREA.

It is not easy to select from over ten thousand patients, seen within eighteen months, those diseases or cases which might prove interesting or instructive, though it does seem that a competent observer might draw some deductions from that mass of misery which would be helpful to somebody in similar or even in different circumstances. The general run, however, being but little different from the crowds that annually pass through the departments of the larger New York or European hospitals, the only advantage or disadvantage one has out here on the edge of the Orient is that every patient must pass through his hands, compelling one to turn from specialist to general practitioner from minute to minute. This makes the work of a medical missionary, of which I am a humble representative, varied and interesting, and ought to enable him with such splendid chances to add something to the credit of our craft—although, alas! how rare it is that we see anything from the pens of these very general general practitioners.

A well-known writer has said that if he were Tsar of the world he would make a law that no one should write of a country or a people until he had dwelt two years among them. Acting on this principle, I made a rule that I would not report any plan of treatment or series of experiments until I had at least one hundred cases to illustrate with. And so, up to this time, my only report has been on the Asiatic cholera, a statement of which appeared in the MEDICAL RECORD, vol. 48, p. 495. I have since had many more than one hundred cases of tuberculosis which I treated with permanganate of potassium with negative results, and, so following, hundreds of other cases of other diseases; but the difficulty of keeping them in sight has prevented any good tabulation. I have had one satisfactory result with the above drug in tuberculous ulceration, one-fourth grain internally three times a day, but am not convinced that an equally good result would not have followed bread pills.

There is one disease here, the native fever, which I have not been able to study bacteriologically as yet, but which clinically yields readily to quinine, phenacetin, cold baths, and stimulants. We use the drugs and baths to reduce the temperature, and then use the stimulants to get it up again, deriving our authority from that classical case of the man who jumped into a bramble bush. The onset of the disease is sudden and the course of the fever does not usually last longer than a week or ten days. A temperature of 106° F. is common. The general rule among these people is quick recoveries. Affections that would confine Anglo-Saxons for two weeks are thrown off here in half the time. Whether no restrictions as to food in fevers, and a little more trusting to nature than is usual, have anything to do with it or not, is an open question. In childbirth the women are up and working a day or two after confinement. The gynæcologist not having arrived, there is no apparent need of him; but then corsets, high-heeled shoes, late hours, and such products of Western civilization have not made their influence felt in the shining Orient yet. There are no Pasteur institutes, and so hydrophobia is rare—though we notice the same fear and dread of a "mad dog" that we know of in the West. I lately saw a crowd chase, capture, and kill what they called a mad hog—which was just an ordinary, plain, frightened pig. No care is taken of the insane, and there is no apparent need of any, for during my residence here and in other parts of the country for two years I have not seen more than twenty such people altogether.

Quinine, as I suppose is the case everywhere on earth, is by far the most commonly used drug. The natives buy it by the thousands of bottles yearly, and dispense it themselves.

Santonin for worms comes next, for the diet of rice and weeds makes this trouble a constant one. The habit the natives have of shovelling the food into their mouths produces "indigestion" as a national ill. A mixture of quinine, nux vomica, and capsicum is the best remedy for that.

Tuberculosis in its various forms holds its terrible head as high as in other countries, and slays its thousands just as uninterruptedly. Scrofula and syphilis, with skin diseases rare and common, are met with in expected proportion, and so down through the list.

Minor surgery, and just over the border into the other kind, are what constitutes our most spectacular work, though that on eyes is the happiest in its results. Cataracts are fairly common, and the cicatrices from corneal ulcers obscuring the sight are easily relieved by extraction and iridectomy. I have had over fifty such cases within the past six months.

The experience of running a missionary hospital might be of some interest. The building, a small affair, cost some $1,200. It accommodates between thirty and fifty in-patients. The floors in the wards are of stone covered with clay and paper, and are heated underneath. The patient's board, three meals a day in the style and quantity which prove fattening, costs twelve cents a day. My first assistant, who is druggist and "doctor," receives $3.50 a month; to a second one is paid $3; and to a boy for errands, etc., $1.80. Drugs and supplies, including surgical instruments and appliances, are obtained in Japan for less than half what the same German imported drugs cost in America; so that for eighteen months the entire expense, including everything but my salary, amounted to only $1,000, of which $700 came from America and $300 from the natives here. Hospitalism at a cost of ten cents a patient!

The many phases of our work, and the many other duties expected of us besides professional, and the inability to follow up all our cases, prevent proper scientific work. There is no reason, though, why the hundreds of doctors at work all over the world with such splendid clinical advantages should not contribute something of value very often to our profession. One general principle, well proven without more words, is that we need not expect good surgical results without surgical cleanliness, and this is much more easily secured than we think. I find that I can do with cocaine many operations that I was taught required a general anæsthetic. The radical cure for fistula in ano is done without any anæsthetic, and an almost daily scene in my clinic is to turn from eye surgery to rectal surgery, and then to some other specialty.

Morbid Conditions Found in the Appendix may be grouped under the following six heads: (1) The appendix is surrounded by dense inflammatory adhesions inclosing an encapsulated abscess; (2) an enterolith is imprisoned in the appendix, with occasional distention of its blind end with pus; (3) the lumen of the appendix is destroyed by ulceration, and its distal end is distended with mucus or pus; (4) the appendix is free but much thickened, resembling a mass of cartilage rather than a mucous tube (such an appendix is occasionally lengthened and unequally distended along its length); (5) the appendix is coiled upon itself, or acutely "kinked," and fixed in this position by adhesions; and (6) the appendix is surrounded by dense old adhesions, matting it to the cæcum, small intestines, bladder, rectum, or the abdominal wall.—DR. GEORGE HEATH, *Lancet*, May, 1897.

REACTION TIME IN ABNORMAL CONDITIONS OF THE NERVOUS SYSTEM.

By E. W. SCRIPTURE, Ph.D.,
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DIRECTOR OF THE YALE PSYCHOLOGICAL LABORATORY.

Among the investigations that have recently been brought to completion in the Yale Psychological Laboratory, there is one that may be of interest to the medical public; I will summarize the results from the more extended account which will appear in No. 4 of my "Studies."

The research on reaction time in abnormal conditions of the nervous system was conducted by Dr. A. G. Nadler at the University Clinic. In one set of experiments the subject was required to press a key as soon as a colored disc was exposed; the time required for this process, "the simple reaction time," was measured by a chronoscope in thousandths of a second. In another set the subject was required to react when a red disc was seen, but to refrain when a white disc was seen: this was the "complex reaction time," involving the processes of discrimination and choice in addition to simple reaction.

Four types of disease were investigated—neuritis, locomotor ataxia, alcoholism, and hysteria. The results are summarized in the following table; records from nineteen college students are added under "Normal," for the sake of comparison. All records were made with the Scripture pendulum chronoscope.

As a concrete example we may suppose the following set of seven reaction times to have been obtained. The results are placed in column r. The average is calculated as usual; then the difference is found between each record and the average, and is placed in column u. The average for column u gives an index to the subject's irregularity.

r	u
174	24.7
124	25.3
156	6.7
130	19.3
166	16.7
141	8.3
154	4.7
7)1045	7)105.8
149.3	15.0

This irregularity is an important characteristic of the subject. The average of the reaction times r for the whole group is given as R in the following table; the average of all irregularities u is given as U. In a similar manner we can take the result for all the individuals of a group, and can calculate the average divergence of the members of the group from the final average. These results, given in columns V V', indicate how closely the members of a group agree together; close agreement means that—in this particular property—the group is a well-defined one. The results for complex reaction time are similarly computed.

Disease.	R	U	V	C	U'	V'	B	k
Local neuritis	360	42	67	570	63	135	210	11
Multiple neuritis	418	35	4	848	63	54	430	3
Locomotor ataxia	387	8	7	786	23	42	399	4
Alcoholism	163	13	7	440	26	48	277	17
Hysteria	192	53	51	671	100	96	479	12
Normal	179	29	31	349	58	58	170	19

R, simple reaction time.
C, complex reaction time.
U, U', averages of the individual mean variations.
V, V', average departures of the individuals from the typical averages R and C.
B, difference between C and R, or time for discrimination and choice.
k, number of individuals; forty records on each individual.

The following conclusions seem to be justified by the table:

1. Alcoholism shortens the simple reaction time; hysteria leaves it unchanged; and local neuritis, multiple neuritis, and locomotor ataxia lengthen it (column R).

2. Local neuritis scarcely lengthens the additional mental processes involved in complex reaction time; alcoholism lengthens them somewhat; while locomotor ataxia, multiple neuritis, and hysteria double and triple the normal time (column B).

3. The individual's regularity is much greater than the normal in locomotor ataxia and alcoholism, and much less than the normal in the other diseases. The irregularity is specially marked in hysteria for the higher mental processes (columns U, U').

4. Subjects with multiple neuritis, locomotor ataxia, and alcoholism are much more distinctly marked off in respect to these tests than normal individuals. The close agreement of the seventeen alcoholic patients in regard to simple reaction time is very remarkable (columns V, V').

Summing up by diseases, I believe it justifiable to say that in the two respects of simple and complex reaction time they are characterized as follows:

1. Local neuritis: A poorly defined group with long simple reaction time and great irregularity.

2. Multiple neuritis: A very closely defined group with very long time for both simple reactions and more complicated mental processes; also considerable irregularity in the individual.

3. Locomotor ataxia: A very closely defined group, slow in reaction and in the higher processes, but astonishingly free from individual irregularities.

4. Alcoholism: A very closely defined group, with accelerated reaction time and not greatly retarded complex time, remarkably free from irregularity.

5. Hysteria: An indefinite group, with normal simple reaction time but greatly lengthened complex time, exhibiting extreme irregularity.

Progress of Medical Science.

Comparative Pathology illustrates in all animals these main truths: that a healthy complex life is constantly at war with lower forms of life, and in direct proportion to its complexity has it always acquired a greater resisting power to the attacks of lower forms. Thus, as we descend in the scale of animal life from man downward, we always find the resisting power to disease less, the duration of the fight against sickness less, and the pathological processes much quicker. This is true of inflammatory action, formation of tumors, course of fevers, and even of the ordinary processes of nutrition.—Dr. Charles Gresswell, *Colorado Medical Journal*, December, 1897.

Therapeutical Application of Curdled Milk.—In 1888, Dr. Paschayan (*La Médecine Moderne*, August 25, 1897) was physician for the municipality of Palou, where he had occasion to observe the therapeutical effects of curdled milk in diseases of the digestive tract and in febrile affections. He noticed that the natives obtained good results with curdled milk in acute enteritis; the patients were often cured in three or four days without the employment of any other medication. It was likewise employed in typhoid fever as a cooling drink. Since that time the author has recommended curdled milk to patients affected with acute enteritis, dysentery, and acute and chronic gastritis. He has also administered it as a cooling drink in typhoid fever. The patients find it agreeable and easily digested; the diarrhœa ceases, the dyspepsia becomes less, and the general condition is improved.

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THE INTERNATIONAL-LANGUAGE QUESTION.

We have received from Secretary-General Amalio Gimeno the announcement and preliminary programme of the Ninth International Congress of Hygiene and Demography, to be held in Madrid in April of the present year, and our attention is called to the formidable list of official languages, which number no less than seven. Any member is privileged to address the congress in Latin, Spanish, Portuguese, Italian, French, German, or English, or in all together if he is able and so desires. Whatever speech he selects, he will have the certainty that about one-fourth or possibly one-half of his fellow-members will have a faint and confused idea of the subject of his address, while the rest of his auditors will be bored beyond expression by the flow of his (in their ears) uncouth eloquence. With each recurring international assemblage of whatever character, this question of a common medium of communication presents itself with ever-increasing urgency. The Moscow meeting of last August was no exception to the rule in this respect. Indeed, the difficulty of an interchange of thought was there even more than usually accentuated, by reason of the interjection of the Slavonic tongues into the Babel of official languages. Men who possessed a serviceable familiarity with the three official tongues found themselves entirely shut out when an occasional paper in Russian or Bohemian was read. English, as usual, fared the worst of the three; but even French, much to the pained surprise of those whose mother tongue it was, was far less in evidence than German. Our Gallic confrères have hitherto regarded the language question with languid interest, never dreaming that the supremacy of their own speech could be really disputed, and now it is a rude shock to find themselves relegated to a second place.

The need of a universal language was recognized by the president of the Moscow congress, Professor Sklifosovsky, who devoted a considerable portion of his opening address to this subject. A great, if not the greatest obstacle to medical progress, he said, was the want of a common speech by which scientific men of different nations could communicate with each other. This lack was felt by all medical men, but nowhere more than in Russia. Russian men of science were obliged perforce to have at least a reading acquaintance with the leading tongues of western Europe, but they could never hope that their own language would be studied by foreigners, and consequently the great mass of Russian literature would ever remain a sealed book to the rest of the world. The amount of scientific work being done in Russia was something enormous, but it was absolutely unknown to outsiders, and it would remain unknown so long as its history was clothed in Russian garb. The speaker was not content with generalities, but proposed the appointment of a committee to draft a preliminary syllabus on the subject of an international language, to be brought up for consideration at the next congress.

Another Russian, Dr. L. Samenhof, of Grodno, has made a novel proposal looking to a possible solution of the question. Assuming that there is no dispute as to the desirability of a common medium of international communication, he offers a suggestion whereby an agreement can be reached regarding the selection of the language to fulfil this honorable office. His plan is simply to put the question to vote, after opportunity for free discussion has been given to all who may care enough about the subject to commit their arguments in favor of one or another language to paper. All such are requested to send to Dr. Samenhof an article embodying the arguments in support of the adoption of one particular language. All these essays, which must be signed with the name and address of the author, will be published in book form and sent to each of the contributors. Some months after the book has been issued votes will be received from the subscribers, and according to the majority of votes will be decided what language shall be adopted as the international one. Of course this decision will be binding only upon those who take part in the proposed discussion, and perhaps not even on them, yet no doubt the result of such a vote would have great weight in influencing any committee which might be appointed to consider the question as it affects the international medical congresses. We wish Dr. Samenhof every success in his laudable undertaking, and hereby cast our vote in advance in favor of the language chosen by the majority of the contestants.

SOME OF THE DISADVANTAGES OF A MODERN BATTLESHIP.

THE complaint has been frequently made of late that in the class of battleships now being built the sanitary arrangements are inadequate and that insufficient accommodation is allowed for the sick. The first and prevailing idea in the planning and construction of a modern man-of-war is to produce a fighting machine, while little attention is paid to the sanitary requirements of her crew. In the report of the surgeon-general of the United States navy, just published, this fact, especially in the case of the *Indiana*, is strongly emphasized. It is contended that an unnecessary amount of space below deck is devoted to storerooms, etc., which with a more complete system of ventila-

tion might be utilized for officers' quarters. The crew spaces are stated to be equally cramped, and on several occasions the inconveniences of crowding men into the lower parts of the ship have been manifest. Minor accidents requiring surgical treatment have, it is said, decidedly increased, owing to the circumstance of the almost total absence of wood in the construction of the ships, so that a fall or blow which would have been of little consequence on the old vessels is often attended with serious results on the present-day steel warships. Complaint is also made in the report in regard to the *Indiana* that the sick bay is very small for the size of the vessel and the number of the men. Not more than three persons, exclusive of the baymen, can be properly berthed in the sick bay, and it is frequently overcrowded. Its cubic capacity is twenty-one hundred and ten feet. Insufficient, however, as the accommodation is for the sick in times of peace, there can be no doubt that in case of war matters would be infinitely worse. The ordinary sick-quarters in war time would be unavailable, being unprotected by any armor. In fact, it would be impossible to find (according to the report) on board a ship of the *Indiana* type a space in any way suitable for the reception and treatment of the wounded. The suggestion made by Dr. George T. Bradley, that a necessary adjunct to every squadron would be a hospital ship, seems under the present state of affairs to be worthy of consideration. At any rate, some attempt should be made by those in authority to prepare for possible emergencies.

SOME THERAPEUTIC USES OF OLIVE OIL.

At the seventh annual meeting of the Association of Military Surgeons of the United States, Dr. M. O. Terry, surgeon-general of the national guard of this State, read a brief but interesting paper on the treatment of appendicitis by means of sweet oil. He said that for more than five years he had been treating appendicitis on a non-surgical plan, with the result that out of forty-five patients only two required operation, and all recovered. The method of treatment is simplicity itself, consisting in the exhibition at once of a cathartic, together with the giving of a "colon or high enema, fomentations with flaxseed poultices, and applications of hot sweet oil, the prolonged use of sweet oil taken internally, and a pultaceous diet." The choice of a cathartic, Dr. Terry says, is immaterial, although his own experience has led him to use castor oil and sweet oil combined, one part of the former to two of the latter. A high injection of from one-half to one pint of sweet oil is given, and followed by an enema of soapsuds. Sweet oil is also given internally in the dose of one-half ounce in a glass of hot water three times a day. This is continued as long as there is any tenderness in the region of the appendix.

While Dr. Terry was thus injuring the business of the surgeons in New York State, Dr. Owen F. Paget was spoiling that of the undertakers in Western Australia, by means of the same gentle remedy. This writer, in a communication to *The Lancet* of November 27, 1897, advocates the use of salad oil in the treatment of typhoid fever. During his residence in Freemantle, he says, it was his lot to attend over one hundred patients suffering from typhoid fever under the most disadvantageous circumstances, many of them being unable to obtain even fresh milk; yet he did not lose a case. Among the patients removed to the hospital, where they were properly attended to, were placed under orthodox treatment, and received suitable nourishment, the percentage of mortality was twenty in one year and eleven in another. While admitting the element of chance to a certain extent, Dr. Paget attributed his success very largely to the use of sweet oil. This he gave in the form of an enema every twelve to twenty-four hours during the first four or five days, about one-half pint being used each time. After the fifth day the injection may be given every two days, or may be discontinued entirely if the temperature is steadily falling and if the patient is having a natural movement of the bowels every day. Sometimes the injections must be supplemented by the use of oil by the mouth. Dr. Paget's endeavor is to keep the bowel flushed, using salad oil for this purpose; but the principle of his treatment is precisely the same as that of the eliminative method of Dr. Thistle, of Toronto, described in the MEDICAL RECORD of March 10, 1894.

In the closing paragraph of his paper, Dr. Pag remarks, in unconscious corroboration of Dr. Terry, that "salad oil, one pint by the mouth and one-half pint per rectum, has also given the most gratifying results in two cases of typhlitis under my care." And this reminds us that we have chanced to see no reports recently of the use of olive oil in the treatment of gall stones. Has the practice gone out of use, or is it so common that no one thinks instances of it are worthy of record?

UNNECESSARY STREET NOISES.

THERE are signs abroad that ere long there will be active and organized opposition to noises in the streets of large towns. The inhabitants of cities are beginning to appreciate the fact that the multiplicity of sounds at present is seriously detrimental to health. Some of these noises are of course unavoidable, but many of them serve no useful purpose, and would injure no interests if abolished. Among the many laws and ordinances relating to sanitation, it seems unaccountable that the question of street noises does not hold a more prominent place, and that steps should not be taken to do away with, or at least to lessen as far as possible, the ceaseless din of a large city. Physicians are too well cognizant of the disastrous effects of harsh noises to certain patients, and surely a vigorous crusade inaugurated to remedy this evil would be attended with the most beneficial results. Opinions differ as to whether the noises are worse in New York or in London; but which of the two cities can lay claim to the unenviable reputation is outside the question. The point to be settled is, what means should be employed to abate the nuisance? London has already taken the initiative, and is resolved to put down with a strong hand all unnecessary street sounds.

This is an example that should be followed by New York and the other large cities of the old and new worlds. It may not be too much to hope that electricity will solve the difficulty, and that in the ideal town of the future traction and locomotion will be both noiseless and clean. In the mean time all that can be done should be done.

EARLY WRITERS ON SMOKING.

The fact has been discovered that Shakespeare never mentions smoking or makes the slightest allusion to the habit. This is the more curious, as most of his contemporaries, Ben Jonson, Decker, and others, discuss the then new fashion at length, and the humorist and satirist of the time lost no opportunity of deriding and making game of the votaries of the weed. The tobacco merchant was an important personage in the time of James I. The Elizabethan pipes were so small that when they are dug up in Ireland the poor call them "fairy pipes." King James himself was one of the most virulent opponents of the habit, and in his ludicrous "Counterblaste" calls it a vile and stinking custom, "borrowed from the beastly, slavish Indians—poor, wild, barbarous men—brought over from America and not introduced by any worthy or virtuous or great personage." He argues that tobacco is not dry and hot; that its smoke is humid like all other smoke, and is therefore bad for the brain, which is naturally wet and cold. He denies that smoking purges the head or stomach, and declares that many have smoked themselves to death.

THE HEALTH-BOARD BILL.

We learn that gentlemen attached to the laboratory service of the health department have been circulating petitions adverse to senate bill No. 5, and have obtained many signatures, chiefly gained by representing that in the event of the passage of the bill the laboratories would be closed and the scientific work of the city be broken up. When asked how this would be brought about, they reply that it is the profit on the sale of antitoxin that enables this and other work to go on, and that if this source of revenue were cut off the board of health would be unable to secure suitable appropriations from the city authorities. We believe this fear is groundless. However that may be, the argument used is certainly a severe reflection on either the intelligence or the humanity of the mayor and the board of apportionment.

Others express the fear that if the board of health discontinues the sale of antitoxin one or two manufacturers may combine and raise the price beyond the reach of any but the affluent. Our city health board now sells it to the trade, we believe, at a discount of ten per cent., and in some instances at twenty per cent.; and yet at even these discounts and with extensive gratuitous use among the poor, there would still appear to be a considerable margin of profit in the manufacture. This certainly would invite fresh investment of private capital, and this, with the four or five existing domestic plants and the product of several European manufacturers, would result in a wholesome competition that would keep the price within the bounds of reason and justice. On the first introduction of antitoxin the price was high, but this was due to the unreversible law of supply and demand. The supply was small; the demand was great. Just so, a few years ago, there came a sudden demand for antipyrin, and the price went up almost to that of gold. In a few weeks prices settled down to the normal. So it would be with antitoxin.

News of the Week.

Experts in Criminal Trials.—Assemblyman Kelsey has introduced a bill in the New York assembly, providing for the appointment and examination of medical expert witnesses. Whenever it is made to appear to the court that the trial of issues will probably require the introduction of medical expert testimony, the court may, upon application of either party in the action, appoint such number of experts as the court shall deem proper, not less than three or more than five. Such experts shall in all cases be persons skilled in medical and surgical science, or in both, and shall be duly admitted to the practice of medicine in the State of New York, provided that in special and extraordinary cases the court may in its discretion appoint such expert persons resident in other States and duly qualified and admitted to practise medicine in the State where they reside. Each expert witness so appointed shall receive such compensation as the court shall prescribe, which shall not be less than $10 nor more than $100 per diem while in actual attendance upon such trial, and mileage the same as is allowed to other witnesses, which shall be paid by the county.

The Determination of Sex.—Dr. Schenk, of Vienna, who was reported as saying that he had discovered the secret of sex, states that he has been misreported. He simply made an assertion in the course of a lecture that it was possible to a certain extent to correct nature in the case of a woman who has become the mother of five or six girls in succession. He did not even announce it as a discovery—a newspaper correspondent, to whom one of the students mentioned the subject, being responsible for the noising abroad of the observation and its exaggeration. The result of this has been that the professor is deluged with letters from women all over the world, who want to know how to get boys.

The Plague is still prevailing in virulent form in Bombay, the number of deaths for the week ending January 26th having been eight hundred and thirty-four. The disease has recently invaded Sinnar, and the attempts of the authorities to enforce isolation excited a riot, in the course of which an apothecary was killed and a constable wounded. The temporary hospitals were wrecked and the quarantine camp was set on fire. The mob was dispersed only after the police had fired into it. The number of deaths in Sinnar up to January 31st numbered fifty-three.

The Antivivisection Bill.—Senate bill No. 1,063, which is the bill to strangle scientific investigation in the District of Columbia, introduced by Mr. Gallinger, is the subject of numerous letters from the physicians of the country to the senators of their respective States. Physicians everywhere have been urged to put the pressure on their congressmen, and they are doing it. The antivivisectionists are also making every effort to secure the legislation they desire.

The Insane in Pennsylvania.—The increase in the number of the insane in Pennsylvania, nearly six hundred annually, is causing much embarrassment to the authorities. The total capacity of the State hospitals is about forty-five hundred, and they now contain fifty-six hundred. There are also more than twenty-five hundred insane inmates of the almshouses in the State. It is proposed to adopt the Wisconsin plan of county asylums for the chronic insane, which has been in operation sixteen years and has been found to be of great utility.

Medicine in Modern Fiction.—In the article on "The Modern Novelist and Medical Subjects," in a recent number of the MEDICAL RECORD, credit should have been given to Dr. J. J. Morrissey for some of the observations incorporated in the text, which were taken from a current issue of the *Catholic World*. The omission was due to an oversight, and with no intention of ignoring the excellent work of the scholarly author.

Obituary Notes.—DR. HENRY SPALDING DEAN, of South Coventry, Conn., died on January 15th, of disease of the heart, at the age of seventy-five years. He was a graduate of the Jefferson Medical College in 1852. He leaves one son.—DR. GAMALIEL GILLIS, of Montague Bridge, Prince Edward Island, died on January 4th, after an illness of four months' duration. He was forty-five years of age, and was a graduate of the University Medical College, New York, in 1885. He leaves a widow and five children.—DR. S. W. VAN DUYN died in Plainfield, N. J., on January 25th, at the age of sixty-one years. He was a graduate of the University Medical College, New York, in the class of 1865.—DR. LEWIS FRENCH, member of the hospital staff of the Connecticut Home for Soldiers, died at his home at Noroton, Conn., on January 27th. He graduated from Trinity College in Hartford in 1879, and from the University Medical College, New York, in 1883, and for eighteen months thereafter he was on the medical staff of St. Catharine's Hospital, Brooklyn.—DR. GERHARD CHRISTIAN PAOLI, of Chicago, died at his home in that city on January 29th, at the age of eighty-three years. He was born in Sweden and came to this country over fifty years ago. He obtained a medical degree from the Rush Medical College in 1866.—DR. ISAAC MASSEY, of West Chester, Pa., died on January 31st, in the sixtieth year of his age. He was a graduate of the Jefferson Medical College in the class of 1864. He was a member of the Pennsylvania State Medical Society, of the Chester County Medical Society, and of the College of Physicians of Philadelphia. He was one of the attending physicians of the Chester County Hospital.—DR. SAMUEL P. HAMED, who was a graduate of the College of the City of New York in 1868, died on January 18th, at Woodbridge, N. J., from œdema of the lungs, caused by aortic disease. He had practised in Woodbridge since his graduation, and was at one time coroner for Middlesex County.

A Remedy for Depopulation in France.—The mayor of a small commune in France has shown the way to stimulate the fathers and mothers of France to aid in the elevation of *la patrie*, by offering a reward of 100 francs for every child born in lawful wedlock of parents resident at least one year in the place.

Reduced Death Rate in New York State.—According to the recently issued bulletin of the New York State board of health, the number of deaths in the State during 1897 was 117,075. This is 3,600 less than in 1896, and is the smallest mortality reported since 1889. The death rate for the year was 18.50 per 1,000 population; that of 1896 and also of 1895 was 19; of 1894, 18.75; of 1893, 19.3; of 1892, 20.78; of 1891, 21.43; and of 1890, 19.65. The decrease has been chiefly in the cities, the rural mortality having relatively increased. The infant mortality was also lower than usual, 32.6 per cent.

The Houston County (Texas) Medical Society, at a meeting held in Crockett on January 14th, adopted resolutions protesting against the occupation tax imposed upon physicians of the State by the legislature of 1897. A resolution was also passed urging upon the legislature the enactment of a law providing that some amount not less than $25 be declared as exempt from chattel mortgage, in case of the death of the mortgagor, the same to be preference claim for medical services. At this meeting Dr. S. J. Collins, of Lovelady, was elected president, and Dr. J. L. Hall, of Crockett, secretary.

Reported Return of Yellow Fever.—It is reported that three cases of yellow fever have been discovered on a plantation near Edwards, Miss. Dr. Carter, of the Marine Hospital service, has been sent to investigate the report. There has been no yellow fever at Edwards, as far as known, since December 1st.

Woman's Hospital of Baltimore.—The statement made that Dr. Robert T. Wilson had been elected chief surgeon of the Woman's Hospital of Baltimore, to succeed his father, the late Dr. H. P. C. Wilson, was strictly true; but for fear that injustice may be done to Dr. William T. Howard, who is also chief surgeon, we are asked to state as a matter of history that when this hospital was founded, Drs. Howard and H. P. C. Wilson were made chief surgeons and divided the service, and each had two assistants. After Dr. Wilson's recent death, the lady managers passed a resolution requesting the board of directors to elect Dr. Robert T. Wilson to the place made vacant by his father's death, should it be agreeable to Dr. Howard, and it was accordingly done. Inasmuch as the Woman's Hospital has a place in the medical history of Baltimore, it is thought right that this matter should be clearly stated.

Dr. William H. Welch, of Johns Hopkins Hospital, has been appointed by the governor of Maryland a member of the State board of health, and has accepted the position. Dr. Welch at first declined the appointment, but was induced to reconsider it.

Dr. C. Birnie, of Taneytown, Md., has been appointed on the State lunacy board.

The Editor of the "British Medical Journal." —The council of the British Medical Association, at a meeting held January 19th, unanimously elected Dr. Dawson Williams editor of the *Journal*. Dr. Williams has been assistant editor for the past seventeen years, and had full editorial charge during Mr. Hart's absence. Dr. Williams is well and favorably known outside of journalism for his excellent work, especially in the subject of the diseases of children. He became known personally to many of the American profession during the Montreal meeting of the British Medical Association, which he attended in the interests of the *Journal*. We congratulate both Dr. Williams and the association upon the excellent choice of the council. At the same meeting Mr. C. Louis Taylor, for the past eleven years subeditor, was appointed assistant editor to succeed Dr. Williams.

The County Society and Dr. Roosa.—At the special meeting of the Medical Society of New York, held Monday, January 31st, a motion to censure Dr. Roosa for statements made in a daily paper, pertaining to the action of the committee on legislation regarding appropriations for private charities and alleging irregular proceedings on the part of the society, was, after a lively discussion, duly declared lost.

An Association of the Alumni of Randall's Island Hospital was organized on January 18th. The following officers were elected: *President*, Dr. Frank Van Fleet; *Vice-President*, Dr. Robert Lewis, Jr.; *Secretary*, Dr. David T. Marshall; *Treasurer*, Dr. L. K. Neff.

Akin to Murder.—This was the term employed by Judge Wofford, of Kansas City, to characterize the doings—or rather lack of doing—of Christian scientists, in attempting to cure grave diseases. A Mrs. Baird was fined $50 for not reporting a case of diphtheria, which resulted fatally under her scientific ministrations.

The St. Louis Laryngological and Otological Society was organized on December 27th. It is composed of those physicians of St. Louis who limit their practice to the treatment of diseases of the nose, throat, and ear. Dr. J. C. Mulhall was elected *President*, Dr. J. B. Shapleigh *Vice-President*, Dr. F. M. Rumbold *Secretary*, and Dr. A. S. Barnes, Jr., *Treasurer*, for the year 1898. Meetings will be held monthly.

American Dermatological Association.—The date of meeting, which was to have begun on June 7th, has been changed on account of its conflicting with that of the American Medical Association. The association will meet at Princeton Inn, Princeton, N. J., on May 31st and June 1st, and at the New York Academy of Medicine on June 2d.

Warning.—A certain amount of misrepresentation appears to go with the solicitations being made in connection with a history of this city in which physicians are supposed to be interested. *Verbum sap.*

Cattle Disease in Nebraska. — Stockmen near Hooper, Neb., are complaining of heavy losses from a disease which has broken out recently among their cattle. The affection is denominated foot rot, and is said to be exceedingly contagious and very rapidly fatal.

The St. Louis Medical Society.—The following officers were elected at the annual meeting of this society, held Saturday, January 8, 1898: *President*, Dr. Joseph C. Mulhall; *Vice-President*, Dr. Amand Ravold; *Recording Secretary*, M. F. Engman; *Corresponding Secretary*, Dr. A. S. Barnes, Jr.; *Treasurer*, A. R. Kieffer.

"The North American Journal of Diagnosis and Practice" is the name of a new monthly medical journal, born in January in St. Louis. The editors are Drs. C. H. Powell, J. G. Ehrhardt, and A. R. Kieffer, who announce that their publication will be in no sense the organ of any medical college or clique, but will be devoted to the interests of the individual physician.

Nursing in Tuberculosis.—On January 15th, a training-school for nurses was opened at the Loomis Sanatorium at Liberty, N. Y. The opening-class had thirteen members. Miss Helen Kimber, a graduate of the Bellevue Training-School, is the superintendent. The opening-address was made by Dr. H. P. Loomis, of New York. While these nurses will receive regular training, such as is given in other schools, special attention will be paid to instruction in the care of cases of tuberculosis.

Obituary.

THEOPHILUS PARVIN, M.D., LL.D.,

PHILADELPHIA, PA.

Dr. Theophilus Parvin, professor of obstetrics and gynæcology at the Jefferson Medical College, died at his home in Philadelphia, on January 29th, at the age of sixty-nine years. Dr. Parvin was born at Buenos Ayres, Argentine Republic, where his father was a missionary, on January 9, 1829. He received his early education in Philadelphia, and subsequently at Indianapolis, where he was graduated from the University of Indiana in 1847. He then returned to Philadelphia, where he took a course in medicine at the University of Pennsylvania, obtaining his degree from the medical school there in 1852. He practised for a while at Indianapolis, and was afterward for a time surgeon on a line of sailing-packets between Philadelphia and Liverpool. He filled chairs successively at the Ohio State Medical College, the University of Louisville, and the Indianapolis Medical College. He was called to the chair of obstetrics and gynæcology at the Jefferson Medical College in 1883.

Professor Parvin was a close student and an accurate scholar, and early won for himself an international reputation as an authority in his chosen branch. He was an honorary member of several obstetrical societies in Edinburgh, Berlin, and elsewhere.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 20, 1898.

EDWARD G. JANEWAY, M.D., PRESIDENT.

THE meeting was in charge of the section on neurology and psychiatry.

Parental Diabetes as an Etiological Factor in Insanity.—DR. E. C. SPITZKA read a paper with this title. He said that it had been long known that diabetes in all its forms played an important rôle in family histories. Clouston had described two cases in which he established a direct relation between the glycosuria and the mental aberration. Dr. Savage, of the Bethlehem Royal Asylum, stated that diabetes sometimes alternated with neuroses. In the climacteric neuroses diabetes also played a part. The cases of mental disorder which he had found in the direct descendants of parents numbered forty-six, of which thirty-two were in males and fourteen in females. Thirty-four out of the forty-six patients died in advanced dementia or were in a hopeless condition. In thirteen the transmission was from the paternal, and in thirty-five from the maternal side. Altogether the forty-six were children of forty-one parents. It was worthy of note that of the thirty-two, twenty were of the Jewish race. After reading a number of detailed clinical histories, showing the family relationships and tendencies, and their bearing upon the subject under discussion, Dr. Spitzka said that eleven years ago he had studied two hundred and two patients in an insane asylum, the victims of self-abuse. Of this number, sugar was noted in the urine in fourteen per cent., and, strangely enough, the urine was frequently of moderately low specific gravity. The speaker then pointed out that it was a very common mistake to attribute the condition of these patients to self-abuse, although undoubtedly they very frequently indulged in this vicious habit, and were injuriously affected by it much more than was any other class. The sexual manifestations of these patients are not due to strength, but to abnormalities and weaknesses. Absolute impotence in a diabetic should be regarded as a blessing in disguise, not only to the public, but, above all, to the diabetic himself.

DR. W. H. DRAPER said that he had been long interested in the subject of diabetes and allied disorders. At first he had regarded diabetes as a chemical disorder, for it was an attractive theory until one became impressed with its utter incompetence. It did not seem to him that there was much question now about diabetes being a nervous disease; as to the exact lesions and their location, we were not well informed. Its phenomena were not to be explained by a simple defect in the process of digestion; its origin must be sought in a neurosis. This evening we had been told of certain psychoses observed in diabetics, and it was easy to recognize that these psychoses were important elements in the disease. Perhaps the most striking feature of the disease was the great mental and physical prostration. The advocates of the chemical theory explained this by supposing that the food was not absorbed, but went to waste, and that therefore the force which it was capable of yielding was lost. It was a fact that as soon as the excretion of sugar by the kidneys was diminished, the health and vigor of the individual improved. Most authors recognized the fact that gout, lithæmia, and glycosuria were, so to speak, convertible diseases; that is to say, any one of these diseases might occur in a family and be transmitted. Another interesting fact was that certain neuroses which were well known to be gouty, were also liable to occur in diabetes. An example was to be found in spasmodic asthma, which was a common disorder in gouty families. Dr. Draper said he could not remember having met with a case of insanity associated with diabetes. For a number of years he had had under his observation a case of insanity of adolescence, in which there had been a marked gouty tendency and a most obstinate lithæmia. There was a distinct family history of gout, and a distinct history of a gouty habit in the individual and in the immediate members of his family.

DR. B. SACHS said that the reader of the paper had set himself a very serious though interesting problem to solve. Personally he had some doubts regarding the intimate connection between diabetes and the forms of insanity alluded to in the paper. It seemed to him that diabetes was not only a neurosis, but was a neurosis of the second half of life. He questioned, therefore, whether it was entirely correct to make this neurosis responsible for many of the forms of insanity, unless statistical inquiry proved that the parents of the subject afflicted with some form of insanity had been afflicted with the disease before that individual had been born. It would probably not be difficult to show that Bright's disease occurred in a considerable number of the ancestors of a given insane individual, and probably the same could be done regarding cancer and various other maladies. His personal experience showed a very frequent history of diabetes in the families of insane patients, but it had never impressed him that this proportion was greater than in the case of some other serious diseases—such, for example, as Bright's disease. The occurrence of epilepsy or of idiocy in the descendants of those directly afflicted with diabetes before the subject was born was a common experience. He would like to ask the reader of the paper whether the forms of insanity he had observed in the descendants of diabetics were those classed usually as degenerative, or would he include the acute insanities. In studying the statistics given regarding the Semitic race, their greater struggles for existence, greater hardships, and peculiar mode of life should be taken into consideration.

DR. EDWARD D. FISHER said that in the descriptions of diabetes given outside of the field of mental disease, not much reference was made to insanity, nor was there much reference made to the occurrence of diabetes in the insane. If Clouston referred only to two cases in his large experience, this in itself would indicate that diabetes was an insignificant factor in the etiology of insanity. In some reported cases of diabetes occurring in the insane, it was stated that on the development of the insanity—usually melancholia—the diabetes frequently seemed to cease, and that on recovery or improvement in the mental condition the sugar reappeared in the urine. He could not understand this, and would like Dr. Spitzka to shed more light upon it. Unless it could be shown that special forms of insanity followed diabetes, it did not seem fair to argue that insanity in individuals having diabetic parents was the result of the diabetes. We would probably find, in a general way, that diabetes, like intemperance, might be a factor in producing maldeveloped children, but he did not believe in any more specific connection between the two.

DR. N. E. BRILL asked if inquiry had been made into the ancestral condition of the parents. If it could be found that the parents of these diabetics had been insane, the appearance of the insanity in the grandchild might represent a psychical atavism, so to speak, and the diabetes in the intermediate parent would simply represent the transmission of this degenerative taint. He thought too much stress had been laid upon diabetes as a neurosis. Although this view had been

held very generally in the past, there was now a tendency to return to the chemical theory. In the last two years Italian observers had noted the occurrence of diabetes in connection with disease of the pancreas. He would also like to ask Dr. Spitzka if he had excluded syphilis in the parent in the cases considered in his paper.

Dr. Thomas E. Satterthwaite said that a little over twelve years ago, in a paper based on a study of forty cases of glycosuria, he had stated that the nervous system must be held responsible for this disease. For the cases in which glycosuria had been produced by puncture of the fourth ventricle, extirpation of the superior cervical ganglion, pressure of tumors and clots on the brain, etc., he had offered in explanation the popular theory that it was due to vasomotor paresis of the vessels of the liver. At the same time he had shown that the action on the hepatic vessels might be reflex, and that direct stimulation of the liver and pancreatic disease might give rise to glycosuria. In the light of recent experiments another view might be held—*i.e.*, that irritation of the liver caused the discharge of glycogen in that organ. He believed that future experiment would show still other varieties of diabetes. Among the contributing causes found in a list of forty-five cases under his observation were mental anxiety in six, injury to the head in three, severe neuralgia in two, sexual abuse in two, overwork in one, abuse of opium in two, and a diabetic mother in one case. He recalled a single instance in which a diabetic woman under his care had epilepsy and insanity in her children, but he had reason to believe her diabetes had not developed until after the menopause.

Dr. L. C. Gray said that the great merit of the paper lay in the demonstration of the marked connection between diabetes and insanity, and he was astounded to learn that so many cases could have been seen by one observer. Although it had long been a routine practice with him to have the urine examined, he had very rarely met with such cases. He would like to know whether in the cases reported the sugar had been present in large quantity, and whether it had been present constantly or intermittently.

Dr. Max Einhorn said that he had been surprised to find that von Norden made the statement that in the Berlin clinic, of the 23,000 patients in the clinical wards, from 1890 to 1893, there was 1 diabetic to about 355 patients; while during the same period, of the 2,535 patients in the psychiatric clinic, there was not one diabetic. He was inclined to favor the neurotic theory of diabetes, and the fact that excision of the pancreas caused diabetes did not prove that the disease was not of neurotic origin.

Dr. A. W. Ferris referred to the case of a Hebrew woman, forty-seven years of age, the mother of one child, in whom diabetes had been discovered in 1893. She had been through the usual experience of a diabetic, and for three months had had melancholia with suicidal tendency. For the last two years the only psychical disturbances had been intellectual depression and a weakened judgment, with impaired memory. Her father fell dead suddenly of what was supposed to be heart disease. Her mother died of "softening of the brain," after having been partially paralyzed for some years. Of the patient's three brothers, none married. One of these brothers had convulsions for the first three years of life, and at seventeen years had acknowledged epilepsy, which continued for ten or twelve years. A son of the patient's sister had epilepsy for some years, and now, at the age of sixteen, has external strabismus and talks like a child of two years. A niece of the patient's father was reported to have recovered from diabetes. The patient's mother's brother also had diabetes for many years. One of his daughters had myxœdema, and one son had become insane.

Dr. Spitzka, in closing, said that the elements making up the claim of his paper were these: (1) the coincidence in the clinical form; (2) coincidence in two sets of individuals and independent statistics—the one beginning eighteen years ago, from one point of view, and the other continued since, from a different point of view, and dealing with material derived from two separate sources of information. One represented the statistics of a large asylum, containing all classes of the population; the other represented the experience of a single practitioner. Yet both had led to the same conclusion regarding the same form of insanity—a distinct and well-marked one, according to most observers—occurring in the same class and under the same circumstances. Of course this might be a mere coincidence, but the same figures in sex and age relations were presented. Syphilis had been excluded in all his cases, so far as it was possible to do so. He had always found diabetes to be a more or less neurotic disease, and he did not pretend to distinguish between the different varieties, such as pancreatic diabetes, etc.

SECTION ON SURGERY.

Stated Meeting, January 10, 1898.

W. W. Van Arsdale, M.D., Chairman.

Amputation at Shoulder for Melanotic Sarcoma of Shaft of Humerus.—Dr. A. L. Fisk presented a man who had strained his arm last March while lifting a piano. In May, while jumping upon a wagon he felt something give way, and since then had been unable to use the arm. When he was first seen, October 1st, there was a false point of motion, and radiographs showed distinctly the new growth involving the shaft. On October 21st, Dr. Fisk performed amputation at the shoulder-joint. The man was up on the fifth day, and made a rapid recovery. The pathologist reported the growth to be a melanotic mixed-cell sarcoma with fibro-sarcomatous portions.

Excision of Extensive Lupus of Face, Followed by Thiersch's Skin Grafts.—Dr. Fisk also presented a woman who had been sent to him in January, 1894, with a large ulcer on the left cheek. She had had this for ten years, and it had been treated by caustics and by curetting. It had steadily grown worse under all treatment. He excised the skin, including the margin of the ulcer, and covered the raw surface with Thiersch skin grafts. Occasionally since then small ulcerating spots had developed, but had yielded readily to applications of monochloracetic acid. The result was now very good, the grafted skin being only a shade lighter than other portions. The clinical diagnosis had been lupus.

Dr. B. Farquhar Curtis, on behalf of Dr. Van Arsdale, stated that the latter had had a patient with lupus of the eyelid, which had existed for many years, and which had finally destroyed the lid. He had excised the lids, removed the globe of the eye, and grafted the interior of the orbit and the exterior also with Thiersch grafts. When the patient was last seen the result had been excellent.

Fracture of Patella Treated by Massage.—Dr. H. Lilienthal presented a young woman who had been admitted to the Mount Sinai Hospital about ten weeks ago. On the day before admission she had sustained a comminuted fracture of the right patella. One of the fragments, the lower one, consisted of about one-third of the patella, and the other portion of the patella was split into two large pieces. One of these latter was freely movable. Dr. Lilienthal said that he had previously tried the massage treatment in

two cases, and, recognizing that the chief point was to secure perfect function and not necessarily bony union, the treatment had seemed to offer special advantages. In one of the previous cases so treated the result was excellent, and the patient had been presented to the New York Surgical Society. The other case was that of a young man whom he had not seen for some days after the injury. This man had also been exceedingly well, and at the present time was able to ride a bicycle and do whatever any one else could. In the patient to be presented there was a slight hollow between the two fragments; flexion and extension were perfect; the patient could stoop and kneel, and hop on the injured limb. She had been out of bed and walking eight days after the accident, and her life had not been jeopardized by an operation.

The Method.—The speaker said that he had first read of the method in Koenig's "Surgery," where it had been credited to a Dutch surgeon. It consisted in bandaging the limb and placing it on an inclined plane so as to relax the quadriceps as much as possible. As soon as the first shock was over, the massage was commenced. This required two persons—a physician to hold the fragments together, and a massage operator. The massage began at the body with upward strokes, and was carried downward to the knee. The region of the knee was rubbed very gently. This treatment had to be repeated twice daily, and the most attention was given to the quadriceps. After each treatment the lubricant should be rubbed off and the limb cleansed with ether, and the fragments approximated by adhesive-plaster strips, before the limb was returned to its former position on the inclined plane. Generally after the third or fourth day half an hour would be required for each treatment. On the eighth day it was perfectly safe to allow the patient to go about with a light starch splint on, to prevent flexion. The patient might be allowed to walk about as desired, with the aid of a cane only. The splint was split down the front, so that it could be readily removed for the massage. In the case presented, gentle flexion was begun on the twelfth day. In his opinion it would have been better if this had been begun a little earlier. The flexion should be gradually increased, never causing more than very slight pain. After the massage treatment had been kept up for six weeks, the patient should be cured.

Dr. George Woolsey said that he had seen one of the cases treated by Dr. Lilienthal according to this method, and the result had certainly been excellent. Personally, he had treated a number of fractures of the patella in this way, in all cases with a very good functional result. His method differed only slightly from that described. The massage was performed only once a day on account of the time consumed, and he also used elastic compression in the early part of the treatment, for it was known that it was not so much the quadriceps muscle as the quantity of extravasation in the joint which prevents the approximation of the fragments. He had never obtained union so nearly bony as had occurred in one of Dr. Lilienthal's cases.

Dr. A. M. Phelps thought the expression "massage treatment" was misleading, for these cases had also been treated with the retentive appliances used by all surgeons, and the massage was used simply to increase the circulation. It should be understood that the general treatment was about the same as formerly, and that the nutrition was merely aided by massage. He was doubtful regarding the permanency of the good results obtained in cases of fracture of the patella from any treatment short of a surgical operation, for the reason that the capsule fell in between the ends of the bone, and bony union never took place. According to his experience, these ligaments invariably stretched after one, two, or three years, becoming greatly elongated. A long ligament tended to stumbling and fracture of the opposite patella—a condition not infrequently met with. He believed, therefore, that it was better to cut down upon the patella, remove the foreign body from between the ends of the bone, and secure bony union by wiring. Such a result would be permanent. Intermittent elastic compression had been used by a number of surgeons for the last two or three years, and it seemed to increase the nutrition of the parts and shorten the period of repair.

Dr. Van Arsdale asked if there had been much effusion in this case, and how the result compared with those which Dr. Lilienthal had formerly wired.

Dr. Lilienthal replied that there had been only moderate effusion. In one of the other two cases the effusion had been so great that he had aspirated the joint. Aspiration and elastic compression were both part of the Dutch treatment already referred to. He had used elastic compression in all of the cases, employing rubber in the first one and flannel in the last two. He could not agree with Dr. Phelps that this was merely a slight modification of old methods of treatment. It was very seldom that a patient with a fractured patella would be able to walk around by the eighth day. He was quite sure that massage had a twofold advantage, viz., (1) the getting rid of the effusion, and (2) the passive motion produced at the same time. He had wired a number of fractured patellæ and had never had an accident, yet a surgeon whom he knew to be careful and skilful had had a fatal case under this treatment. There did not seem to him to be any reason for taking such a great risk when an excellent functional result could be obtained by a safer method.

Dr. Phelps added that there had undoubtedly been some deaths after wiring of the patella, but they had been exceedingly rare. On the other hand, it was not uncommon to meet with cases in which very dangerous falls had resulted from the long ligament and an ununited patella.

Stone Impacted in the Deep Urethra from Childhood.—Dr. Lilienthal also presented a young man who from the fifth or sixth year had had frequent and painful urination. This had grown steadily worse, but he had never had complete retention. About one month before he came under observation the pain had become very severe, and had also radiated to the rectum. On examination the diagnosis of impacted stone in the urethra was made. Through a suprapubic incision, about one inch long, the finger was able to feel a rough stone, which was firmly fixed. During the manipulations the stone broke off. Then, with the finger as a guide, an instrument was introduced and the stone extracted. It was of irregular shape, consisting of two portions joined together by a narrow isthmus. One part was in the urethra and the other projected into the rectum. A soft depression was felt in the rectum, and on massage of the rectum at this point, having him urinate afterward, the urine was found to contain a plug of mucus. This came from the portion of the rectum into which the stone had projected. This massage had been kept up for a time, and now there was no longer any such discharge of mucus.

Dr. Curtis said that it seemed very evident from the shape of this stone that it had developed in the prostatic sinus—a very common situation for these urethral stones. He recalled removing some years ago a somewhat larger stone, but of the same general shape. A part of the stone had lain in the bladder and a part in the prostatic urethra, which it had dilated. These stones developing in the prostatic sinus almost invariably have this shape; they probably grow backward into the bladder, thus giving rise to the constricted neck.

Dr. James P. Tuttle asked what had led Dr. Lilienthal to remove this stone by the suprapubic operation instead of by the safer perineal operation. The pocket from which the stone had been taken was likely to become a receptacle for urine and urinary sediment, and so form a starting-point for another stone, or else invite infection, suppuration, and in time the formation of a recto-urethral fistula. There were such cases on record. The successful result in this case from massage was fortunate, to say the least.

Dr. Lilienthal said that knowing that the stone was firmly impacted, and suspecting that a portion might be impacted in the bladder also, he had selected the suprapubic route as the preferable one. The shape and friability of the stone seemed to prove that this choice was a wise one.

Recovery after Pure Infection with the Bacillus Aerogenes Capsulatus.—Dr. J. F. Erdmann presented a boy to show a recovery from a pure infection with the bacillus aerogenes capsulatus. He recalled the fact that some months ago he had read a paper on this subject before this section, and had drawn some conclusions regarding the treatment. The boy is eleven and one-half years of age. On August 19th, he fell six or eight feet, producing a compound fracture of the radius and ulna. On the following morning he had had a chill, and that night there had been marked gangrene of the fingers. At this time, when the speaker had first seen him, there had been a condition of marked toxæmia. The wounds of the compound fracture were surrounded by a blackened and crepitating area, having a pronounced odor, and the gangrene had extended up to the insertion of the deltoid on the outer side. On the inner side there was redness extending into the axilla. Over the entire posterior surface there was marked crepitation. After the infusion of saline solution the arm was rapidly amputated, without any regard to flaps, in order to do the operation as quickly as possible. By the next morning his delirium had gone, and he was anxious to get up. On the fourth day he was discharged. Dr. Erdmann said that he had learned that recently there had been a recovery from infection with this bacillus—possibly a pure infection—but the case just presented was the first authentic instance of pure infection with this bacillus and subsequent recovery.

Fracture of Patella; an Artificial Joint.—Dr. A. M. Phelps presented a patient who had sustained a fracture of the patella the first week of last August. He went to St. Vincent's Hospital, and was treated there and discharged. In the second week of October he again fractured the patella, and was sent a week later to the City Hospital. When seen a few days later, the limb was enormously swelled and the joint filled with fluid. The appearances were those of purulent effusion. Accordingly on November 7th Dr. Phelps operated upon him. The case was presented because of the novel procedure adopted. On opening the joint it was found that the synovial sac had been totally destroyed, that the cartilages of both the tibia and fibula had been almost entirely destroyed, and that complete excision seemed necessary. After he had succeeded in removing all of the diseased structures, the parts looked so much better that he had resorted to a procedure used by him in two or three cases, *i.e.*, the endeavor to restore a normal joint by interposing some of the soft tissues between the ends of the bones, thus preventing the contact of bone with bone. He then wired the patella firmly and inserted drainage. The patient was lost sight of for a time, but returned the other day with the function of the joint preserved. Dr. Phelps said that the reason he had resorted to this procedure in the present case was that in operations for angular deformity of the hip he had succeeded in obtaining a very good artificial joint. Last fall he had adopted the same plan instead of amputation in a case of ankylosed finger. Two incisions had been made, one on either side of the finger, the bones divided, and then one portion was made convex and the other concave, so as to simulate the natural surfaces of a joint. The arterial supply having been left intact, he turned in the flaps of cellular tissue between the ends of the bones, and obtained an almost perfect result. He had also used this method in three cases of complete excision of the knee. In one done a year ago fairly good motion had been secured; in another the result was bony ankylosis, and in a third case motion to an angle of about 15 .

Technique.—In performing the operation on the knee, the incision is made beginning above the condyle and going along the border of the patella down to the head of the tibia on either side. This skin flap is turned down, thus exposing the underlying tissues of the knee. An incision is then made from a little below the head of the tibia, directly through the capsule of the joint, and extending, of course, underneath the patella. The tissues are next turned down on either side, and all of the diseased soft parts are removed by curved scissors. With a butcher's saw having a very fine removable blade it was possible to make two fine concave sections, thus preserving the true plane of the joint. The structures attached to the capsule of the joint are then dissected away and the lateral ligament is detached from the bone, together with the periosteum; then the tissues just dissected away are turned over the condyles and united with catgut. The lateral ligament is then brought back and fastened to the bone with pegs. The skin is finally closed. The limb is dressed at the end of ten days, and again after three weeks. From the sixth to the eighth week the patient is allowed to use the limb. The patient just presented left the hospital two weeks ago. In making an artificial articulation in cases of angular deformity of the hip-joint the same procedure is resorted to, only somewhat modified. The chisel is driven through to the neck, and the remaining portion forcibly broken through. The upper portion is then rendered concave and a portion of the gluteus muscle is turned down between the fragments. This prevents bony union.

The Best Method of Administering Schleich's Solution for General Anæsthesia.—Dr. Willy Meyer insisted upon administering the Schleich solutions on a mask by the drop method, one drop being allowed to fall upon the mask every four or five seconds, or somewhat oftener at the beginning. In order to allow the rapid dropping he had found it convenient and desirable to modify the mask rather than the dropping-bottle. The large quantity of the anæsthetic used by him at the German Hospital had been because he had employed for the most part the ordinary Esmarch mask without the oil-silk covering, which Schleich now recommends. The ordinary paper and towel mask can be employed with the new method, but it should be remembered that a sufficient though small amount of pure air must be admitted. The less experienced anæsthetizer would find the modified Esmarch mask better and safer than the towel cone. In the mask which Dr. Meyer had devised for use with this method of anæsthesia, the funnel is so arranged that the rapidity with which the anæsthetic solution drops upon the mask may be regulated to a nicety by simply turning the funnel more or less to the left. He had also found it desirable to insert a perforated metallic disk between the flannel and the oil silk, so as to facilitate the distribution of the fluid over the mask. The frame of the mask is deeper than that used for the ordinary chloroform mask, in order to avoid burning the patient's face. For greater portability the essential features may be conveniently

adapted to the folding mask of Schimmelbusch. For old and feeble persons, or children, or those suffering from bronchitis or other pulmonary disease, or for those having heart disease, it was best to use solution No. 1, but under other circumstances No. 3 was preferable, because of the strong reflexes excited during the operative manipulations if No. 1 was used. The operation should never be begun before the patient is thoroughly under the anæsthetic. Experience had shown that the corneal reflexes often disappeared before the patient had been completely narcotized. In conclusion, the speaker reiterated his belief that those who gave the method a fair trial would not willingly return to the old method with pure ether or chloroform.

Dr. J. P. Tuttle said that he had used the method in four or five cases. In two of them the recovery from the anæsthesia had been associated with an unusual degree of mental excitement, lasting from half to three-quarters of an hour. The induction of the anæsthesia and the recovery of consciousness were certainly rapid and satisfactory.

Dr. F. Kammerer said that he had used the method in thirty or forty cases, but considered this number too limited to admit of drawing any definite deductions. The other day he had had a very severe case of collapse with it, but he was inclined to attribute this accident rather to the inexperience of the anæsthetizer than to the anæsthetic itself. He had been most favorably impressed with the rapidity with which the patients, as a rule, had recovered from the anæsthetic.

Dr. Lilienthal said that he had used the mixture in only six cases. In one of these there was very persistent vomiting, lasting for two or three days. He would like to ask Dr. Meyer if the mask presented by him would not almost entirely exclude the air, and whether this was desirable. He also thought an accident might easily occur if the funnel was not so constructed as to make it impossible accidentally to alter the adjustment of the dropper. Without such a contrivance it was quite conceivable that the funnel might become shifted, and without the anæsthetizer noticing it, and a large quantity of the anæsthetic solution be poured on the mask.

Dr. Erdmann asked if Dr. Meyer deemed it advisable to use morphine or atropine previous to the anæsthetic.

Dr. Van Arsdale said that his experience had been limited, but he was sorry to say that the results had not been so satisfactory as with the older methods. All of the patients vomited, either on the table or immediately after the operation. They also coughed incessantly. He had observed two cases in which there had been quite alarming asphyxia while the patient was on the table. Quite probably these unfortunate results were due to his inexperience.

Dr. Meyer, in closing the discussion, said that in only a single case had he observed any wild excitement after the anæsthesia. Many patients are excited on coming out of the anæsthesia because of the pain, and entirely independent of the anæsthetic agent. He did not see how the anæsthetic could produce such a condition. The method, of course, did not prevent vomiting, but, according to his own experience, it had greatly reduced the proportion of cases in which vomiting occurred. Regarding the collapse, he would say that among those trying the method for the first time he had observed a tendency to deluge the mask unnecessarily and dangerously with the anæsthetic, and to this should be ascribed the occurrence of the collapse. He thought sufficient air was admitted in his mask; of course not so much was required as with the chloroform mask. As the top of the funnel was under the eye of the anæsthetizer, he should be able to notice any accidental alteration in the adjustment of the funnel. It had commonly happened that a poor quality of benzin had been furnished instead of petrolic ether having the desired boiling-point. In alcoholic subjects he would certainly recommend the administration of morphine. One of his patients had been previously anæsthetized six or seven times, sometimes with ether and sometimes with chloroform, and had had very severe vomiting in each instance. On the day following the induction of anæsthesia by the Schleich method, the patient expressed himself as being extremely pleased with the effects of the new anæsthetic.

The Asch Operation for Deviations of the Cartilaginous Septum, with a Report of Two Hundred Operations.—Dr. Emil Mayer read a paper with this title, and presented some illustrative cases. (See page 190.)

Dr. D. Bryson Delavan said that he could heartily corroborate the statements made in the paper. This operation marked a very radical and useful departure from the older and more usual methods of treatment. The reader of the paper might have emphasized a little more the excellent results of the operation as regarded the external deformity. From beginning to end the operation was highly original and ingenious; it was admirable in its conception and in its results. The operations of Steele and Adams had never become popular. The Asch operation could be completed under primary anæsthesia, with very little loss of blood, and with so little shock and damage to the parts as to challenge admiration. The profession was certainly greatly indebted to Dr. Asch for this perfected method.

Dr. W. Kelly Simpson said that he could affirm without any hesitation that it was the best method at command at present for overcoming deviations of the septum. Most of the other operations had fallen into disrepute because of the unsatisfactory results obtained. The great point was to overcome the resiliency of the septum, and to retain the latter in proper position until it would remain permanently in the desired position. It was remarkable how much could be accomplished by this simple operation, even in severe deflection of the septum. To control the hemorrhage it was convenient to introduce at the time of the operation two tubes, one on each side. The one on the concave side could be removed in a day or two. He had done the operation under cocaine, but preferred general anæsthesia. It was a simple matter to incise the septum with a scalpel, but in doing this one rarely, if ever, obtained the exact crucial incision desired, and hence it was advisable to operate only with the instruments devised by Dr. Asch. He preferred for this operation the flat tubes rather than the more conical ones, because the former exerted more uniform pressure.

Dr. Morris J. Asch said that the operation had been thoroughly described, so that it was hardly proper for him to say much about it; yet he was glad that it had been brought this evening to the attention of the general surgeons, who were not always thoroughly familiar with the recent operations of nasal surgery. His operation approached more nearly to the class of operations done in general surgery. The deformity for which it was done seemed to him much more serious than was commonly believed. It gave rise to mouth breathing and headaches, chorea, and many other nervous manifestations. He would emphasize the fact that a great many obstinate headaches could be cured in this way. He did not agree with those who stated that many of these deflections of the septum were due to traumatism; some of them were, but the larger number probably resulted from an abnormal development, either *in utero* or in the first few years after birth. The vomer originally consisted of two

bony layers, and it sometimes happened that there would be a hypernutrition on one side and consequent bending of the septum. Sometimes this condition of hypernutrition existed at more than one point, in which case there might result a sigmoid deviation.

Dr. D. H. Goodwillie said that previous to the introduction of the Asch operation he had been in the habit of doing the operation with the small cutting instruments that he used in operating upon cleft palate. The principles of his operation were essentially those described this evening, but he had found it very difficult to manage the patient and make just the desired incisions. The advantages, therefore, of Dr. Asch's instruments were very apparent. He used his own tubes of soft rubber instead of the hard-rubber ones, because he had found that after the insertion of the tube there was likely to be considerable swelling. If a soft-rubber tube was used, it would yield somewhat and give the patient greater comfort. For the control of the bleeding he found that peroxide of hydrogen was an excellent application, being both hæmostatic and antiseptic. In some cases in which there was considerable deformity of the septum, the septum seemed to be shifted over to one side and fixed there. In these cases the external deformity would be very much improved by making the incision on the upper part of the septum, so as to leave the attachment of the septum to the bridge of the nose. The septum would then slide over to its proper place, and the deformity would be reduced. It would sometimes be necessary to place a little cotton above the tube if the latter were not a large one.

Dr. Mayer, in closing, said that the great improvement in the external deformity was certainly remarkable. It was well known that one of the best hæmostatics for the nose was air. On insertion of the tubes a free current of air was quickly established and the hemorrhage was thereby checked. His experience with the soft-rubber tubes had not been satisfactory, because of the amount of irritation produced by the soft rubber. This he had not observed with the hard-rubber ones. Even when the deformity of the septum was extreme, a most excellent result could be obtained by this simple operation of Asch.

Dr. Goodwillie said that the irritation of the nose noted in the patient presented this evening was probably due to the fact that the red rubber sometimes poisons the wounded tissues. The soft rubber should be carefully manufactured, and well washed before being used.

Dr. Mayer replied that in his opinion the soreness of the nose in this patient was entirely due to the pressure of the foreign body; if it had been the result of poisoning, it would have shown itself in other parts of the nose.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-Second Annual Meeting, Held in Albany, January 25, 26, and 27, 1898.

Seneca D. Powell, M.D., of New York, President.

(Concluded from page 172.)

Third Day—Thursday, January 27th.

Committees.—Committee on Arrangements.—Dr. Samuel B. Ward and Dr. William J. Nellis, of Albany; Dr. Reynold W. Wilcox, of New York.

Committee on Bylaws.—Dr. H. D. Wey, of Elmira; Dr. Nathan Jacobson, of Syracuse; and Dr. F. C. Curtis, of Albany.

Committee on Prize Essays.—Dr. J. M. Van Cott, of Brooklyn; Dr. Andrew McFarlan, of Albany; and Dr. William S. Cheesman, of Auburn.

Committee on Publication.—Dr. F. C. Curtis, of Albany; Dr. Daniel Lewis, of New York; Dr. Charles H. Porter, of Albany; and Dr. W. W. Potter, of Buffalo.

Committee on Hygiene.—Dr. Henry R. Hopkins, of Buffalo; Dr. E. H. Bartley, of Brooklyn; Dr. C. E. Bruce, of New York; Dr. J. M. Mosher, of Albany; Dr. O. W. Peck, of Oneonta; Dr. H. F. Hart, of Shrub Oak; and Dr. George Seymour, of Utica.

Committee on Legislation.—Dr. F. Van Fleet, of New York; Dr. Arthur G. Root, of Albany; and Dr. Ernest Wende, of Buffalo.

Committee on Ethics.—Dr. Evarts M. Morrell, of Yonkers; Dr. George McNaughton, of Brooklyn; and Dr. Louis A. Weigel, of Rochester.

Committee on Medical Expert Testimony.—Dr. J. B. Ransom, of Dannemora; Dr. A. Walter Suiter, of Herkimer; Dr. Carlos McDonald, of New York; Dr. Willis G. Macdonald, of Albany; and Dr. P. M. Wise, of Albany.

Treatment of Delirium Tremens.—Dr. T. D. Crothers, of Hartford, Conn., read a paper on this subject. He said that delirium tremens was a condition occurring as a result of alcoholic injury to the brain centres. There were many reasons for believing that in a certain number of cases it was due to bacteria, and in a still larger number to autointoxications of various kinds, such as those connected with the action of the kidneys and liver. It also occurred as a direct result of traumatic lesions. Post-mortem examination always showed parenchymatous degeneration of the liver and heart, acute inflammatory conditions, anæmia, and profound disturbance of the vital forces. In the treatment of delirium tremens Dr. Crothers believed that all spirits should be removed at once, and that the theory that sudden withdrawal of alcohol caused the delirium was not only erroneous, but that it had led to many deaths. The use of opium, chloral, and the bromides he considered to be equally dangerous, as these drugs, and especially chloral, did not promote the elimination of the poisons. Elimination should be the cardinal objective point of the treatment. The first requisite was the hot-air bath, or, in private practice, hot sponge or tub baths. This treatment must be kept up for two or three days, and every effort made to establish and maintain free diaphoresis. An old but very useful treatment was free catharsis by calomel and salines. Restraint should be modified, and alternated with much liberty. As a rule, the patient did better when allowed plenty of space in which to walk about and work off the muscular excitement. According to general experience, this muscular excitement lasted but a short time—rarely more than thirty-six hours—when such liberty was allowed. It should not be forgotten that muscular delirium and sweating were nature's efforts to remove the exciting causes of the disease. The classical delirium tremens of the text-books was rarely seen. Melancholia, dementia, and death were often directly the result of reckless drugging and the continuance of alcoholic stimulants.

Intratracheal Injections for Diseases of the Bronchial Tubes and Lungs.—Dr. H. S. Drayton, of New York, read this paper. He said that as far back as 1840 Dr. Horace Greer, of New York City, had announced that lung diseases could be successfully treated by local applications, but at that time his claims were met with scepticism and censure. A smoothly working aspirating-syringe, fitted with a proper laryngeal tube, was sufficient for the treatment of most cases. It was rarely necessary to use cocaine, except in very irritable throats at the beginning of the treatment. With the head well thrown back and under the guidance of the eye, the application was made, care being taken to avoid touching the epiglottis. The remedies employed should be soothing as well as

mildly stimulating and antiseptic. He favored the use of menthol, olive oil, benzoinol, guaiacol, eucalyptol, camphor, and beechwood creosote. He had found the treatment exceedingly beneficial in the early stages of pulmonary tuberculosis.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 24, 1898.

ARTHUR M. JACOBUS, M.D., PRESIDENT.

Practical Hints in the Examination of the Blood.—DR. HENRY HEIMAN read a paper with this title. Speaking of the examination of the blood for the malarial plasmodium, he said that the microscopist must carefully distinguish between nucleated cells, degenerated corpuscles, and fungi developing in the methylene blue. The special distinguishing feature was the presence of the characteristic brown pigment. The best stain for parasites in the blood such as the malarial plasmodium was the double methylene blue and eosin. Incidentally he mentioned that the malaria observed in New York City and its immediate vicinity was nearly always of the tertian type. Blood smears might be fixed at once by formalin, or the fixing process might be postponed for some time. As a rule, the plasmodia were found in the red cells, stained a light bluish color, and had a form varying with the stage of the disease. In chronic malarial poisoning the plasmodium was rarely found.

Anæmia.—No matter what the cause of the anæmia, the principal microscopical change was a diminution in the number of the red cells, the decrease in number being in proportion to the severity of the anæmia. Crenated corpuscles or vacuoles might be found in the cell's substance, due to the decomposition of the red cells or to an absence of the hæmoglobin. There might be a decrease in the number of the red cells, and yet a normal percentage of hæmoglobin.

Chlorosis.—In chlorosis the leucocytes were seldom increased in number. The red cells did not take up the stain as well as usual, owing to the absence of hæmoglobin.

Pernicious Anæmia.—In pernicious anæmia there was an unusual paleness, even in the fresh blood drawn from the finger. The number of red cells was enormously decreased, and the cells were of many shapes and sizes. The differential diagnosis between primary and secondary pernicious anæmia was made by noting that in the primary form there were more nucleated red cells.

Hodgkin's Disease.—In this disease microscopical examination of the blood furnished positive results. Three varieties of leukæmia were usually described, viz., (1) the splenic, (2) the myelogenic, and (3) the lymphatic. This classification could not be substantiated by the microscopical findings, yet it was a satisfactory division from a clinical standpoint. There was a decrease in the number of the red cells and in the quantity of hæmoglobin, and the plaques were supposed to be increased in number. There was a marked increase of the lymphocytes, especially in the lymphatic type of the disease, and found also unds in this form a few myelocytes and nucleated red ceils.

At the conclusion of the paper, Dr. Heiman exhibited his hæmatocrit and various other instruments used in examining the blood.

A Study of the Plasmodium of Malaria.—DR. RICHARD STEIN read this paper. He said that the examination of the blood for the plasmodium enabled the clinician to distinguish between the two great classes of malarial fevers—the benign and the malignant. The blood of the spleen, liver, and bone marrow became melanotic in certain very severe forms of malaria, because the blood had become loaded with the malarial plasmodia. Different types of fevers might be produced by the direct inoculation of animals with blood containing the various parasites. The period of incubation had been determined to be thirteen days in the tertian, ten days in the quartan, and about three days in the malignant malarial fevers. At first Laveran's discovery had not been accepted, and his descriptions had been said to be due to artefacts. It was not until the International Congress in Berlin, in 1890, that European scientists in general had been convinced of the truth and value of this discovery.

Benign Malarial Fevers.—The benign class of malarial fevers included the tertian, the double tertian, and the quartan—the tertian and double tertian being produced by one and the same parasite, and the quartan by a distinct parasite. The malignant or æstivo-autumnal fevers were the quotidian and the tertian. The tertian was caused by a distinct species of parasite. The development of the tertian fever was strictly parallel to that of the tertian parasite. Its period of development was exactly forty-eight hours. It began as an unpigmented spot in the red blood corpuscle, and this soon exhibited active movements. At an early stage, dark pigment in the form of granules and rods appeared, being formed from the hæmoglobin. When the parasite was nearly full grown it might be seen to undergo segmentation and to form from sixteen to thirty young spores. Meanwhile the hæmoglobin had disappeared. Finally the disorganized corpuscle was ruptured and the spores were set free. These, in turn, attached themselves to other red corpuscles, and a new cycle in development was inaugurated. The intensity of the fever depended upon the number of the organisms in the blood, yet it must be remembered that several generations of organisms were found in the blood at one time. If two generations matured in twenty-four hours, a daily paroxysm occurred, giving rise to a double tertian. The quartan parasite required seventy-two hours, and hence a chill took place every fourth day.

Malaria in New York City.—Dr. Stein said that he had examined a large number of cases of malaria in this city, and had in almost every instance found the tertian parasite. It was true, however, that many of these patients had infected themselves in the outlying districts now comprised in Greater New York. Two cases of tertian were reported which had developed in New York City, one of them terminating fatally.

Intermittent Pneumonia.—Sometimes malaria occurred under the type of an intermittent pneumonia. This affection had been described by French, German, and Italian observers as occurring in epidemics of malaria. It was impossible at present to explain the pathological basis of this affection; all that we could say was that there was such a thing as primary intermittent pneumonia, due to malarial infection.

Typhoid Fever and Malaria.—That typhoid fever might be complicated by malaria had often been suspected, but it had only recently been substantiated by blood examinations. Dr. Stein reported two such cases, and stated that Osler and W. Gilman Thompson had reported several others. Much confusion existed as to the so-called "typho-malarial fever," certain severe forms of malignant malaria sometimes being described under this name. Assistant Surgeon Woodward first used this term, and intended to designate by it a special disease first observed by him in the war of the rebellion. It is also known as "Chickahominy fever." This disease was associated with peculiar ulcerations in the small and large intestine. In the war between Russia and Turkey, in 1877, more than one-fifth of the total number of cases in the military hospi-

tals had been said to be typho-malarial fever. The existence of a separate disease of this kind was a question as yet by no means definitely settled.

Malarial Element.—By the term "malarial element" was meant a condition in which malaria was present in the system as a residue of a previous infection, producing no other symptoms than perhaps a slight malaise. If some other affection supervened or the patient underwent some violent strain, the dormant malaria suddenly became active. The importance of a blood examination in such cases could not be too strongly emphasized.

Æstivo-Autumnal or Malignant Fevers.—These were characterized by the readiness with which the initial quotidian or tertian type merged into a continuous fever, and by the tendency to relapse. Its malignant character was manifested by a severe toxæmia, which sometimes terminated in coma and death, occasionally with subnormal temperature. Three forms of parasites were described—the unpigmented quotidian, the pigmented quotidian, and the malignant tertian. All of these were smaller than those found in the other variety. The parasite, as it developed, either underwent sporulation, or else took the form of a spherical or crescent-shaped body. The examination of the blood in children was of special importance, because of the difficulty of determining the size of the spleen in them. Epidemic influenza in children, moreover, very closely simulated malaria, the fever running a long course and showing distinct intermissions. It was not uncommon to find only fifty per cent. of the normal hæmoglobin after a malarial fever of three weeks' duration, and the red cells of the blood correspondingly reduced in number. During the paroxysm there was a considerable decrease in the number of leucocytes, though it was not so marked as in typhoid fever.

Value of the Blood Examination.—Dr. Stein declared that the examination of the blood in doubtful cases of malaria was now considered to be one of the most valuable additions to our diagnostic methods, but its value was always only relative. All authors agreed that the plasmodium could be detected in the large majority of cases, especially shortly before and during the paroxysm, on the other hand, they were equally positive that there was a small number of typical cases in which repeated and painstaking examinations elicited only negative results.

Technique.—He was of the opinion that every practitioner could and should make these blood examinations. Three things were necessary: a thin, smooth blood "spread," a faultless method of fixing the blood, and a clean staining fluid. A drop of blood was placed on a thin cover glass and a second glass on this; then the two glasses were slid rapidly apart, at the same time that they were gently pressed together. In this way a smooth "spread" was obtained. To fix the blood the glass might be placed on a copper plate, one end of which was heated. The staining was done with a weak alcoholic solution of eosin and a concentrated watery solution of methylene blue. If the coloring fluids were not too recently prepared, the staining might be accomplished almost instantaneously. The preparation was washed in water after each stain. If the cover glass was allowed to float on the solution or was in it for a long time, impurities could not be avoided.

Splenic Enlargement and Malaria in Children.—Dr. Henry Koplik said that he had met with cases of simple uncomplicated malaria in children, occurring strictly within the limits of New York City. His cases had not been complicated with pneumonia, nor had they been of the malignant type. Enlargement of the spleen in children was of little diagnostic value without a corroborative examination of the blood. Quite severe cases of tertian malaria occurred in children in whom there was no enlargement of the spleen, and many cases in which the spleen was enlarged were not malarial. The easiest method of preparing the blood, he thought, was that of Ehrlich, which had been already described by Dr. Stein. It was an extremely convenient method for bedside investigation, as the blood could be preserved indefinitely, if kept dry.

Dr. Richard Van Santvoord said that it was quite possible to carry around a fresh drop of blood for two or three hours, and still have it fit for microscopical examination. He had sometimes been disappointed at not finding the plasmodium in fresh blood from individuals who had contracted malaria in New York City.

Dr. James Ewing said that if an examination of the blood immediately after the first chill, and before quinine had been given, failed to disclose the plasmodium, he would feel quite sure that the case was not one of malaria. The feeling of distrust among clinicians regarding these examinations was due to a wrong point of view. The malarial organism was not found, for instance, in chronic malarial cachexia, or even in a first attack of tertian malaria after quinine had been given for some time. It was sometimes absent also in cases of æstivo-autumnal fever that had run a long course, but in the first attack, quinine not having been given and the attack being sharp and distinct, the organism could be found in sufficient numbers to make the examination easy.

Counting White Blood Cells.—Dr. Ewing said that for a number of years he had used with much satisfaction a method of counting the white blood cells, which had given him more accurate results than the method with acetic acid. The method required a single blood pipette, and was best conducted with a special chamber and a mechanical stage. The blood was diluted with one-per-cent. salt solution. The acetic-acid method left a large amount of detritus, the leucocytes were very apt to cling together and appear in clumps in the field of the microscope, and especially when the total number of leucocytes was low the dilution with salt solution gave more uniform distribution of the leucocytes and more uniform results. He had found many inaccuracies in the use of even tested Fleischmann hæmoglobinometers.

Alcohol and Ether Fixation Preferable.—He had long since given up the method of heating the specimen of blood on a copper plate, preferring the fixation by alcohol and ether. This method was easily applied; all that was necessary was to drop the specimen into a wide-mouthed bottle, containing equal parts of strong alcohol and ether, and leave it there for from fifteen minutes to several hours. After this it might be kept indefinitely. In fixing the specimen by heat it would be found that if the heating were carelessly done the staining would not enter so easily and thoroughly as when prepared by alcohol and ether. Moreover, when a large number of specimens were taken and it was desired to keep them for any length of time, he had found that if they had been hardened by dry heat they were very apt to change after a time and refuse to stain with eosin, while taking up the methylene blue with avidity. This was not the case with the specimens hardened in alcohol and ether.

Typho-Malarial Fever a Misnomer.—Dr. M. Manges also objected to resorting to the old method of making blood smears with cover glasses and fixing them by heat; he greatly preferred the more modern method with formalin. It seemed to him unfortunate that Dr. Stein should have spoken of a subject that had been thought almost dead—*i.e.*, typho-malarial. In his opinion this name should be dropped absolutely, and we should speak of typhoid fever and malaria, rather than of malarial typhoid.

Thionin Stain.—He had found a very simple method of staining the plasmodium of malaria to be that

with thionin—a single stain presenting a very vivid picture of the plasmodium. The specimen could be stained and mounted in two or three minutes, so that it seemed to be an ideal clinical method.

Dr. Heiman replied that the only objection to the thionin was that in the later stages of the malarial organism, when pigment was present, it was sometimes obscured by the dark color of the thionin.

Dr. Stein said that the more practice one had in examining for the malarial plasmodium, the fewer "negative" cases one would meet with. He had had, however, several typical cases in which it had been impossible to arrive at any definite conclusion regarding the diagnosis by an examination of the blood, even during the first attack, yet clinically these cases had been unquestionably malaria. There could be no doubt that there were certain cases of typical malaria in which the plasmodium could not be found in the peripheral circulation. Regarding the cases of malaria and typhoid fever, he said that Dr. Osler had described several cases of typhoid fever with malarial exacerbations, and had stated in this hall that these were not frequent. Dr. Stein said that a reference to the literature would show that many authors had demonstrated the occurrence of malaria with typhoid fever.

Committee on Midwifery Legislation. — The report of this committee was received, but action was postponed until the special meeting for the consideration of this subject, to be held on January 31st.

Special Meeting, January 31, 1898.

Nathan E. Brill, M.D., Vice-President, in the Chair.

Discussion on Proposed Legislation against Midwives.—This was the special order of business for this meeting.

Midwives Have No Legal Status.—Dr. E. H. Grandin opened the discussion by the assertion that none but legally qualified physicians should practise midwifery, because, according to the medical-practice act, only those were legally qualified practitioners of medicine who had passed the regents' examination. Last year, he said, the legislature had refused to pass the opticians' bill, on the ground that opticians were not properly qualified to fit glasses, having no knowledge of medicine. Yet there had never lived in this city a midwife who possessed the requisite qualifications. There was now before the legislature a bill from Montgomery County, having for its object the proper training and licensing of midwives to practise in that county. The trouble was that, while it might be possible to train a person to sit by the bedside and watch ordinary labors, such a person could not be taught to recognize many complications or the time to call in a medical practitioner. Moreover, it was difficult to conceive how even a properly trained person could carry on modern antiseptic midwifery and at the same time be expected to scrub the floors. It was the plain duty of the County Medical Society to tell the community why educated midwives could not exist. If, after it had performed this duty, the legislators did not respond, then the onus of mortality and morbidity would rest upon their shoulders. It was safe to say that fully thirty-three and one-third per cent. of the diseases peculiar to women were due to defective midwifery. As this society had figured as the pioneer in securing the higher medical education, of which it was now so justly proud, it should not take a retrograde step and license midwives.

Resolution.—Dr. Grandin then moved the adoption of the following resolution: "That in the opinion of the Medical Society of the County of New York it is contrary to the good of the community that midwives should be tolerated, even though partly educated, and that, therefore, it is the sense of this society that its committee should be instructed to draft a bill for introduction into the legislature, wiping out the midwives at present existing without legal status, and forbidding under penalty any but legally qualified physicians from practising any branch of medicine." The motion was seconded and the discussion continued.

Deal Liberally with Midwives now in Practice.—Dr. H. J. Garrigues said that he agreed with the preceding speaker that midwives were an unmitigated evil; at the same time he did not quite agree with that part of the resolution which spoke only of their abolition. It should be remembered that we had to deal with a numerous class, and that many of those composing it had considerable influence. It must also be remembered that the community was against us, because of its bringing up in regard to this custom. For these reasons there would be little hope of successful legislation if great care was not taken in formulating a bill. He had consulted an able lawyer, and had been told that it would not be possible to get through the legislature a bill which imposed an examination upon those already in practice. We should be satisfied, therefore, with getting rid of the midwives gradually. Even some in the medical profession were still of the opinion that midwives had a right to exist, and were useful members of the community. He would, therefore, favor the drafting of a bill which would be very liberal to the midwives now in practice.

Educate Them.—Dr. Mary Putnam Jacobi said that it should be remembered that there was still such a thing as a normal confinement. It was to meet this contingency that midwives were supposed to exist. The bill now before the legislature imposed all the restrictions now imposed in European countries upon midwives. Matthews Duncan's statistics showed that after a first natural confinement the chances of complications fell very rapidly in succeeding confinements, up to the ninth. It might be desirable to limit the activity of midwives to the period between the first and ninth confinements. The result of a legislative attempt at the abolition of midwives would be that these same poor women who now employed them would be driven to depend upon nurses or ordinary woman helpers. The proposed measure seemed to her not only impracticable, but unjust and unnecessary. When this matter came up before the London Obstetrical Society, the president of that body stated that midwives must be either improved or abolished. The English decided to adopt the first alternative—they improved them. Just one hundred years ago midwives had been abolished by law in this country, and certainly for upward of fifty years they were not to be found in certain sections of the country. It was but just and right that our midwives should receive the thorough training given them in Europe.

Physicians to Blame for the Present Condition.—Dr. M. B. Feeney did not believe that a bill to abolish midwives could be passed through the legislature. The present condition of affairs was largely the fault of the physicians themselves, who refused to attend these poor people. An effort should be made to better equip the midwives for their work.

A Great Sacrifice of Human Life.—Dr. David P. Austin thought it would be found that the main portion of the arguments presented for the abolition of midwives was unanswerable. Unless one voted to sanction the sacrifice of many human lives, one could not sanction the practices common and current in this city. The following were cases in point: He had been called by a brother practitioner to attend a confinement—a case of arm presentation that had been

under the care of a midwife for sixteen hours. The arm had been denuded of skin by her efforts at delivery. When the physicians were summoned, the midwife hastily left the patient's house, pulled down the sign from her own door, and disappeared. Dr. Anderson said that on his arrival the woman was found to be almost pulseless. Version was very rapidly performed, but in five minutes the mother died—two lives were thus destroyed. In another case of arm presentation, attended by a midwife at the beginning, he had barely succeeded by strenuous efforts in saving the mother's life, but the child was sacrificed. In still another case he had been hastily summoned to a house, twenty-four hours after a delivery by a midwife. Finding the child had been hastily dressed just before his arrival, and that it was very white, he suspected hemorrhage, and on removing the clothes, found the funis spurting blood almost as if it had not been tied at all. The hemorrhage was at once controlled, but the child died in half an hour. This happened under the care of a midwife who had been educated in Germany, and who had a large practice. He could easily cite twenty such illustrative cases. In his opinion the midwives could not be educated; the only treatment adequate to the present situation was a strong effort to rid the city of New York of this nuisance. In country districts the law could be very materially modified.

Education Not Coercion.—Dr. Seneca D. Powell said that the present age was a period of education, not of coercion. A recent case in point was to be found in the workings of the medical-practice act. Since the establishment of this law and of the State board of medical examiners, over eight hundred candidates had been refused license to practise medicine. The necessary restrictions on midwives could be imposed by the medical profession; then its duty would have been performed.

Our Obstetric Teaching at Fault.—Dr. J. J. E. Maher expressed the opinion that the reason for the existence of midwives was to be found in the manner in which obstetrics had been taught in the medical schools—it was wholly empirical as regarded normal labors. It was for this reason that women so often said, "Any one can deliver a woman."

To License Means to Perpetuate Midwives.—Dr. Robert A. Murray said that there were supposed to be about thirty-seven hundred midwives in this city. He asked: "Does it seem reasonable that a woman with a training of six months should be as well qualified as a physician after four years of education, not only in one branch, but in all the branches of medicine and surgery?" It had been argued in favor of the midwife that she could afford to go for a smaller fee, as she went from house to house attending to a number of cases at a time. It was just here that there was a great danger—that of carrying infection from place to place. If the sentimental objection was offered that the livelihood of these poor women would be taken away if midwives were abolished, the answer was that there was nothing to prevent suitably educated women from entering the medical schools and qualifying as medical practitioners. A very important point to remember was that if midwives were licensed we were likely to have them in perpetuity; on the other hand, a law could be passed which would prevent further additions to their ranks, and in this way they could be gradually abolished.

Dr. Julius Rosenberg said that a similar resolution had been adopted by this society about five years ago, after the reading of his paper. He had stated then, and would now repeat, that about thirty thousand confinements in this city were conducted by midwives, and that the mortality from stillbirths was eight per cent., whereas under proper medical supervision it was only about three per cent. This in itself seemed to him sufficient reason for the society again going on record as desiring to abolish midwives.

Dr. J. S. Peterson expressed himself as in favor of a law which would abolish all midwives who had not been in practice more than five or possibly ten years.

Dr. M. J. Lewi expressed the opinion that the local ordinance of the board of health requiring the registration of midwives was illegal, because in conflict with the provisions of the medical-practice act. The resolution as it now stood would therefore place the society in a ridiculous position before the legislature. The resolution should express the belief that midwives had no legal status, and call upon the guardians of the law to do their duty.

The County Society is Guardian of the Medical Laws.—Mr. Purrington, former counsel of the society, and at present chairman of the committee of the Society of Medical Jurisprudence having this special matter under consideration, was asked to express his views. He said that this question had been coming up before this society ever since 1808, when a certain woman endeavored to practise midwifery without the permission of this society. The society was the guardian of the medical laws.

An Interesting Legal Experience.—The speaker then stated that he had once endeavored to bring a civil action against a midwife in New York City, who had attempted to deliver a woman. It was claimed that she had attempted to deliver a child by pulling on the arm; that the child became impacted, and that Dr. Lusk had had to perform craniotomy. The case was clear. The woman was French, and it so happened that it pleased an inscrutable Providence to put five Frenchmen on that jury. The case had been clearly proved. In the course of conversation with the judge, a judge of the supreme court, while the jury was out, the judge had told Mr. Purrington that he personally believed in midwives, and that his wife was always attended in confinement by one. The verdict was in favor of the defendant, and inquiry afterward elicited the statement that the case of malpractice had been clearly made out, but the jury did not think that the defendant was guilty. The inference was clear, *i.e.*, the physicians in attendance were to blame.

Continuing, Mr. Purrington said that if the society contemplated abolishing midwives by a State law, it must count upon opposition from the counties of Erie and Niagara, where there was already in operation a local law. He did not believe that it was possible to pass a bill abolishing midwives, and an attempt at regulating their practice by legislation would at once confer upon them a legal status which they did not have elsewhere.

A vote was then taken on Dr. Grandin's resolution, and it was declared lost.

Hypodermic Treatment of Paralysis Agitans.—Moretti has treated several patients by hypodermic injections of atropine, and has obtained encouraging results. He begins with a quarter milligram and gradually increases to two milligrams twice daily. Gullhorn and Mendel prescribe duboisine in daily quantity of one or two cubic centimetres. Schmitt recommends hyoscyamine in dose of one cubic centimetre. Hyoscine is preferred by some practitioners. Hyoscine for injection:

℞ Hyoscine (hydrochlorate) . . . . . 0.05 cg.
Sterilized vehicle . . . . . q. s. for 100 c.c.
S. One cubic centimetre daily.

Picrotoxin for injection may be employed in the same way. These drugs should be handled with great care.—J. Mousnier, *Journal de Médecine de Paris*, June 27, 1897.

Therapeutic Hints.

Gargle for Follicular Tonsillitis.—

℞ Creosote (beechwood) ..... gtt. viij.
Tr. myrrh..... ℥ij.
Glycerin..... ℥ij.
Water ..... ℥iv.
M. S. Use as a gargle.

—Levy.

Sciatica.—

℞ Opii pulv..... gr. xv.
Ipecac. pulv..... gr. xv.
Sodii salicylatis..... gr. cx.
Fld. ext. cascar. sagrad ..... q.s.
M. et ft. pil. No. xx. S. One to three a day.

—Benjamin Ward Richardson.

General Tonic.—

℞ Strychninæ sulphatis..... gr. $\frac{1}{60}$.
Acidi phosphorici diluti ..... ♏v.
Ferri phosphatis..... gr. i.
Quininæ bisulphatis..... gr. i.
Glycerini ..... ℥ss.
Elix. aurantii .....q.s. ad ℥ss.
M. et ft. solutio. S. Take before each meal.

—Winslow Anderson.

Uterine Hemorrhage Depending upon the Presence of Fibroids.—

℞ Ergotinæ ..... gr. i.
Strychninæ nitratis ..... gr. $\frac{1}{60}$.
Hyoscyaminæ..... gr. $\frac{1}{100}$.
Aquæ dest..... q.s.
M. et ft. solutio. S. Use hypodermatically every fifteen minutes until four doses shall have been given, after which use four times daily.

—Winslow Anderson.

Measles.—To develop the eruption and allay incessant laryngeal cough:

℞ Syrup of hydriodic acid,
Dover's syrup,
Syrup of tolu.....āā ℥i.

The Dover's syrup is to be lessened for infants. During the eruptive stage and throughout a broncho-pneumonia:

℞ Pot. acet..... ℥ij.
Spiritus mindereri,
Aquæ camphor.....āā ℥iij.

Give a teaspoonful every hour to a child, and a tablespoonful to an adult, with plenty of water. In case of sepsis, diphtheria, or debility, add one drachm of the tincture of chloride of iron.—John A. Larraber, *Pediatrics*, October, 1897.

Atrophic Pharyngitis.—

℞ Pilocarpinæ muriatis..... gr. ij.
Aquæ,
Glycerini .....āā ℥i.
M. S. One drachm t.i.d.

—Sajous.

In Œdematous Thickening of the Lymphatic Tissue of the Nasopharynx and Tonsils.—

℞ Ichthyol..... ℥iij.
Aquæ dest..... ℥v.
M. S. Apply once daily, after cleansing the parts with some alkaline solution.

—Kyle.

Non-Irritating Lubricant for Catheters.—

℞ Saponis pulv..... ℥i.
Aquæ dest..... ℥iij.
Mucil. chrondri crispi..... ℥iij.
Formalin (40 per cent.)..... ♏x.
Thymol..... gr. v.
Ol. thymi..... ♏v.
Alcohol ..... ♏xv.

—Howland.

Intercostal Neuralgia.—

℞ Tr. gelsemii..... gtt. c.
Syr. simp..... ℥iss.
Aquæ dest..... ℥vi.
M. S. Two to three drachms twice or thrice daily.

Do not use this prescription if the heart is feeble.—Cheron.

Gastric Catarrh with Constipation.—

℞ Resorcin. puri..... gr. xxx.
Tr. rhei..... ℥iss.
Ess. menth. pip..... ℥i.
Sodii bicarb..... ℥ij.
Inf. rhei .....ad ℥vi.
M. S. One drachm every two hours.

—Burney Yeo.

Gastralgia.—

℞ Morphinæ hydrochlor..... gr. iij.
Cocainæ hydrochlor ..... gr. v.–viij.
Tr. belladonnæ..... ♏i.–ij.
Emuls. amygd. amaræ.....ad ℥i.
M. S. Ten to fifteen drops every hour.

—Ewald.

Cirrhosis of Liver.

℞ Pulv. rhei rad ..... ℥ij.
Ext. aloes ..... ℥ss.
Ext. colocynthidis ..... gr. vi.
Ext. rhei..... q.s.
M. et ft. pil. No. lx. S. Two to be taken twice daily.

—Bamberger.

Epilepsy.—

℞ Potassii bromidi..... ℥iss.
Beta naphthol..... ℥i.
Sodii salicylatis..... ℥ss.
M. et div. in partes tres. One part to be given thrice daily.

—Feré.

Acute Rheumatism in Children.—

℞ Sodii salicylatis ..... ℥iss.
Potassii iodidi ..... ℥ss.
Tr. aconiti ..... gtt. x.–xv.
Aquæ ..... ℥ij.
M. S. One drachm t.i.d.

Caillé.

Heart Stimulant in Catarrhal Pneumonia.—

℞ Camphoræ..... gr. iss.–iij.
Flor. benzoin..... gr. iij.
Theobromæ..... gr. vi.
M. S. Three or four times a day.

—Caillé.

To Abort Influenza.—Several moderate doses of calomel in succession at the onset or before the third day.—Freudenthal.

Fissure of Anus.—Cocainize and apply pure ichthyol for several days.—Cheron.

Fissure of Nipple.—Paint with compound tincture of benzoin or with ichthyol; or apply:

℞ Extracti krameriæ..... ʒi.
Olei amygdalæ..... ℥iss.
Olei theobromæ .....ad ℥i.

Chloroform in Obstetrics.—The following propositions may be advanced: 1. The most recent experimental study indicates that the evil effects of chloroform result from vasomotor paralysis, causing the accumulation of blood in the abdominal viscera especially, and bringing about partial or complete cessation of function in the nervous centres from acute anæmia. 2. Pregnancy increases vasomotor tension, and thereby renders the pregnant woman less liable to the injurious effects of chloroform. 3. In normal labor, the actual expulsion of the child may be safely rendered painless, dilatation of the birth canal furthered, and laceration diminished, by light and transient narcosis from chloroform. 4. In tetanus of the uterus, eclamptic convulsions, and maniacal labor, chloroform is to be preferred to ether, and is most useful. 5. Pro-

found narcosis from chloroform is seldom if ever necessary in obstetric practice, and, like this condition under ether, is attended with risk.—E. P. Davis, *Dunglison's College and Clinical Record*, September, 1897.

Chloasma.—

℞ Chloralis hydratis 10
Acidi carbolici,
Tincturæ iodi..... āā 5
M. S. Apply with a soft brush.

—*Centralblatt für gesammte Therapie.*

Uræmia.—Ether, two centimetres, every hour day and night, by injection, alternating every hour with a teaspoonful of the remedy by the mouth in sweetened water. If the injections are too painful, give a teaspoonful every half-hour. If necessary, larger amounts can be given. The diuretic effect of the remedy is too little appreciated in this condition.—Lemoine.

Singultus Hystericus.—Trional, one gram, in five powders. One powder every two hours.—Spirt.

Urticaria.—

℞ Menthol ..... 5 gm.
Chloroformi,
Ætheris sulphuric.,
Spiritus camphoræ ..... āā 15 gm.

For wash or spray, after which rice powder or zinc oxide can be sprinkled over the regions acted upon.—Gaucher.

Diabetes in Children.—

℞ Antipyrin..... ʒ iij.
Glycerin..... ʒ i.
Water..... ʒ viij.
M. S. One or two tablespoonfuls daily.

—Josias.

Hay Fever.—Spray of Carlsbad water, followed by douching of the nose with a twenty-per-cent. to thirty-per-cent. silver solution, and afterward applying:

℞ Menthol..... 3 gm.
Resorcin ..... 3 gm.
Spirtus vini diluti..... 14 gm.

—Müller.

Or for a nose wash:

℞ Sodii bisulphatis..... 1
Aquæ destillatæ..... 500

—*Gazette Hebdomadaire.*

In Diarrhœa of the Tuberculous.—

℞ Pulveris catechu..... 2.50 gm.
Syrupi rhatanhiæ..... 30 gm.
Tincturæ cinnamomi... ..... 10 gtt.
Vini rubri..... 90 gm.
M. S. To be taken in tablespoonful dose during the twenty-four hours.

—Bricemoret.

For Localized Itching.—

℞ Hydrargyri chloridi corrosivi..... 0.30–0.50 cgm.
Alcohol ..... 25 gm.
Chloroformi..... 5 gtt.
Aquæ chamomillæ destillatæ..... 25 gm.
Aquæ laurocerasi..... 50 gm.
M. S. Apply locally.

—Leistikow.

Hemorrhoids.—

℞ Balsami peruviani..... 1
Acidi borici (finely pulverized) 20
Vaselini 100

If vaseline proves irritating, as it does in some instances, substitute benzoated lard.—Championnière.

Scarlet Fever.—The nurse should not eat or drink in the same room with the patient, and before going to meals she should clean her hands and arms with green soap and sublimate solution, 1 to 1,000, and put on a clean, long, loose gown, which hangs outside of the sick-room. During the period of desquamation the patient should receive a daily bath of tepid water containing green soap.—Augustus Caillé.

Headache Dependent on Ovarian Disease.—

℞ Ammonii bromidi..... ʒ vi.
Extracti hydrastis fluidi..... ʒ ss.
Tinturæ gentianæ compositæ..... ʒ iss.
Aquæ ..... q.s. ad ʒ iv.
M. S. Dessertspoonful thrice daily.

—Sinkler.

Pertussis.—

℞ Phenocoll hydrochloride,
Antipyrin .....āā gr. viiss.
Potassium bromide..... gr. vi.
Syrup of bitter orange peel,
Orange-flower water..... āā q.s.
M. S. Divide into four doses and give all in twenty-four hours to a child of eight years.

—Guaita.

Tuberculous Osteitis in children, when accompanied by suppuration, is treated with guaiacol benzoate, in five-grain doses, given thrice daily.—Rugh.

Clavus.—To remove the corn, soaking with hot water or a poultice over night will soften the part and admit of its being dug or picked out with little pain. The corn plasters contain various softening agents, such as carbonate of potassium and acetic acid; most of them are probably harmless and often ineffectual.—L. Duncan Bulkley.

Or:

℞ Iodine..... gr. ij.
Flexible collodion..... ʒ iij.
Alcohol..... ʒ i.
Potassium iodide..... gr. ij.
M. S. Paint the corn every night.

—W. L. Wilson.

Favus of the Nails.—After pyrogallol ether spray, paint with:

℞ Pyrogallol..... 1.50 gm.
Beta naphthol..... 2 gm.
Hydrargyri præcipitati albi..... 1 gm.
Tincturæ guaiaci.....30 gm.
M. S. Fasten brush in the cork.

—Leistikow.

Epilepsy.—

℞ Adonis vernalis..... 1.30 gm.
Infuse in
Aquæ..... 180 gm.
And add:
Codeinæ..... 0.10 cgm.
Potassii bromidi..... 4 gm.
M. S. Five to seven dessertspoonfuls daily.

—Tekoutief.

Tuberculous Cystitis.—For a calming suppository:

℞ Extracti opii..... 0.01–0.02 cgm.
Extracti belladonnæ..... 0.01–0.02 cgm.
Olei theobromæ..... ..... 5 gm.

Or:

℞ Extracti gelsemii..... 0.10 cgm.
Extracti opii..... 0.02 cgm.
Iodoform..... 0.05 cgm.
Olei theobromæ..... 5 gm.

—Colin.

Epistaxis.—

℞ Benzoic acid,
Tannic acid,
Carbolic acid.....āā 1
Collodion..... 20
M. S. To be applied.

—Bouzier.

Lumbago.—

℞ Sol. ac. boric. sat..... Oi.
S. Half a glassful every four hours.

—W. E. Putnam.

Chyluria which had resisted all other measures in two instances was followed by recovery after ichthyol in pill form: from fifty centigrams to two grams being the daily amount consumed.—Moncorvo.

Treatment of Pertussis.—Pure air; daily change of room every three hours, so as to secure proper ventilation, the temperature of each room being the same (66° F. or 68° F. for infants under one year of age). Remove from the rooms all carpets, hangings, and upholstered furniture. Vessels for reception of vomit should contain one-per-cent. sublimate or five-per-cent. carbolic. In infants below one year of age quinine should not be given, because of its bad effects upon the digestive apparatus. Antipyrin gives the best results. It is indispensable that the patient be free from albuminuria before giving it. To those less than one year of age from three to five centigrams may be given twice a day, and to those between one and two years from ten to fifteen centigrams: above this age as many decigrams as the child is years of age. At times good results are obtained by giving:

℞ Ammonii bromidi..... 0.10–0.20 cgm.
Extracti belladonnæ..... 0.005 mgm.
Two or three times a day.

—Wertheimer.

Sea Water by Intravenous Injection.—Hallion (*Soc. de Biol.*, December 4, 1897) has verified Quintori's experiments, which show that diluted sea water is well tolerated by the organism. Indeed, it seems to be better borne than other saline solutions. It may be injected more rapidly or at a rate of 1.5 gm. a minute for each kilogram of the subject's weight. The urine shows a greater density than with other saline solutions, and after forty-eight hours returns to normal. The bad effects of large quantities may thus, it would seem, be overcome by employing sea water.

Correspondence.

MODERN NOVELISTS AND MEDICAL SUBJECTS.

To the Editor of the Medical Record.

Sir: In the editorial on the "Modern Novelist and Medical Subjects" which appeared in the Medical Record of January 22d, it seems to me that scant justice is done to the immortal Dickens, when authors are advised, if distrustful of their medical knowledge, to do like him and touch upon such matters vaguely. Is it possible that the writer has forgotten, for he certainly must have read, Dickens' wonderful description of the development of pulmonary tuberculosis in the person of Smike in "Nicholas Nickleby"? Surely a picture so vivid, so true, must free the writer from the accusation of vagueness, and prove, if proof were needed, that the master hand that created for literature a Pickwick, a Weller, a Quilp, and the somnolent Fat Boy, to say nothing of Sairey Gamp and Betsey Prig, was quite capable when he wished to picture with pathological accuracy the ravages of disease. It was not the custom of Dickens to label his characters like the specimens in an anatomical museum, but none the less do we find in his pages types of mental and physical degeneracy whose delineation called for a wider knowledge than the mere description of the symptoms of disease, so easily obtained from encyclopedias. By all means let modern authors when writing of disease seek to know a little bit of their subject; but let us rather say that in so doing they will be following in the footsteps of Dickens, not by vague, but by accurate and vivid description.

S. S. Jones, M.D.

A NOVELIST ON MATERNAL IMPRESSIONS.

To the Editor of the Medical Record.

Sir: I read with much amusement your editorial in a recent number of the Medical Record on the "Modern Novelist and Medical Subjects." Perhaps the most delicious "display of ignorance" appears in Madame Sarah Grand's latest novel, "The Beth Book." (I have not the book at my elbow, so I cannot copy the scene word for word, as I should like to.)

The book opens with the mother of Beth engaged at her needlework, wishing she could afford the luxury of a fire, a good novel, instead of having to sit shivering in a cold room and go on with the week's mending, while her back aches and her head spins. Often in later years she would look back on that afternoon of cold and of intellectual hunger, and think what a difference it would have made in Beth's character had she (the mother) sat before a fire and read an interesting novel. In a few hours the labor pains begin and Beth is born.

An original contribution to the misty study of maternal impressions! A. N. M.

PHYSICIANS ON HOSPITAL BOARDS.

To the Editor of the Medical Record.

Sir: In your issue of January 22, 1898, appears the original article by Dr. A. P. Gerster on hospital management. I am in accord with most of the statements therein contained, but wish to correct an error of statement as regards to the management of private corporations. The author says: "None of our private hospitals admit any medical man to their boards of directors, except the St. Luke's and the German Hospitals." The Manhattan Eye and Ear Hospital, with thirty-five directors, has fifteen physicians. This was one of the first hospitals so to organize.

The New York Post-Graduate Hospital, with ten directors, has eight physicians on its board; in fact its charter requires that of twelve directors seven must be physicians in active practice.

I might mention other boards of directors in which the medical staffs are represented.

W. Oliver Moore, M.D.

New York, January 22, 1898.

ANÆSTHESIA BY THE SCHLEICH METHOD.

To the Editor of the Medical Record.

Sir: I have been very much interested in the various articles on the new anæsthetic, the Schleich solution, and have tried it a few times, adopting the suggestion of Dr. Willy Meyer, as found in the Medical Record of January 8th, of using oiled silk to prevent the too free evaporation of the solution.

I had the same experience probably that Dr. Meyer had, viz., the solution of the oiled silk by the chloroform in the mixture, disfiguring the mask and making it very unpleasant to handle. I then sought for something that was light, dense enough to keep the vapor below, insoluble in the mixture, and easy to handle.

I found it in the lead of tea chests. I took my ordinary Esmarch inhaler, laid a piece of good linen over it, and over that a piece of tea lead of the same size, with a round hole cut out of the centre, an inch in diameter. The linen and lead, being cut one-half inch wider than the two measurements of the mask, fold over and under, beneath the mask, and the pliability and weight of the lead hold them both to their place.

A trial shows that sufficient of the solution evaporates under the lead to secure profound anæsthesia in from five to ten minutes, with the use of one to three ounces of the solution.

Only one of our Omaha cases has shown cyanosis,

and in one case only has recourse been had to chloroform. Respiration has been remarkably free from embarrassment in all cases.

R. M. STONE, M.D.

OMAHA, NEB.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 29, 1898:

	Cases.	Deaths.
Tuberculosis	186	107
Typhoid fever	6	2
Scarlet fever	179	20
Small-pox	1	0
Measles	381	17
Diphtheria	170	18
Laryngeal diphtheria (croup)	7	0
Chicken-pox	54	0
Cerebro-spinal meningitis	0	2
Pertussis	8	0
Parotiditis	2	0
Erysipelas	2	0

Of Enormous Momentum.—A writer in the *Medical Brief* begins an essay in the following words: "Among the many persistent and rapidly prostrating diseases, I consider acute gastritis one of enormous momentum, for I have seen it bring about sorrow and gloom in only a short time."

A Suggestion made recently by the MEDICAL RECORD that the authorities of this city secure an invitation from the Louisiana leper settlement for New York's small colony to visit it, has been acted upon and overtures leading up to something of the kind have been made, it is said, by the health board. It would seem highly desirable, since the federal government will not do the proper thing by these outcasts, that private enterprise should take a hand and remove the stigma from this great city and from this great republic.

To Control the Wet Nurse.—Since Urnikoff has demonstrated (*l'Obstétrique*) that ammonia added to human milk causes a dark red color, varying with the amount of reagent (one drop of a ten-per-cent. solution added to five cubic centimetres of milk causing a violet hue), and that the longer the milk has been flowing the more intense is the reaction, we are in a position scientifically to verify a nurse's statements as to the length of time since her confinement.

Physician Cyclists in Germany.—In certain cities the doctor who rides a wheel wears a metallic badge having a red cross upon a white enamel background. This serves the same purpose as the fire badge worn by American newspaper reporters, or what the French call a *coupé file*. It might be that some such device, if adopted here, would save many from arrest for scorching or being caught out late without a light, or at least might save them the indignity of having their professional explanation questioned.

Kerosene Poisoning.—Kerosene oil is a frequently employed domestic remedy for the destruction of head lice in children; it is also given to horses in large quantities at times for the relief of colic. Instances of poisoning by swallowing the oil by mistake have recently been reported. In most cases strangulation would seem to be produced oftener than subsequent more serious effects. At any rate it seems to act well in animals, and human beings have taken considerable quantities without ill effects.

The Dispensary Bill.—The following is the bill introduced by Mr. Sullivan and now before the committee of public health of the New York senate:

"An act to amend the State charities law, relating to the licensing and regulation of dispensaries by the State board of charities.

"The people of the State of New York, represented in senate and assembly, do enact as follows:

"Section 1. Article one of chapter five hundred and forty-six of the laws of eighteen hundred and ninety-six, entitled 'An act relating to State charities, constituting chapter twenty-six of the general laws,' is hereby amended by inserting at the end thereof the following sections:

"§ 19. What is a dispensary.—For the purposes of this act, a dispensary is declared to be any person, corporation, institution, society, association or agent, whose purpose it is, either independently or in connection with any other purpose, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished, medical or surgical advice or treatment, medicine or apparatus; provided, however, that the moneys used by and for the purposes of said dispensary, shall be derived wholly, or in part, from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons actually engaged in the distribution of charities of said dispensary.

"§ 20. Licensing of dispensaries by State board of charities.—A license may be issued by the State board of charities to a dispensary as provided in this section. An application in writing for such license shall be made to such board in the form and manner prescribed by it. There shall be attached to such application, a statement verified by the oath of the applicant, containing such facts as the board may require. If, in the judgment of such board, the statement filed and other evidence submitted in relation to such application, indicate that the operations of such dispensary will be for the public benefit, a license shall be issued to the dispensary applying therefor. The form of such license shall be prescribed by the board. A dispensary shall not enter upon the execution, or continue the prosecution of its purpose unless licensed by the State board of charities as provided herein.

"§ 21. Rules and regulations.—The State board of charities may make rules and regulations and alter or amend the same, in accordance with which all dispensaries shall furnish and applicants obtain medical or surgical relief, advice or treatment, medicine or apparatus. But such rules and regulations shall not, in any case, specify the particular school of medicine in accordance with which a dispensary shall manage or conduct its work, or determine the kind of medical or surgical treatment to be provided by any dispensary.

"§ 22. Revocation of licenses.—The State board of charities or any of its members may, at any and all times, visit and inspect licensed dispensaries. They may examine all matters in relation to such dispensaries and ascertain how far they are conducted in compliance with this law and the rules and regulations of the board. After due notice to a dispensary and opportunity for it to be heard, the board may, if public interest demands and for just and reasonable cause, revoke a license, by an order signed and attested by the president and secretary of the board. Such order shall state the reason for revoking such license and shall take effect within such time after the service thereof upon the dispensary as the board shall determine.

"§ 23. Drug store or tenement house not to be used by dispensary; unlawful display of signs.—After the taking effect of this act, no dispensary shall make use of any place commonly known as a drug store, or any

place or building defined by law or by an ordinance of a board of health as a tenement house; nor after such time shall any person, corporation, institution, society, association, or agent thereof, except a duly licensed dispensary, display, or cause to be displayed, a sign or any other thing which could directly, or by suggestion, indicate the existence of the equivalent, in purpose and effect, of a dispensary.

"§ 2. Any person who violates any of the provisions of this act, or any of the rules and regulations made and published under the authority of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars, and not more than two hundred and fifty dollars.

"§ 3. This act shall take effect October first, eighteen hundred and ninety-eight."

Milk Adulteration.—Water containing seventy-five grams of cane sugar per litre shows the same mark on the lactodensimeter as pure milk. If ten cubic centimetres of milk, suspected of being adulterated in this way, has fifty centigrams of molybdate of ammonium in powder added to it, and then ten cubic centimetres of hydrochloric acid diluted to one-tenth strength, and it is heated to about 80° C., it will turn to an intense blue if adulteration has been practised.—M. S. Cottar, *Lyon Méd.*, August 22, 1897.

Combining Fractions.—The nurse was ordered to administer one-sixtieth of a grain of strychnine. Finding only some tablets of one-fiftieth-grain strength, she asked to have ordered some one-tenth-grain tablets, so she could give one of each to make up the required dose of one-sixtieth.

A Bed Piano has been invented which straddles the sick-bed on elevated legs and has a keyboard so arranged at an angle that the reclining invalid with musical tendencies can put in his or her time to pleasant advantage.

Guinea-Worm Disease (Filaria Medinensis).—Among the native passengers and deckhands on that one ship, I saw seven cases of guinea-worm, and three others after landing at Batanga. The natives catch and wind around a match or piece of bamboo the portion of the worm projecting, and each day draw out a section by traction. In each of the ten cases I have seen, the worm was located in either the foot or the ankle. One worm when extracted measured three feet and four inches long, the diameter being approximately one-tenth of an inch.—Dr. A. L. Bennett, in a letter to the editor of the *Colorado Medical Journal*, December, 1897.

Intussusception.—Dr. Edward Martin, of Philadelphia, in answer to eight hundred letters sent out by him, finds that intussusception is most common about the sixth month, and that after the fifth year it becomes comparatively rare until the fortieth or fiftieth year, when it again increases in frequency of occurrence, In the first year of life the ileo-cæcal form is more common than the combined form of all the others, the ileal invagination being exceedingly rare. The lower part of the ileum is the part usually involved.

The International Leprosy Conference.—The following are the general conclusions adopted at the close of the International Leprosy Conference held in Berlin in 1879. As might be expected, a considerable portion of the discussion related to the bacillus leprae, which the conference accepts as the virus of leprosy, and which for upward of twenty-five years has been known to the scientific world through the important discovery of Hansen and the able investigations of Neisser. The conditions under which the bacillus grows and develops are still unknown, as well as is the way of its invasion of the human system; but from the discussions of the conference it seems probable that a unanimity of opinion will soon prevail in reference to its modes of subsequent dissemination within the human body. Very interesting observations were brought forward in connection with the elimination of the bacilli in large numbers by means of the skin and the nasal and buccal mucous membranes of lepers; it is desired that such observations be confirmed where opportunities occur. The question is of very great importance to those who are intrusted with the care of the public health, as leprosy is now acknowledged to be a contagious disease. Every leper is a danger to his surroundings, the danger varying with the nature and extent of his relations therewith, and also with the sanitary conditions under which he lives. Although among the lower classes every leper is especially dangerous to his family and fellow-workers, cases of leprosy frequently appear in the higher social circles. The theory of heredity of leprosy is now further shown to have lost ground, in comparison with the at present generally accepted theory of its contagiousness. The treatment of leprosy has had only palliative results up to the present time. Serum treatment has so far been unsuccessful. In view of the virtual incurability of leprosy and the serious and detrimental effects which its existence in a community causes, and considering the good results which have followed the adoption of legal measures of isolation in Norway, the leprosy conference, as a logical issue of the theory that the disease is contagious, has adopted the following resolution proposed by Dr. Hansen and amended by Dr. Besnier: 1. In such countries where leprosy forms foci or has a great extension, we have in isolation the best means of preventing the spread of the disease. 2. The system of obligatory notification, of observation, and isolation, as carried out in Norway, is recommended to all nations with local self-government and a sufficient number of health officers. 3. It should be left to the legal authorities after consultation with the medical authorities to take such measures as are applicable to the special social conditions of the districts. The secretaries of the conference were Phin. S. Abraham, London; E. Dubois Havenith, Brussels; Ed. Arning, Hamburg; J. J. Kinyoun, Washington; A. von Bergmann, Riga; G. Thibierge, Paris; and Edv. Ehlers, Copenhagen, general secretary.

Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague, have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended January 29, 1898:

Small-Pox—United States.

		Cases.	Deaths.
Alabama, Bessemer	January 9th to 26th	29	
Birmingham	January 9th to 26th	78	
Talladega	January 9th to 26th	41	
Other points in Jefferson Co.	January 9th to 26th	25	
Georgia, Atlanta	January 20th to 26th	12	1

Small-Pox—Foreign.

China, Hong Kong	November 29th to December 4th.	1	1
Cuba, Cardenas	January 9th to 15th	..	1
Cienfugos	January 2d to 16th	..	8
Havana	January 14th to 20th	..	2
Sagua la Grande	January 9th to 15th	.. 35	5
England, Sunderland	December 16th to January 8th	1	
Japan, Miyagi Ken	December 17th to 27th	2	3
Saitama Ken	December 17th to 27th	1	
Yehime Ken	December 17th to 27th	2	1
The Hokkaida	December 17th to 27th	70	26

Yellow Fever—Foreign.

Brazil, Para	January 2d to 8th	..	11
Cuba, Cienfuegos	January 10th to 16th	..	1
Havana	January 14th to 20th	..	2
Matanzas	January 6th to 19th	..	3
Regla	January 14th to 20th	..	3
Santiago de Cuba	January 9th to 15th	..	1

Cholera—Foreign.

India, Bombay	December 22d to 28th	..	4
Calcutta	December 22d to 28th	..	8

Plague.

India, Bombay	December 22d to 28th	..	200

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Original Articles.

AN EPIDEMIC OF DIPHTHERIA; DEMONSTRATING, IN A MARKED DEGREE, ITS CONTAGIOUS NATURE, AND THE VALUE OF IMMUNIZATION.

BY JANE L. BERRY, M.D.,

NEW YORK.

THE town of St. Johnsbury, Vt., has been for some time the scene of an epidemic of diphtheria, which in many respects presents features of unusual interest. The town, of from seven to eight thousand inhabitants, is the most important in northeastern Vermont. It is beautifully situated at the junction of the Moose, Passumpsic, and Sleepers rivers, in a hilly, picturesque region, about twenty-five miles west of the White Mountains. There is an altitude of seven hundred feet above the sea at the river level, the hills rising abruptly from eight to nine hundred feet higher. Malaria is entirely unknown.

The isolated position of the town, which is surrounded on all sides for many miles by a thinly settled area of country, has probably accounted for its comparative immunity in the past from contagious diseases. During the three years previous to January, 1897, no cases of diphtheria were reported to the health officer in St. Johnsbury. As no bacteriological examinations were made, it is of course possible that some of the cases of sore throat which occurred from time to time may have been due to the presence of the diphtheria bacillus, but no cases were encountered which could clinically be diagnosed as diphtheria. From the end of January until the beginning of December, 1897, eighty-four cases of diphtheria were reported to the health board. Owing to the fact that many cases were not recognized, being diagnosed as tonsillitis or membranous croup, it is probable that these figures give but a small idea of the real extent of the epidemic.

As will be seen from the subjoined notes, there were but a few cases in each month from January until the beginning of November. With the exception of the first few cases the history of infection can be clearly traced in almost every instance, and it is probable that had strict methods of quarantining been used from the beginning it might have been possible to stamp out the disease some time ago; but unfortunately in many instances no quarantine whatever was enforced, owing to the fact that a few of the oldest and most influential of the physicians persistently refused throughout to admit the existence of diphtheria or the necessity for isolating the patients. By the majority of the physicians the true nature of the disease was recognized from the outset, and every effort was made by the health officer and those in sympathy with him to check its course. Antitoxin was very generally used, and, whenever possible, patients were quarantined. The disease continued to spread notwithstanding, and during the three weeks following November 1st there were forty cases of diphtheria reported. Up to this time no bacteriological examinations had been made, but it was now decided to employ a physician to make cultures from the throats and examine for the presence of the Klebs-Loeffler bacillus, and through Dr. William H. Park, of the New York health department, the writer went to St. Johnsbury for this purpose. During a stay of two weeks examinations were made of one hundred and eighteen cultures, and Klebs-Loeffler bacilli were found present in thirty-seven individuals. In as far as was possible a history was obtained of ninety cases, notes of which are here given.

Fairbanks Village is a section of the town centring about the extensive factories of the Fairbanks Standard Scale Company, which carries on the principal industry of the place. Paddock's Village and Summerville are small hamlets lying at the opposite extremity of the town, and Railroad Street is the main business street of the community.

CASE I.—The first case diagnosed as diphtheria occurred in Fairbanks Village. A boy of ten years was taken sick January 19, 1897, with a clinically well-marked case of diphtheria of moderate severity. Antitoxin not used. Recovery.

The source of infection was not traced, and though the boy attended school for one day after illness began there was no apparent spread of the disease from this case.

CASE II.—March 3d. Paddock's Village. Girl of thirteen years in H—s family. Case well marked, moderately severe. Antitoxin not used. Recovery. Source of disease not traced.

CASE III.—March 16th. Paddock's Village. Child of four years in Swedish family. Severe onset. Tonsils and uvula covered with membrane. Temperature, 103° F. Considerable prostration. Antitoxin, 1,000 units, injected. Twelve hours later marked improvement, temperature and pulse normal, and membrane coming off rapidly. Quick recovery.

An elder brother had undoubtedly had the disease first, without medical treatment. Parents said he "blew out pieces of white skin" from the nose during his illness. This child went to the same school as children of H—s family.

CASE IV.—March 18th. Paddock's Village. Second case in H—s family, child of ten years. Considerable membrane on throat. Symptoms quite severe. Antitoxin, 1,000 units, injected, with same marked effect as in Case III. Recovery.

CASE V.—March 28th. Paddock's Village. Third case in H—s family. Child, age not given. Membrane present in throat. Antitoxin, 1,000 units. Recovery.

CASE VI.—Last of April. Paddock's Village. Fourth case in H—s family. Baby, age under one year. Laryngeal diphtheria. No antitoxin used. Died.

CASE VII.—Last of April. Paddock's Village. Mother in H—s family. Taken sick just before death of baby. Antitoxin, 1,000 units, injected. Recovery.

CASE VIII.—May 3d. Fairbank's Village. Girl of six years in T—— family. Related to H—s family of Paddock's Village. Aunt had nursed H—s children, returning to T—— household after death of H—s baby. Moderately severe. Antitoxin not used. Recovery.

Case IX.—June 28th. Fairbank's Village. Man in T—— family, aged thirty years. Antitoxin not used. Died.

Case X.—July 4th. Centre of town. Girl of ten years in B—— family, ragpickers. Child severely attacked. When first seen, temperature, 106 F.; much prostration, and thick, firm membrane covering tonsils and uvula, and extending to pharynx and hard palate. Antitoxin, 1,000 units, given at 3 P.M.: repeated at 11 P.M. Next morning child found sitting up at breakfast with family: temperature normal, membrane coming off. Recovery.

Case XI.—July 7th. Centre. Second case in B—— family. Younger girl. Temperature, 106° F. Membrane extensive, covering tonsils and uvula. Antitoxin, 1,000 units. Recovery.

Cases XII., XIII.—August 26th. Centre. Boy of twelve years, and girl of sixteen years in L—— family. Disease in boy mild. In girl more severe, and followed by paralysis of muscles of deglutition. Antitoxin, 1,000 units, in each case. Recovery.

Cases XIV., XV., XVI., XVII.—September 2d. Centre. Four younger children in L—— family. Antitoxin, 1,000 units, given in each case. Recovery.

Case XVIII.—Paddock's Village. Child. Case diagnosed as "membranous croup" by physician in charge. Family not quarantined. No antitoxin used. Died.

Case XIX.—September 3d. Paddock's Village. A. T——, a boy of thirteen years. Lived near family last mentioned, and after death of child the toys it had used were sent to children of T—— family. On September 3d, A. T——, an anæmic, ill-nourished boy, woke up complaining of sore throat. When seen by physician, later on same day, membrane present on both tonsils; temperature, 101.5° F. Given calomel tablets and listerine gargle.

Next day, membrane about the same; child feeling much better: temperature below 100° F.

September 5th, boy found out of doors, with membrane spreading over palatine arches. House quarantined. Father refused to allow antitoxin treatment.

September 7th, membrane spreading over pharynx: continued to extend for four or five days, invading the nares and probably also the middle ear, the child complaining of intense earache, followed by rupture of the membrana tympani and discharge from the ear for several days. The membrane on the throat was of very tough, leathery consistence, and two weeks elapsed from the beginning of the attack before it entirely disappeared. Throat externally enormously swollen.

Considerable albumin was found in the urine from the fourth day of the illness. On the tenth day the amount of urine passed became very scanty, highly albuminous, and contained hyaline and epithelial casts. At the same time vomiting and diarrhœa began. Under active treatment these symptoms subsided, but albumin continued present in the urine during the entire illness.

There was marked cardiac depression from the beginning of the attack; the pulse was weak, irregular, and intermittent, with a steadily increasing anæmia.

Three weeks from the beginning of illness the boy got out of bed while alone, and was found unable to stand, owing to complete loss of power in the muscles of the right leg. This paralysis gradually lessened; in two days power seemed fairly well restored in the right leg, but at this time the left leg was paralyzed, loss of power continuing complete for twenty-four hours, then rapidly returning. The knee jerk disappeared from both limbs, and when examined, November 26th, was still entirely absent from the left knee, partially restored in the right. The boy's gait was still somewhat uncertain at this time.

During the latter part of October vision was found to be affected, diplopia existing for about two weeks. The child was treated at this time with electricity and massage. Strychnine and hypophosphites, with tonic wine, had been given internally from early in the illness.

Some time after release from the house, exact date not known, the following attack took place in the doctor's presence. While exerting himself slightly with arms raised, the boy suddenly gasped, staggered, and would have fallen had he not been caught. There were extreme pallor, nystagmus lasting a moment only, no twitching, and consciousness was not affected. In a few moments the attack had apparently passed off, but the boy complained that his hands "felt queer," and it was found that he had entirely lost the ability to grasp. The arms could be moved feebly, but there was complete motor paralysis in the muscles of the hands. In about an hour ability to use the hands began to return, and in a few hours seemed to be entirely restored. Reflexes not examined. Recovery, without development of further symptoms.

Case XX.—September 8th. Centre. Baby of J. H——. Lived opposite L—— family (Cases XII.–XVII.). Older sister had sore throat after playing with L—— children. Baby taken sick with symptoms of laryngeal diphtheria. Case diagnosed at first as "membranous croup," and no antitoxin administered until just before death. Child died in forty-eight hours from beginning of attack.

Cases XXI., XXII., XXIII.—Three cases in H–r–s family, near centre of town. Two children and mother. Illness lasted some time, and was followed by paralysis of palate in mother; paralysis still present at end of November. Patients were not quarantined, as the cases were diagnosed and treated as tonsillitis.

Case XXIV.—September 12th. Centre. Girl of twelve years in W—— family, living next door, to family last mentioned. Antitoxin, 1,000 units, given. Quick recovery.

Case XXV.—September 12th. Centre. Girl of fourteen years in G—— family, two doors from last case. Symptoms were so mild that antitoxin was not thought to be necessary, and none was given. Patient died two weeks later of acute nephritis.

Case XXVI.—September 15th. Near Railroad Street. Mrs. B——, membrane on tonsils and uvula. Marked cardiac depression. Antitoxin, 1,000 units, given. Recovery.

Cases XXVII., XXVIII., XXIX.—September 20th. Same neighborhood. Three children of Mrs. S——. Had played with H–r–s children (see Cases XXI., XXII., XXIII.). Mild cases. No record of treatment. Recovery.

Case XXX.—September 27th. Same neighborhood. Girl of seven years, living near H–r–s family just mentioned. Played with H–r–s children, and went to same school. Constitutional symptoms marked. Membrane present on throat and in nose, with marked fœtor. Antitoxin, 1,000 units, given. Marked improvement in twenty-four hours. Recovery.

Case XXXI.—September 27th. Paddock's Village. M. T——, aged ten years, sister of A. T—— (Case XIX.). This child, early in August, had been severely burned over the left hypochondriac region. The burn was very slow in healing, and about the time the brother's illness began skin grafts had been applied. September 27th, one week after the grafting, the child complained of pain in the burn, and on examination the surface was found to have become dark in color, as if bruised, and around the grafts a thin, gray, filmy membrane was forming. This membrane continued to spread until it had covered the entire surface of the burn, the portion around the grafts becoming tough and leathery in consistence. No constitutional symptoms developed until two days later. At

this time there was a rise of temperature to 102 F., the child complained of feeling sick, and patches of thick, creamy membrane appeared on both tonsils. The parents were now as desirous to have antitoxin given as they had formerly been opposed to its use, and 1,000 units was injected at 10 A.M. At 5 P.M. the temperature was normal and membrane on throat loosening at edges. The membrane on the wound persisted for five days. After its disappearance the child was released from quarantine. When seen, November 22d, the wound presented a sluggish, suppurating surface, from four to five inches in diameter. A culture made from the discharge at this time, seven weeks from onset of above attack, showed typical and numerous Klebs-Loeffler bacilli.

Case XXXII.—September 29th. Paddock's Village. Younger child in same family as above. Case mild. Nearly well when first seen by doctor. No antitoxin. Recovery.

Case XXXIII.—Centre. Fourth case in S—— family (see Cases XXVII., XXVIII., XXIX.). Mild. Antitoxin, 1,000 units, given. Recovery.

Case XXXIV.—October 10th. Paddock's Village. Boy of thirteen years, son of L. H—r, next door to H—s family. Rather mild. Antitoxin, 1,000 units, given. Recovery.

Case XXXV.—October 21st. Centre. Boy of thirteen years, lived around the corner from H—r—s family (see Cases XXI., XXII., XXIII.). Marked constitutional symptoms. Much membrane on tonsils. Antitoxin, 1,000 units, given very early in attack. Quick recovery. Partial paralysis of muscles of accommodation.

Case XXXVI.—October 21st. Centre. Mrs. C. C——. Case quite severe. Much membrane on tonsils and uvula, considerable prostration. Antitoxin, 1,000 units. Recovery.

Case XXXVII.—November 1st. Boy of fifteen years, student at academy. Antitoxin, 1,000 units. Recovery.

Cases XXXVIII., XXXIX.—November 3d. Centre. Boy of six years, and woman of thirty years, in family of Mrs. C. C—— (Case XXXVI.). Boy's case very light. Woman quite sick, membrane quite extensive. Antitoxin, 1,000 units, in each case. Recovery.

Case XL.—November 4th. Paddock's Village. Girl of thirteen years in B—g family. Lived near A. T—— and M. T—— (see Cases XIX. and XXXI.). Mild case. Antitoxin, 1,000 units. Recovery.

Cases XLI., XLII., XLIII.—November 5th. Paddock's Village. Mother and two children in D—— family. Children went to Paddock's Village school. Cases all rather light. Antitoxin given in each. Recovery.

Case XLIV.—Summerville. V. B——, adult, brother of Mrs. C. C—— (Case XXXVI.). Throat sore one day, with slight exudate. The house was quarantined, but no other cases developed in family, and this one was so light that considerable doubt was felt as to its diphtheritic nature, especially as the patient stated that he had not come in contact with his sister. The fact is not without interest that this man worked every day in a factory, next to the father of A. T—— and M. T ——.

Case XLV.—November 6th. Railroad Street. Girl of six years in J—— family. Treated for "membranous croup." No antitoxin. Died.

Case XLVI.—November 7th. Railroad Street. Little girl in I—— family. Antitoxin, 1,000 units. Recovery.

Case XLVII.—November 7th. Railroad Street. Young woman in hotel. There had been three cases diagnosed as tonsillitis in the same house, ill some three weeks. Young woman's case mild. Antitoxin, 1,000 units. Recovery.

Case XLVIII.—November 7th. Baby in family of A. T—— and M. T——. Had been sick a week before physician was called. When first seen, the membrane had extended to larynx and the case was hopeless. Antitoxin, 1,500 units, injected, but child died a few hours later.

Case XLIX.—November 7th. Paddock's Village. Boy of eight years, living around corner from last case. Symptoms mild. Antitoxin, 1,000 units. Recovery.

Cases L., LI.—November 8th. Paddock's Village. Child of three years and mother in C—k family. Lived near last cases; children attended same school. Had both felt sick for two or three days, with sore throat for one day, when physician was called. Throat in each case deeply congested, with small patch of membrane on one tonsil. Mother: temperature, 101 F.; pulse, 110. Child: temperature, 102 F.; pulse, 120. Antitoxin, 1,000 units, given to child; none to mother, as case seemed mild. Twenty-four hours later child's throat showed a thin membrane covering both tonsils and extending to pharynx; temperature and pulse as before. Mother: temperature, 103 F.; pulse, 120; thick, white membrane covering both tonsils, palatal arches, and large patch on pharynx. Antitoxin, 1,500 units, now administered to mother, with grave doubts as to good result when given so late in attack. Following day child about the same. Mother: temperature, 102 F.; pulse, 120 and weak; entire pharynx as far down as it could be seen, both tonsils, and uvula covered by a thick, gray, firmly adherent membrane, which in places extended over hard palate halfway to front teeth. Could swallow only a small amount of liquid with much difficulty.

Next day, November 10th, child's throat clearing, all symptoms much improved. Mother: temperature, 99° F.; membrane loosening at edges, throat emitting very foul odor.

November 11th, throat clean in child; in mother membrane coming off in large strips. Permanganate and H_2O_2 used as local treatment. Membrane persisted till November 17th. Paralysis of palate developed in both cases—slight in child, complete and lasting for some time in mother.

Cultures taken November 23d, Klebs-Loeffler bacilli in both cases.

Case LII.—November 10th. Centre. C. C——, husband of Mrs. C. C—— (Case XXXVI.). Case quite severe. Membrane over both tonsils and uvula. Temperature, 102 F.; pulse weak and irregular. Antitoxin, 1,000 units, on second day of illness. General condition much improved in twenty-four hours. Membrane disappeared from throat in forty-eight hours. Recovery.

Case LIII.—November 10th. Paddock's Village. Baby in family of J. S——. Had broncho-pneumonia, temperature ranging to 105.5 F. On eighth day of pneumonia, after temperature had been gradually falling and all symptoms improving, there was a rise to 105° F., and the throat showed membrane on both tonsils. Antitoxin, 800 units, given. Temperature continued high, and two days later membrane had invaded nares. At the same time entero-colitis developed, lasting several days. Membrane remained on tonsils three days; laryngeal symptoms continued four days. Pieces of thick membrane were expectorated, and a small piece of tough, leathery membrane was passed from the bowels. Paralysis of muscles of deglutition developed one week after onset of attack, and continued till the end of November.

Cultures from the throat, November 23d, showed Klebs-Loeffler bacilli present.

Case LIV.—November 11th. Paddock's Village. Third case in C—k family (see Cases L., LI.). Girl of ten years. Membrane present on throat for seven days. Antitoxin, 1,000 units. Recovery.

Culture, November 23d, Klebs-Loeffler bacilli present.

Case LV.—November 11th. Centre. Child of three years at academy boarding-house. Severe case. Antitoxin, 1,000 units, injected twice. Membrane cleared up, but child died ten days later of acute nephritis.

A boy of seventeen years, student at the academy and boarding at this house, had had sore throat for three days preceding the baby's illness. This boy left for his home in Barnet, a neighboring town, just before the baby's seizure, and two weeks later a younger brother of this boy and also two other children in his neighborhood were attacked by diphtheria.

Case LVI.—November 11th. Paddock's Village. Trained nurse who had cared for B—g child (Case XL.). Case mild. Antitoxin, 1,000 units. Recovery.

Cases LVII., LVIII.—November 12th. Two boys at academy boarding-house. One case very light; the other moderately severe. Antitoxin, 1,000 units, given early in both cases. Recovery.

Case LIX.—November 12th. Summerville. B. J——, boy of seventeen years. Membrane on tonsils. Considerable cardiac depression. Antitoxin, 500 units, repeated in twelve hours. Recovery.

Culture, November 21st, Klebs-Loeffler bacilli present.

Case LX.—November 12th. Paddock's Village. Fourth case in C—k family (see Cases L., LI., LIV.). Boy of eight years. Patches of membrane on pharynx, tonsils, and soft palate. Considerable constitutional depression. Antitoxin, 1,000 units. Recovery.

Culture, November 23d, Klebs-Loeffler bacilli present.

Case LXI.—November 13th. Paddock's Village. School teacher. Case moderately severe. Antitoxin, 1,000 units. Recovery.

This school, at the beginning of the epidemic, consisted of twenty-six pupils. At this time the attendance was reduced to five, when, owing to the teacher's illness, the school was closed.

Case LXII.—November 13th. Near Railroad Street. A. B——, a boy of ten years, a son of Mrs. B—— (Case XXVI.). This boy took care of his mother during her illness, but developed no symptoms until four weeks later. Possibly infected at that time through washing done by his mother for the C—k family. Physician not called until illness had lasted from three to four days. Membrane then covering both tonsils; temperature, 102.5° F.; pulse weak and rapid. Membrane continued to extend over pillars and uvula during next forty-eight hours, at end of which time there was complete paralysis of the vocal cords. Strychnine had been given internally, and antitoxin, 1,000 units, was now injected. Twenty-four hours later temperature and pulse were normal, membrane becoming detached. Voice not regained until November 25th, the boy then beginning to articulate with difficulty.

Culture, November 19th, Klebs-Loeffler bacilli present.

Case LXIII.—Centre. Mrs. B—k. Does washing; probable infection from this source. No record of treatment. Recovery.

Case LXIV.—November 14th. Paddock's Village. R. S——, newborn child in family of J. S—— (see Case LIII.). This child was born three days before above case began. Remained in same room with sick child. One week after birth a gray membrane formed over the stump of the umbilical cord, which was surrounded by a dark red indurated area, about six inches in diameter. The membrane continued present for several days, leaving a moist suppurating surface when it disappeared. The child had no rise of temperature, and developed no constitutional symptoms. Antitoxin not given.

Culture from stump, November 23d, Klebs-Loeffler bacilli present.

Case LXV.—November 15th. Academy boarding-house. Boy of sixteen years. Light case. Antitoxin, 1,000 units. Recovery.

Case LXVI.—November 15th. Centre. Second case in family of Mrs. B—k (Case LXIII.). Treatment not stated. Recovery.

Case LXVII.—November 15th. Adult, engineer, living at academy boarding-house. Quite sick. Tonsils and uvula covered with membrane, and marked constitutional symptoms. Antitoxin, 1,000 units. Recovery.

Culture, November 18th, Klebs-Loeffler bacilli present.

Case LXVIII.—Summerville. Boy, H. U——. Lived near B. J—— (Case LIX.), and went to same school. Case quite severe. Membrane on tonsils and uvula, and considerable constitutional depression. Antitoxin, 1,000 units, injected, followed by rapid improvement. Recovery.

Culture, November 18th, Klebs-Loeffler bacilli present.

Case LXIX.—November 16th. Paddock's Village. J. S——, father of R. S—— (Case LXIV.). Attack began with chills, nausea, and cold sweats. Considerable cardiac depression. Very thick, leathery membrane covering left tonsil; also patch on right. Antitoxin, 1,000 units, given, followed in twenty-four hours by great improvement in all constitutional symptoms, but membrane persisted in throat for five days. Recovery.

Culture, November 23d, Klebs-Loeffler bacilli present.

Case LXX.—November 16th. Paddock's Village. C—k family. Fifth case. Girl of fourteen years. Case seemed so light that antitoxin was not given, but membrane persisted in throat for nine days, and then there was a slight paralysis of soft palate.

Culture, November 23d, Klebs-Loeffler bacilli present.

There were eight persons in this house when the disease began. One young man left immediately, and has not been attacked. Of those remaining in the house, the father and one child received immunizing doses of antitoxin, given November 8th—the father, 300 units; the child, 200 units. These were the only members of the family who escaped attack.

Case LXXI.—November 17th. Paddock's Village. H. S——, boy of four years, fourth case in family (see Cases LIII., LXIV., LXIX.). Early in morning uvula and both tonsils found to be covered with thick membrane, but no constitutional symptoms whatever, child appearing well and active; temperature and pulse normal. By night the temperature was 104.5° F.; pulse rapid; child prostrated. Antitoxin, 1,000 units, given. Next morning, temperature, 99° F.; child bright and playful, membrane coming off. Recovery.

Culture, November 18th, Klebs-Loeffler bacilli present.

Mrs. S——, mother of these children, had been confined but three days before the first child was attacked with diphtheria. She remained in close contact with the four cases, in unhygienic surroundings and without protective treatment, but, strange to say, escaped infection.

Case LXXII.—November 17th. Seventh case at academy boarding-house. Boy of eighteen or twenty years. Case mild. Antitoxin, 1,000 units. Recovery.

Culture, November 18th, Klebs-Loeffler bacilli present.

Immunizing doses of antitoxin, 500 units each, were now given to all in the household who had so far escaped infection. These numbered sixteen persons, ranging in age from fifteen to seventy years. No further cases of diphtheria have developed among them.

Cases LXXIII., LXXIV.—November 17th. Railroad Street. Two children in I—— family. One case quite severe. Antitoxin, 1,000 units, given in both. Recovery.

Culture from M. I——, November 27th, Klebs-Loeffler bacilli present.

Case LXXV.—November 17th. Fairbank's Village. M. G——, girl of thirteen years. Went to Union School; sat across the aisle from girl who went home sick with sore throat. M. G—— developed typical symptoms, considerable prostration; temperature, 103° F.; pulse, 120 and irregular; tonsils, uvula, and soft palate covered with membrane. Antitoxin, 1,000 units, given. Membrane continued to increase, and forty-eight hours later a second injection, same amount, was given, followed by great improvement. Considerable albuminuria for several days. Toxic symptoms in this case marked; heart action still weak. December 1st, recovery.

Culture, November 18th, Klebs-Loeffler bacilli present.

Case LXXVI.—November 21st. Railroad Street. R. S——, boy of twelve years. Case light. Antitoxin, 1,000 units, given early in attack. Recovery.

Culture, November 18th, Klebs-Loeffler bacilli present.

Case LXXVII.—Summerville. Mrs. U——, mother of H. U—— (Case LXVIII.). Case mild. Antitoxin, 1,000 units. Recovery.

Culture, November 23d, Klebs-Loeffler bacilli present.

Case LXXVIII.—W——, young adult. Recovery. No further details of case.

Culture, November 18th, Klebs-Loeffler bacilli present.

Case LXXIX.—November 22d. Paddock's Village. A. R——, boy of six or seven years. Considerable exudate and marked symptoms. Treatment not stated. Recovery.

Culture, November 22d, Klebs-Loeffler bacilli present.

Case LXXX.—November 22d. Paddock's Village. D. Y——, girl of eighteen years, niece of Mrs. R—— (see Case LXXIX.), living on floor below in same house. Moderate severity. Membrane on both tonsils. No notes of treatment. Recovery.

Culture, November 22d, Klebs-Loeffler bacilli present.

Case LXXXI.—November 23d. Centre. M. S——, young woman who lived with H–r s family (see Cases XXI., XXII., XXIII.). Quite sick; membrane extensive. Antitoxin, 1,000 units, given early, with marked effect. Recovery.

Culture, November 24th, Klebs-Loeffler bacilli present.

Case LXXXII.—November 24th. Paddock's Village. A. B——, boy of eight years. Tonsils enormously swollen, but very little exudate visible. Symptoms later indicated membrane in nares and nasopharynx. Antitoxin, 1,000 units. Recovery.

Culture, November 27th, Klebs-Loeffler bacilli present.

Case LXXXIII.—November 24th. Fairbank's Village. Mrs. G——, mother of M. G—— (Case LXXV.). Severe attack. Membrane on tonsils. Heart much affected. Albuminuria for several days. Antitoxin, 1,000 units. Recovery.

The other children in this family, a girl of fifteen and a boy of seven or eight, were given immunizing doses of antitoxin when the first child was taken ill. Both escaped attack.

Case LXXXIV.—November 29th. Waterford, five miles from St. Johnsbury. C. D——, boy of ten years. Both tonsils showed membrane and were considerably enlarged. Temperature, 100.5° F.; pulse, 140. Antitoxin, 1,000 units, injected. Next day membrane increased on tonsils; pulse still rapid and weak. A second injection of antitoxin, 1,000 units, given, followed by decided improvement. Recovery.

Culture, November 29th, Klebs-Loeffler bacilli present.

This boy lived in an isolated farmhouse, with healthy surroundings. On Thanksgiving day he had gone with his parents to a neighboring town, and stayed all night, sleeping with a boy who had "sore throat." Taken ill soon after return home. It has since been learned that M. T—— (Case XXXI.) had previously visited at that same house.

Cases LXXXV., LXXXVI.—December 1st. Paddock's Village. In family of J. S—— (see Cases LIII., LXIV., LXIX., LXXI.), L. M——, a young woman, and R. S——, boy about five years old. In these cases immunizing doses of antitoxin had been given, November 22d. The attack in each was very mild, constitutional symptoms almost absent, the throat showing slight membrane on the tonsils. Some doubt existed as to the nature of the boy's attack, as only doubtful bacilli could be found in the culture.

Culture, December 2d, L. M——, Klebs-Loeffler bacilli present.

Culture, December 2d, R. S——, doubtful bacilli only.

Case LXXXVII.—December 1st. Baby G——, mother and child boarded with Mrs. R—— (see Case LXXIX.). Baby severely attacked. Exudate on both tonsils; temperature, 103° F.; and considerable prostration. Antitoxin, 1,000 units, injected. Next day much improvement. Day following, throat clean but symptoms of broncho-pneumonia had developed in right lung, followed by same condition in left lung.

Child died two weeks later. Autopsy showed pneumonia and general miliary tuberculosis.

Culture, November 28th, Klebs-Loeffler bacilli present.

Case LXXXVIII.—December 2d. Mrs. G——, mother of above. Membrane on tonsils, accompanied by constitutional symptoms. Antitoxin, 1,000 units. Recovery.

Culture not obtained.

Case LXXXIX.—December 3d. E——, young woman. History not given.

Culture, December 3d, Klebs-Loeffler bacilli present.

Case XC.—Paddock's Village. Mrs. C——. Not reported. House not quarantined. The case was diagnosed as tonsillitis, and the patient was instructed not to allow a culture of the throat to be taken. Notwithstanding the mild symptoms and slight exudate in this case, the culture, which was finally obtained by the health officer, showed most typical and numerous Klebs-Loeffler bacilli, the virulence of which was conclusively proven by tests to be described later.

It has since been learned that the husband of this woman acted as janitor for the Paddock Village schoolhouse during her entire illness. Fortunately for the community, this school chanced to be one in which the majority of the pupils were protected from infection by a recent attack of diphtheria.

As might be expected, where the diphtheria germs were so widely distributed, they were several times found present in the normal throats of those in contact with the sick. In one instance diphtheria developed later.

One patient, under treatment for facial erysipelas,

was reported to the health officer by the attending physician, as a case of mild tonsillitis. A culture made from the throat showed unmistakable Klebs-Loeffler bacilli, whereupon the physician stated that no throat symptoms had ever been present in the case. As there were no means of ascertaining which of these statements was the correct one, the case was excluded from the above list, as were all others which were not known to have exhibited either local or constitutional symptoms.

Through the courtesy of the New York board of health, an offer was made to furnish, free of charge, sufficient serum to give immunizing doses to all the school children, as it was felt that this would furnish a valuable illustration of the protective value of such treatment. The offer was regarded with favor by the school principals, and circulars were distributed among the parents, explaining the proposed treatment and requesting their consent. A favorable response was received in two hundred and twenty-one cases, and with the kind assistance of some of the physicians the above number of children and young adults were inoculated during the last week in November, with from 200 to 300 units of antitoxin, according to age. A careful record was kept of inoculations and subsequent developments. A local erythema and urticarial blotches appeared on the arm inoculated in some, but there was no general eruption or constitutional disturbance in any case. The last report was received January 16th. Up to this time not a single case of diphtheria had appeared among the immunized children, although many cases had developed in the schools during the interval.

Cultures from the throats of several patients were forwarded to the laboratory of the New York health department, and through the kindness of Dr. A. W. Williams, of the health department, the following tests of virulence were made:

Number of Case.	Weight of Guinea-Pig in Grams.	Amount 48 Hour Broth Culture Injected, in c.c.	Result.
75.....	250	0.01	Died in seven days.
75.....	274	1	Died in two days.
90.....	240	0.01	Died in five days.
90.....	230	1	Died in two days.
71.....	230	0.01	No apparent effect.
71.....	200	1	Died in two days.
62.....	216	0.01	No apparent effect.
62.....	255	1	Died in two days.

This table shows that the cultures from Cases LXXV. and XC. possessed decided virulence. This is less marked in Cases LXXI. and LXII., but still sufficiently pronounced to kill guinea-pigs in doses of one cubic centimetre.

The history of the above series of cases affords a striking proof of the infectious nature of the diphtheria poison and of the necessity for a strict quarantine in even the mildest cases. It will be observed that several of the most severe cases were contracted from those of the mildest type.

That mildness of onset affords no reliable indication of the final result is shown by the history of those patients in whom a mild beginning was followed by the development of serious and fatal symptoms later.

The effect of antitoxin treatment in this epidemic was most pronounced, and the low mortality record was perhaps due as much to the very general use of this remedy early in the attack as to the fact that the prevailing type of the epidemic was of moderate severity.

In almost every instance when antitoxin was given in time there was a prompt effect upon all symptoms. In many cases beginning quite severely, the attack seemed to be completely aborted by one inoculation, convalescence beginning at once, and this effect was the more noticeable, as the one thousand units uniformly used was in many cases a small dose. An interesting contrast is afforded by the course of the disease in two children of the same family—the one treated with, the other without antitoxin (see Cases XIX., XXXI.).

The comparative results of treatment are best shown by the following table:

Cases.	Treatment.	Deaths.
68.....	Antitoxin.	4—less than 6 per cent.
14.....	No antitoxin.	5—over 35.5 per cent.
8.....	Not stated.	
Total 90.....	.....	9

Deaths.

Case.	Treatment.	Character of Disease.
6.....	No antitoxin.	Laryngeal diphtheria.
9.....	No antitoxin.	Not stated.
18.....	No antitoxin.	Laryngeal diphtheria.
20.....	Antitoxin about twelve hours before death.	Laryngeal diphtheria.
25.....	No antitoxin	Acute nephritis following diphtheria.
45.....	No antitoxin	Laryngeal diphtheria.
48.....	Antitoxin about twelve hours before death.	Laryngeal diphtheria.
55.....	Antitoxin second day..	Acute nephritis following diphtheria.
87.....	Antitoxin second day..	Pneumonia following diphtheria, and acute miliary tuberculosis.

The value of protective inoculations was also strikingly illustrated. In two cases disease subsequently developed (see Cases LXXXV., LXXXVI.), but in one the diphtheritic nature of the attack was not proven, as a careful examination failed to discover any but doubtful bacilli in the culture, while in both the modifying effect of the treatment was seen in the very mild form of attack compared with the cases which had gone before in the same house.

As showing the efficiency of the above treatment, reference is made to Cases LXX., LXXII., LXXXIII., especially the last, as well as to the two hundred and twenty-one school-children who have escaped attack after repeated subsequent exposure.

231 East Twelfth Street.

PRIMARY TREATMENT OF POST-PARTUM HEMORRHAGE.

By MARTIN W. CURRAN, M.D.,

NEW YORK.

In my experience there are few situations more startling and requiring such promptness of action on the part of the obstetrician as that of post-partum hemorrhage, and, while all authorities whom I have consulted agree on this point, unfortunately they are harmonious in little else. Considering the gravity of the subject, there is a painful uncertainty in the advice imparted and a ridiculous tendency toward multiplying resources, forgetting the fable of the fox and the cat, and also that such methods display an infallible sign of weakness and of doubt as to their entire trustworthiness.

What is this condition which creates such terrible alarm? In the interior of a muscular bag at the end of an open passage is a space from which blood is pouring through a multitude of small mouths, this space being similar to the broad nozzle of a garden hose pipe. Around and between all these little

mouths are muscular fibres, which, should they contract, would act as so many ligatures, tying each and every vessel which had been opened by the peeling off of the placenta; if the muscular fibres do not contract, the vessels remain open, and every pulsation of the heart drives more and more blood out through them, until the general circulation contains too little for the nourishment of the important nerve centres which govern the acts of respiration, and the patient dies. These fibres have not contracted for the simple reason that the muscular walls of the uterus have been doing a good day's work in expelling their contents, and their contractile force is temporarily exhausted. Various uteri, various amounts of force. Some are firm and strong and not easily exhausted. Others are weak and flabby, and by the time they have reached the end of the second stage they are tired, used up for the time, and require rest before they can do more; but the blood which should revivify is pouring away, and as it courses out of the body they, in common with all the other muscles of the frame, become progressively weaker and weaker, less and less likely to recover. Now if we have stored in our minds the teachings of our authorities, we shall be alive to our responsibilities, but shall have only a miserable confusion of impracticable and entirely worthless ideas regarding the treatment of this condition, in place of the absolute certainty which should exist that we are doing the one and only thing which will succeed if the case is not entirely hopeless. Lusk says:[1] "Unlike other grave complications of childbirth, post-partum hemorrhage is not an uncommon event. It may follow the simplest of labors, and, in case of an unprepared physician, it may carry his patient in a few moments to the brink of death. It is impossible to conceive a tragedy more terrible than this. Occurring, as the accident does, suddenly, without warning, in the period of joy that follows the birth of a living child, the sudden shifting of the scene becomes appalling. If the mother dies at such a time, the luckless attendant who stands at her bedside a nerveless spectator need never expect forgiveness." And this is no fanciful sketch. The patient is tossing about the bed, gasping for breath, deaf, crying for help—to be let alone—to be allowed to die. Which is the more to be pitied—the unfortunate patient or the demoralized practitioner, who is driven to try first one thing and then another, to be immediately replaced by something else, which as likely as not is the absolute opposite of the last measure in its method of action? "Do not waste precious time" is the one driving thought. If a response is not obtained in a minute or so from ergot,[2] give it up; try strychnine.[2] At the same time pass the hand into the uterus,[3] clear out clots and placental remains; put in a lump of ice;[4] inject hot water;[5] inject cold water;[6] inject perchloride of iron;[7] pour cold water from a height on to the abdomen, careless of the soused bed and pneumonia which will follow;[3] flick the abdomen with a wet towel;[8] irritate the interior of the uterus with the hand;[8] knead the outside of the uterus;[9] throw the uterus into position of strong anteflexion;[8] autotransfusion—forcing blood out of the extremities into the heart and brain by means of bandages;[8] a pockethandkerchief saturated with vinegar and carried into the uterine cavity[10] is strongly recommended by Penrose—let us hope he means an unused one; invert the uterus—Kocks; sulphuric ether hypodermically;[11] bimanual compression;[4] faradic current—a battery is always at hand on such occasions;[8] packing the uterine cavity with gauze;[12] removal of the uterus by supravaginal amputation if hemorrhage continues after tamponing[13] will rarely be tried, though advised by one authority; child to breast[8] as a reflex excito-motor, etc. All the multitudinous suggestions of every author under the sun will have been put into practice, and the physician can console himself when all is over with the barren but unavailing consideration that he left nothing untried.

The physician may, if on the scene early enough, be sufficiently fortunate to get such a tetanic grip for a sufficient time as to allow clots to form in the numerous vessels. These may hold when the inevitable relaxation returns, and then the patient will recover: but consider the inherent improbability of this, and the chances of such a result decrease rapidly with each succeeding minute in which it does not occur. Most of the measures advised depend on the slender hope that there exists some latent contractility in the muscular uterine wall, and that this can be called out in sufficient force by some form of stimulation and maintained for a sufficient time to admit of the reliable formation and adhesion of plugs in the open arterial and venous mouths; but we must not forget that when stimulated the muscular fibres may at first respond by a spasmodic effort, which becomes weaker and weaker as time goes on—the more they are stimulated, the greater is the eventual collapse. Two methods are universally commended, viz., tamponing the uterus and the injection of a solution of perchloride of iron. We shall discuss the probabilities of their success.

Tamponing at first sight seems very reasonable and likely to succeed, and no doubt it might but for two important reasons against its value as a primary and certain remedy. The uterus in these cases is not a rigid bag, always of the same size. (Playfair[14] has said that the puerperal uterus will hold two ball dresses! This being true, one need not be astonished at the quantity of gauze required.) The irritation of the packing will stimulate the uterus to contract for a few seconds, and when the packing is completed it will appear to fill the uterine cavity absolutely and to exert some pressure on the uterine walls; but soon these walls relax; they have the entire abdomen to dilate in; the pressure is gone, blood accumulates between the tampon and them, and the mischief is now the more dangerous in that it gives no sign of its continuance without. The second reason is that the plug or packing will be soaked with blood and become practically a huge clot in the uterine cavity, prolonging and exciting while otherwise masking the actual loss.

Jewett considers "the uterine tamponade the most effective measure for the control of severe post-partum hemorrhage, reserving it, however, for desperate cases."[15]

In support of the assertion that the treatment is neither certain nor safe, Fritsch has recorded that it is unphysiological, for the uterus cannot be completely contracted while the gauze is in it.[16]

"Dr. Polk has tried the method in the Bellevue Hospital, and has been favorably impressed with its efficacy."[17]

Wallace says: "Never tampon after delivery; you might as well hang the woman by the neck."[18]

Verrier says: "I shall mention tamponing after delivery only to advise its rejection. Among its dangers we may name that of transforming external into internal hemorrhage."[19]

Next comes the injection of the perchloride-of-iron solution. The *rationale* of its action is the formation of clots in the bleeding vessels, and by its semicaustic action the stimulation of the vessels themselves to retract and contract. The solution is thrown against the ends of the vessels. It is met by all the force—what there is of it—of the escaping blood, tending to wash it away from them. Unless the force used—most of which will be wasted on the yielding uterine wall—is sufficient to overcome this, it is difficult to see how any, at all events sufficient, can enter; and it is

to be remembered that many if not most of the vessels open obliquely on the uterine wall. So that at best it is but a haphazard method of proceeding.

Compare the obvious duty in this case with the parallel obvious duty in ordinary surgery. A man's leg is rapidly cut off by a circular saw. From a multitude of small mouths spurts the arterial blood. In a few moments, unless prevented, the amount of available blood in the body will sink below that necessary to keep going the most important nerve centres. What is to be done? Should the surgeon douche the wound with hot or ice-cold water, or pour styptics over its spouting surface, or set to work and methodically tie all these vessels from the raw surface? He would laugh at the question, because here the procedure has been settled once for all on scientific grounds, and he knows for certain the one thing he must do first. The success of all depends on this primary duty, which is to compress the main vessels at once, and not until all the oozing or spouting was secured in detail would he relax this pressure. Let us consider the condition of the patient at this time. The abdominal wall has been stretched to its utmost for many months over the enlarging uterus. Now the uterus is emptied of all resisting contents, and the walls fall limp and flaccid over the abdominal cavity. The muscles, which normally might prevent by their firm contraction, are now powerless, and many weeks must elapse before they are again capable of resisting the pressure of a hand placed upon them. In this condition it is the easiest thing in the world for the obstetrician's hand to find and compress any structure in the abdomen. The aorta is placed in front of the one resisting firm material left, the lumbar spine.

PLAN OF THE RELATION OF THE ABDOMINAL AORTA.[20]

Front.

Lesser omentum and stomach.
Branches of cœliac axis and solar plexus.
Splenic vein.
Pancreas.
Left renal vein.
Transverse duodenum.
Mesentery.
Aortic plexus.

Right Side.

Right crus of diaphragm.
Inferior vena cava.
Vena azygos major.
Thoracic duct.
Right semilunar ganglion.

Left Side.

Sympathetic nerve.
Left semilunar ganglion.

Behind.

Left lumbar veins.
Receptaculum chyli.
Thoracic duct.
Vertebral column.

Between the obstetrician's hand in front and the vertebræ behind the aorta can be absolutely shut: no more blood can pass and no more blood will be lost. What remains in the vessels below the occluding hand when the driving power of the heart is shut off tends to clot, especially at their open extremities; what blood remains in the circulation above is kept for the use of the all-important nerve centres, and as more and more blood comes in from the veins, especially of the lower extremities, for the vena cava is carefully avoided, this reserve increases and respiration and circulation in the most important parts are increasingly provided for, while all the time the tissues which require rest, the ultimate ligatures, the uterine muscular fibres, are obtaining and profiting by that rest and becoming more and more fit to do the work of which they are perfectly capable when once they have recovered their condition. When necessary time has elapsed and their contractility has returned, then and then only is the time for their stimulation. What would be thought of the surgeon who held the femoral artery for a minute and then let it go before the vessels were closed on the wound front, and what is to be thought of the advice given by some leading authorities?

Barnes says: "I have occasionally derived advantage from it, and look upon it as a momentary resource."[21]

Playfair thinks that "as a temporary expedient it should be borne in mind and adopted when necessary."[22]

Jewett considers it "very effectual as a temporary expedient."[23]

Lusk thinks that "compression of the aorta through the abdominal wall is capable of rendering temporary service."[24]

". . . should all these measures fail, try to compress the abdominal aorta" (Verrier).[25]

It is precisely this half-hearted advice, which has a dozen resources in stock and trusts none of them, which is to blame for the general muddleheadedness of mind and is bound to result from a consultation of authorities. If one thing does not succeed, try something else; but the patient should no longer be considered doomed, for whom the physician is bound to do everything, in order to cover his reputation at the inevitable inquest.

Macewen has "effectively controlled the abdominal aorta by throwing the weight of the body on the aorta through the closed right hand, placed a little to the left of the middle line, the knuckles of the index finger just touching the upper border of the umbilicus. With the left hand the arrest of the blood current is ascertained by feeling the femoral at the brim of the pelvis. Only enough weight to arrest the femoral pulse is required. If the patient vomits or coughs, the pressure must be increased, lest the hand be lifted from the aorta by the abdominal muscles."[26]

In order to compress the abdominal aorta, it is not necessary but rather injurious to move the patient from the ordinary dorsal position. With the patient lying, as she usually does, flat on the back, the obstetrician's hand is easily applied under her without even disturbing the coverings of the bed, and avoiding exposure, which is the *sine qua non* of all remedial measures. The ulnar surface of the closed left hand—the physician standing on the right-hand side of the patient—should be laid gently but firmly across the aorta, which should then be compressed against the spine, while the right hand should feel for and compress the uterus. The hands may be changed from time to time, but the compressing hand should never be lifted until the other is in position above or below it and has taken up control of the vessel. The time during which compression is needed will vary with every case, and must depend wholly upon the cessation of hemorrhage and on no other factor. It is convenient and always necessary to have an assistant at hand, who may relieve the tired muscles of the original attendant. Two points are of great importance. First, inasmuch as the solar, epigastric, and mesenteric plexuses lie over and around the aorta, pressure must be shifted upward or downward from time to time. The pressure on the aorta does not matter, but too long continued pressure on any one point of the sympathetic does. Secondly, when pressure is taken off ultimately it must be very gradually done. The uterus should be felt to be firmly contracted: the aortic pulse should be firm, strong, and fairly slow; and the effect of releasing the current should be most carefully watched. If there is the least return of flow, the uterine ligatures are not yet to be trusted and compression must be resumed. This, then, is the primary duty. Once done and persisted in from the earliest possible moment until the desired firm contraction has been obtained and can be manifestly relied upon, the patient is safe as far as any earthly means can make her; and, with the entire self-possession which perfect security gives, the physician can quietly and without needless hurry put into force the secondary measures which are to bring about the

secondary result—namely, the firm and lasting uterine contraction. All these secondary measures require an appreciable amount of time for their satisfactory action; moreover, they all act best on muscular fibre which is recovering or has recovered its contractility. In this alone is seen the fatal mistake of considering them of primary importance, and of wildly flying from one to the other, vainly seeking for a result which the inherent conditions present render impossible or at best extremely improbable. These secondary measures are hypodermic injections of ergotin, brandy by mouth or rectum, raising the foot of the bed, hot bottles around the trunk, wrapping the head in hot flannel, kneading gently the uterus with the disengaged hand, removal of any clots or placental débris—which, now that the main source of blood supply is shut off, can be done with far more safety, because with calmness and deliberation; and examination of the os, cervix, and perineum for tears, and their repair.

But it may be said that this advice is only theoretical, and that no cases are on record to prove it. I suspect that the method is more in use among practical men than one would suppose from a perusal of the literature on the subject. Practising autotransfusion as described for cerebral anæmia, when aortic pressure is an easier and better method; or using Monsell's solution as a styptic, with its danger of producing gangrenous endometritis and secondary infection, in preference to applying the hand to the aorta, may be in favor with the savants of the profession, but hardly with another human being endowed with a healthy perception of the fitness of things, and who by experience realizes that in every case, whether complicated by retained placental fragment, torn cervix, or any other condition, the one and only measure of primary importance in the treatment of post-partum hemorrhage is compression of the aorta.

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Spasmodic Wryneck is often alleviated by the administration of large doses of fluid extract of conium, sixty drops in twenty-four hours, and by the hypodermic administration of atropine. The galvanic current applied to the side of the neck oftentimes gives relief, particularly if the condition be painful; massage is also of service.—Joseph Collins.

RELATIONS OF THE RECTUM AND GENITAL ORGANS IN DISEASE.

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Many authors have marked the close relation between the rectum and female genitals in disease. It is most manifest when the nervous apparatus of either rectum or genitals is involved. This relation must be considered on both anatomical and pathological grounds. A brief view of the great elemental structures, the muscles, nerves, vessels, and of the pelvic organs in close proximity, will aid in making the subject clear. The advertisements of sanatoria and institutions for special treatment of the diseases of women and of the rectum impress me that gynæcology and proctology are closely related. Though the appropriating of the gynæcological field by the proctologist may be a commercial move, yet there is an anatomical and pathological base in the intimate relation of the rectum to the female genitals. However, self-protection of the proctologist is much involved, for to-day the general surgeon presents unlimited assumption in his claim that he is capable of diagnosing all diseases and of performing all special and general surgical operations. The commercial and general specialist, like the poor, will always be with us. The real specialist, whose duty and practice are entirely devoted to definite organs, is the only one who can speak with authority as to the relation of gynæcology and proctology.

First, the organs are in close proximity. The same germs, especially the gonococcus, if in the vagina, pass over the perineum and enter the rectum, and *vice versa*. It has been shown that women have more rectal strictures than men, and some five years ago I advocated that gonorrhœa was a cause of rectal strictures. Gonorrhœa induces strictures of the urethral mucosa. The gonococcus affects mucous membranes, whether it be in the rectum, urethra, endometrium, conjunctiva, or pharynx. In the lying or erect postures, vaginal discharges are sure to pass into and infect the rectum. The gonococcus induces long and persistent discharges from the uterus, urethra, and the vulvar glands (vulvo-vaginal and peri-urethral), which sooner or later infect the rectum. Hence the close proximity of the rectal and genital organs allows interchange of infectious processes. The abuse of the sexual instinct, incident to civilization, has led to the evolution and establishment of a vegetable germ, the gonococcus, which is coexistent with humanity, persistent in action, and especially pernicious in effect on the genitals, thus endangering the adjacent rectum to similar diseases as the genitals. The gonococcus is, no doubt, a product of civilization, as we do not find it in birds, mammals, or higher apes; from these animals the most perfect form of marriage originated, and man is but an imitator. The forces of civilization induce promiscuous sexual practice.

The pelvic muscles closely relate the rectum and genitals, especially through the levator ani. The levator ani holds in its grasp the rectum, and largely influences the movements of the genitals. Any considerable movement of the rectum includes similar movements of the vagina, and *vice versa*. Irritation in either canal reflexly induces muscular contraction in the other. An ulcer or a fissure in the rectum will not only induce vigorous contraction of the sphincters (levator ani and sphincter ani), but also contractions of the vaginal canal and vulva. The rectal part of the levator ani being irritated, the whole muscle is set in motion. In a distant city I recently saw a typical ex-

ample of this. A young woman, married six months, became so hyperæsthetic that marital relations were almost impossible. Besides the intense muscular contractions about the vagina, I found the rectal sphincters in a state of intense vigorous and continuous contraction, amounting almost to a muscular spasm. Here the genital irritation had been reflexly transmitted to the muscles of the rectal region.

An illustration of this influence of the muscles is found in the fact that a rectal or perineal operation will cause retention of the urine for several days. When either genitals or rectum are in a pathologic state, *e.g.*, on account of fissure, ulceration, or infection, the muscular trauma of the levator ani aids in spreading the infection by irritation and maintaining motion. Muscular trauma must become an admitted factor in the dissemination of disease, and the levator ani is second only to one muscle (the psoas) in its opportunity and close relation to the rectum and genitals in effecting the spread of frequently infected organs bound closely together by double fascial folds. When the levator ani moves, the rectum and vagina move also.

Any irritation in the rectum may induce the levator ani to force the infected contents of a Fallopian tube on the pelvic peritoneum, thus aiding to spread genital disease. To test the vigorous action of the levator ani, one needs only to place the finger in the vagina or rectum and request the patient to cough. The traumatic action of the levator ani then becomes apparent. The pyriformis plays but a small factor in genital and rectal relations. The psoas muscle, however, by its trauma, plays here a significant rôle. We must include in rectal diseases the sigmoid flexure. In some three hundred personally recorded adult autopsies, I found that the meso-sigmoid possessed peritoneal adhesions in over eighty per cent. of subjects, and in quite a number of cases the fimbriæ of the Fallopian tube were found adherent to the peritoneum in the region of the highest range of action of the psoas muscle. In such cases the Fallopian tube and the meso-sigmoid become diseased through the traumatic action of the psoas muscle inducing the migration of virulent microbes and their products. In the case of the Fallopian tube, the traumatic action of the psoas muscle induced the migration of infective germs from the tubal lumen on the peritoneal surface. In the case of the meso-sigmoid, the traumatic action of the psoas muscle on the sigmoid flexure at times when it contained virulent germs, induced the migration of the germs or their products through the gut wall into the peritoneal surface, producing a plastic peritonitis. Here the Fallopian tube and the meso-sigmoid became pathologic from the same cause, viz., muscular trauma by the psoas magnus. Similar disturbances are produced on the right side by the psoas. In fact, there can be but little doubt that appendicitis is frequently produced by the traumatic action of the psoas muscle. Autopsies demonstrate this over and over again. Of course, for the psoas muscle to exercise its most detrimental effect on the Fallopian tube and sigmoid by its traumatic action, they must be located within the longest range of muscular action of the psoas. Few will doubt the traumatic power of pelvic muscular activity in disseminating infective disease and aiding in distributing venous emboli. The vicious action of the dilatation and contraction of the muscular wall of the rectum in an infected Fallopian tube is easily demonstrated.

The intimate vascular relations of the rectum and genitals intensify their diseased relations. The pelvis is the most distinguished province of the body for large and numerous veins. The peculiar characteristics of the pelvic veins are (1) frequent anastomosis at acute or right angles, (2) large size, (3) large numbers, (4) some occur double, (5) some are valveless, and (6) the aggregation of veins into large plexuses.

In general, the veins of the pelvic walls are valved, anastomose at acute or right angles, are sometimes double, accompany like-named arteries, lying on either side of the arteries, and empty into the inferior vena cava. Before emptying into the common iliacs, the veins generally coalesce to form a single trunk. Of the veins of the pelvic walls, the only one of especial importance in our theme is the obturator vein, because this vein is closely connected with the veins of the external genitals and rectum. On the left side, as the obturator vein returns its blood, it passes through the left common iliac, and retards the flow of blood not only from the genitals, but also from the rectum, as the middle hemorrhoidal and inferior hemorrhoidal veins also empty into the left common iliac. All blood coming from the genitals and rectum on the left side is apt to be retarded by the pressure of the right common iliac artery on the left common iliac vein.

The veins of the pelvic viscera are characterized by being valveless, thick, net-like, anastomosing plexuses which surround the organs like a web. They also have an associated erectile apparatus. It is to the veins of the rectal and genital viscera we should direct our attention in the relation of rectal and genital disease. We must note the vast plexus pudendalis, which includes the blood from the erectile tissue of the external genitals and the inferior hemorrhoidal vein; also the vesical plexus which surrounds the bladder like a web and coalesces into a changing number of venous trunks, to empty into the internal iliac. The especially interesting plexus from the middle and inferior hemorrhoidal veins, which surrounds the rectum like a coarse, wide-meshed network, passes their blood current on through the internal iliac to the pudendal and vesical plexus, while the superior hemorrhoidal vein sends its blood stream to the liver by way of the valveless portal system.

The plexus uterinus, with its vast changes of volume during pregnancy and menstruation, empties partly into the ovarian and partly into the internal iliac. This plexus spreads itself out between the ligamenta lata, forming the plexus pampiniformis. The plexus vaginalis surrounds the vagina with such large and numerous anastomosing veins that some consider the vagina an erectile organ. The plexus stands in manifold connection with other pelvic plexuses, and finally empties into the internal iliac vein.

In regard to the valves of the ovarian veins, I have dissected perhaps twenty-five bodies and found valves nearly always at the ovarian orifices, but especially in the left vein. The pelvic plexuses are very compressible; they can be emptied partly or wholly, and again their vacuum can quickly assume a full condition. The pelvic veins stand in loose connective tissue. Any obstruction in the liver congests the veins of the pelvis, and especially those of the rectum, which rest in loose, lax, yielding connective tissue, so that they get less support for their walls from surrounding structures than others. Besides, the rectal veins suffer dilatation from force of gravity, because the portal vein possesses no valves. Whatever tends to congest either genital or rectal veins tends to congest both rectal and genital viscera. It may be observed that the more spiral or curved the pelvic veins, the more healthy they are. Straight, elongated, and dilated veins are pathologic. The varicose or dilated condition of the rectal veins exacerbates the congestion of the pelvic viscera, as the two lower hemorrhoidal veins empty themselves by way of the pelvic veins. The enormous number and extent of the pelvic veins strike all students of anatomy, and, if their large amount of venous blood be retarded or infected, congestion will be inevitable and the migration of germs or their products through the

thin-walled veins will be extensive. Venous thrombi are apt to arise in the pelvic veins, complicating circulation and endangering the transmission of emboli to the brain, lungs, or kidneys. The rectal and genital veins being sometimes branches of one and the same venous trunk, congestion or disturbance in one will be accompanied by disturbance in the other. Of course, all of the veins of the extensive vascular plexuses of the pelvis carry numerous sympathetic nerves in the connective tissue surrounding the vessel wall. This makes the genital and rectal system a delicately balanced and complicated apparatus.

The relation of the genitals and rectum in disease is most manifest through the nervous apparatus of the parts. The chief factor is reflex action, *i.e.*, the disturbance in distant organs by a local irritation. The nerves of the pelvis consist of (*a*) spinal and (*b*) sympathetic. In the spinal nerves, branches of the same nerve trunks and plexuses supply the genital, urinary, and rectal organs. The sacral plexus gives branches to the bladder, internal and external genitals, and rectum, *i.e.*, the third sacral sends a large branch to the bladder, the third and fourth sacral send large branches to the internal genitals, and the third and fourth sacral (the pudic) send large branches to the rectum and external genitals. The trunk of the pudic nerve may be represented by the forearm, while its branches may be represented by the fingers of the hand—the little finger representing the large vesical nerve; the ring finger, the perineal nerve; the middle finger, the hemorrhoidal nerve; the index finger, the vulval nerve; and the thumb, the nerve to the clitoris. Therefore the genitals and rectum are bound together by very close and intimate connection by the spinal nerves. The spinal nerves hold the muscles of the pelvis in delicate balanced tension. The spinal nerves are those which manifest quick and acute pain.

The sympathetic nerves, much more extensive than the spinal, supplying the rectum and genitals, pass to them in large strands or by way of the respective blood-vessels. The internal genitals are supplied by the ovarian and hypogastric plexuses, while the rectum is supplied by the inferior mesenteric plexus—all three plexuses being branches from the great abdominal brain. However, the hypogastric plexus which passes to the uterus is controlled or modified in its rhythm by the utero-cervical ganglion (pelvic brain). The inferior mesenteric plexus passing to the rectum is controlled or modified in its rhythm by the inferior mesenteric ganglion. The ganglion which by connection with the ovarian plexus intervenes to modify or control the rhythm of the ovary is not fully known. There are a large ganglion at the origin of the ovarian artery and several smaller adjacent ones. It is much plainer and more manifest that the sympathetic system of nerves holds the genitals and rectum in a firmer and even more delicate balance than do the spinal. In short, the rectum and genitals are supplied by branches of the same ganglion—the abdominal brain—and to the abdominal brain we must look for the great disturbing reflexes which arise in disease of either rectum or genitals.

It is in reflex action from one viscus to another that we find the clinical manifestations. The removal of the result of reflex irritation is one of the chief functions of the gynæcologist or proctologist. The majority of neurologists appear to claim that a neuron acts only in the confines of the cerebro-spinal axis. Neurologists claim that no deep-seated disease is caused by reflex irritation, nor can it be cured by removing reflex or peripheral irritation. To me the most sensible view is that a neuron will act within its own sphere just as well in the abdominal brain as in the cerebro-spinal axis.

For the sake of argument, we will admit that deep-seated pathology is not due to reflex irritation nor is it cured by removal of peripheral or reflex irritation. But gynæcologic patients suffer less frequently from deep-seated disease than from superficial reflex irritation. They suffer from slight irritation in the stomach, slight headache, and backache, due to pelvic irritation.

The triumvirate of local disturbances in women is back, head, and stomach, and all pain here may be due to reflex irritation from pelvic visceral disease. Dr. Dana has written an article on the "Passing of the Reflexes." The reflexes may be passing, but they will never pass while humanity is afflicted with peripheral irritation and while the greatest amount of suffering is caused by reflected pain rather than by deep-seated disease.

The object of a neuron, a nerve cell, is to resent irritation whenever and wherever it comes, and this constitutes "reflex" disturbance of one organ, inducing disturbances in a distant organ.

Diseased genitals, as every practical gynæcologist knows, generally produce, by reflex irritation, pain in the back, head, and stomach. Irritation in the rectum long continued will produce similar disturbances. Thus it is observed that cerebro-spinal nerves, the pudic, hold in distinct and delicate balance the external genitals and rectum. Disturbance in one will affect the other. Now, whether peripheral irritation originates in the genitals or in the rectum, the continual action of reflexes will unbalance the whole visceral system, and the patient will gradually suffer from indigestion, non-assimilation, anæmia, and finally neurosis.

The close relation between the genitals and the rectum may be observed by the clinical fact that operations on the rectum often cause retention of urine. When pelvic cellulitis exists, which is generally subsequent to peritonitis, the vessels and nerves which pass through the pelvic floor are surrounded by perilymphatic spaces, and the distribution of infection is thus enhanced by muscular action. The perilymphatics can also carry the infection from rectum to genitals, and *vice versa*, on the veins, arteries, or nerves which perforate the various pelvic partitions. Rectal diseases may be gradually extended by the lymphatics into the great field of subperitoneal tissue involving the genitals. How frequently does genital suppuration perforate the rectum, inducing distressing and persistent rectal disease! The diseased relations of the genitals and rectum are enhanced by the intimate and close connections established by means of the lymphatics. The arteries, veins, and nerves are surrounded by greater or less sized lymph sheaths, which easily disseminate infection throughout the pelvis by muscular trauma or activity.

The neuro-vascular tracts surrounded by the perilymphatic sheath, like the perivascular lymph sheaths of the turtle, perforate the various partitions and are liable to carry slowly or rapidly infectious processes to the various pelvic tissues, from genitals to rectum, and *vice versa*. The physiologic or excessive action of the pelvic muscles aids the lymphatic channels to distribute infection.

The veins of the lower rectum and some of those of the genitals are apt to become varicose and dilated, and thus influence the circulation in either region.

The tendency of the veins to dilate, to become varicose (to form hemorrhoids), is partially explained by the fact that the rectum and genitals are depleted by two venous systems, both with no or imperfect valves; especially, the portal system not only has no valves, but has rapid variations in the congestions and depletions with unfavorable conditions as to specific gravity and position.

Again, the veins of both rectum and genitals are

detrimentally affected by violent respiratory efforts, particularly by coughing. One can observe by the eye vast dilatation and filling of the rectal and genital veins followed by depletion during short intervals of violent respiratory efforts.

Not only do the rectal veins form a close meshwork about the lower rectum, favoring congestions and depletions, but the arteries of the last four or five inches of the bowel penetrate the muscularis of the gut wall at different levels, course parallel to the bowel wall, and form intimate arterial anastomosis as they approach the anus. Hence we have in the rectum a double meshwork of anastomosis, both of arteries and of veins, and a vast meshwork of closely anastomosed veins in the genitals—all favoring diseased relations between rectum and genitals.

Rapid congestions and depletions of veins (and of arteries) in any tissue favor disease, which is enhanced by muscular trauma and the dissemination of infection.

The intimate relation of the anus and neck of the bladder is maintained chiefly by the fourth sacral nerve, which supplies the neck of the bladder and then passes to supply the sphincter and levator ani muscles. The pelvic viscera, skin, perineum, and muscles are all kept in intimate association by the second, third, and fourth sacral spinal nerves, and their circulation is held in delicate balance by the pelvic sympathetic. Disturbance in any one part of this complicated yet perfect nerve apparatus will tend to unbalance the remainder.

Conclusions.—1. The intimate and close relation of the rectum and genitals in disease may be frequently observed by the gynæcologist and the rectal specialist.

2. It is due to the close proximity of the organs allowing the interchange of infectious processes. The same germ, especially the gonococcus, produces disease in both rectum and genitals, *i.e.*, in the mucosa.

3. It is due to the relation and condition of the veins of both organs. There exists a double venous circulation with valveless veins.

4. The disease in one of the organs produces changes in the other. The reflex action in one organ produces disturbances in the circulation of the other organs, as anæmia, congestion, and emigration of microbes or their products. The congestion may also dilate and elongate veins, destroying their healthy spiral condition. Also the rectum is depleted by two systems of veins, and the portal, with part of the other system, possesses no valves. The same venous trunk depletes at times both rectum and genitals.

5. It is due to muscular trauma, which disseminates the microbes or their products to different regions of the pelvis.

6. It is due to the fact that neuro-vascular perforations exist in the partitions between rectum and genitals, allowing disease to travel on those lines, especially aided by the surrounding lymph sheaths.

7. The close relation of rectum and genitals should suggest a careful examination of both apparatuses by the physician.

On the Osteoplastic Treatment of Congenital Encephalocele.—Drs. Neugebauer and Ostran (*Centralblatt für Chirurgie*, 1897, No. 46) describe a case of encephalocele situated near the root of the nose, treated by sewing a skin-periosteal-bone flap over the tumor. The case seemed cured, but after two years' time there is now a non-pulsating swelling in the place of the original encephalocele. It is produced by the pressure of the growing brain against the flap, causing the latter gradually to give way and to become arched. Thus the cosmetic effect has not been permanent, though the tumor was prevented by the operation from growing.

I.—A WORD OF WARNING AND ENCOURAGEMENT TO THE GENERAL PRACTITIONER AS TO THE MANAGEMENT OF CASES REQUIRING SURGICAL AID. II.—THE DEPLORABLE STATE OF THE PRACTITIONER'S ECONOMICS, AND A SUGGESTION OF REMEDIES.

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I.

None of us who have been long in practice will differ from Dr. Charles McBurney when, at a recent meeting of the Practitioners' Society of this city, he advanced the statement that the permanent results of surgical operations would be greatly improved if the surgeon were always called in as soon as, and not an hour later than, appeared to be indicated by the symptoms of the case. Some very nice *points d'excuse* on the part of the patient as well as of the physician were brought out in the discussion; it is not my desire to add to them, but to state just a few cases of recent experience with regard to malignant disease of the mamma only, in each of which I gave an early note of warning to my patient and soon insisted upon a radical operation being done, without losing the confidence of the patient or having her swerve from the right road for a minute. And it may be said right here that, though the results obtained have been quite satisfactory to all parties, yet I am conscious that in these cases and in others I might have done better by being still more timely in asking the patient's consent, thereby not only facilitating the surgeon's procedures but greatly improving the chances of a permanent cure.

Case I.—Mrs. W——, fifty-two years old, widow. Large scirrhus of the left breast, that had been growing for more than two years, involving the pectoralis major muscle and all the axillary glands. Her daughter said: "Please do not tell my mother that she has a tumor, and do not speak of a possible operation; she would die from fright, and would not listen to any advice of operation." Not having seen the lady before, I spent half an hour to elicit her history from her and reassure her, and another half hour to examine her all over most thoroughly, and then said to her: "Madam, you have a malignant growth of the breast, with the same disease already established in your armpit. You are in great danger of getting this disease transported into your entire system. Your only chance lies in a speedy removal of the entire growth, if possible." Her consent was obtained before I left the house, and two days later the extensive operation was done by a surgeon whom I knew to be fully competent to proceed radically without hesitation, but without rashness. This is a matter of two years ago now, and, strange to say, the patient has suffered no visible relapse.

Case II.—Miss B——, forty-five years old; still regularly menstruated. No history; strumous diathesis (not a misnomer, if properly understood). She came to me first a year ago. She then looked very poorly nourished and felt generally miserable. The badly ingrown big-toe nails, which she came to have treated, I removed, and dressed the ulcers and wounds about her feet; I also treated her generally, until at the end of three months she was in a fairly good condition. She then said that, before staying away for good, she would have me look at her left breast; she thought there was a lump in it, but it did not hurt her a bit. Finding a rather small, hardish, flat tumor directly underneath the nipple—the latter a bit retracted, but every tissue around the same normal—I said to her: "Well, there is a growth there which may have to

be removed later on; take Fowler's solution for the present, and come back after a while." That was not good advice, and I regret now to have made so indefinite a statement; because, as patients are very apt to do, she stayed away, keeping on taking five drops of Fowler's solution t.i.d., on which she seemed to thrive, and when she returned to me three weeks ago she looked remarkably well. But the cancer? Had it remained idle in the mean while? By no means. It was twice its former size, and, pushing the fingers under the breast from above and below, I could feel cancerous nodules in the muscle and also in the left axilla. The radical operation was skilfully performed, but the greater part of the pectoralis major muscle had to be taken away, and the axilla required entire cleaning out.

Now the rapid deterioration in this case may be considered a striking and a warning example to the practitioner as to other cases when of the same type. As they come to consult us, not infrequently a conversation ensues like this:

"Why, yes, to be sure, you are quite right; there is a little lump in your breast."

"Is it clogged milk ducts, doctor? I hope it is nothing bad!"

"Well, now, madam, the lump is neither tender nor painful; it is a fibrous growth at the worst. No need talking about an operation now. Take these pills and come back some weeks hence."

Now my second case and many others which I know of show that this is not the right way to proceed. We know that nine such cases out of ten are cancerous, and will grow sooner or later. I propose never again to mention the words inflammatory induration, hardened milk ducts, fibrous growths, and such like nonsense after examination—which we are apt to use only to gain time; in doing so we belie both ourselves and the patients, we bewilder them, and we lose them. We must say to them at once: "There is a suspicious tumor present that needs to be looked after twice a month at least;" and let that looking after be a thorough and honest piece of work, for the accomplishment of which tact, skill, and experience are indispensable.

Case III.—Mrs. S. S——, fifty years old. No history; married when young; had one child. Her husband dying when she was about twenty-five years old, she went into domestic service and continued in it to the present day. She lost considerable blood at the time of her menopause, five years ago, but managed to get back into good health again, and continued therein. She went to Europe last summer to see her relatives, and, on returning in September, was under my treatment for rheumatic conjunctivitis and dyspepsia. In November she returned to me and said that she had slight lancinating pains in the left breast, and that she thought something hard had grown in it these last two months. Finding a small scirrhus with nipple retracted and at least two enlarged lymph glands in the axilla, I informed the patient of the presence of a malignant growth and insisted upon the immediate necessity of a radical operation. It was agreed to, and the mamma and infected glands were removed. Healing took place promptly.

It is not my purpose to relate more and similar cases, or to go into the subject of cancer of the uterus, the rectum, the intestines, the operable malignant tumors of the kidney, lymphatics, tongue, etc.; but I will say that, whenever and wherever I did my duty wholly and unflinchingly by my patient, stating kindly, distinctly, and with authority that a neoplasm was present which required early and radical removal, the party concerned did not take other advice behind my back, did not give me up, but almost always followed my counsel. To be sure, a good deal of earnest talk was sometimes necessary, consultations had to be had, a great many irrelevant questions had to be answered, inquiring friends had to be reckoned with, and all that; but what are we good for unless we are ready to do the many things that may be required in order to get the best thing done for our patient?

Now as to the economics that result from telling the patient the truth so far as necessary and in the proper way, or from withholding the same for fear of losing the case. My experience has been that the man who is afraid of losing his patient by telling him what he and his friends ought to know and know quickly will soon lose the case and a bit of reputation besides; the man who will say what is right, without twaddling and without adding rose-colored statements, will keep his patient and increase his practice. Of the moral aspect of the question I will not speak, because it is not within the scope of this paper.

There is, however, a question of finance in turning our cases over to the surgeon, of which I will speak. Time was when the surgeon performed his operation, dressed the wound, and the attending physician carried out the after-treatment. That such division of labor added materially to the regular income of the family doctor none know better than we older practitioners who lived and worked during that period and profited by such arrangement. Modern surgery has changed all that, and it is of little concern to the practitioner whether the surgeon operates on the case in the patient's house, or takes him to his private clinic, or gives him a private room at the hospital where he is on the visiting staff. The entire after-treatment is done by the surgeon, or his assistant, or even his specially trained nurse; the doctor is out, absolutely out of the case. He may make a friendly visit now and then, but his self-respect will soon make him discontinue these also. He may see the patient again when he is able to be about, or he may not see him again at all. Unless there is a previous understanding between him and the surgeon—and I have heard it said that such things are—the surgeon has the glory and everything besides; and the doctor—well, he may sleep soundly on a clear conscience.

Why is this so? No surgeon can make use of an assistant or a dresser who is not thoroughly skilled and experienced in the work; to be so skilled the physician must receive special instruction in hospital or private clinic for at least two years. A small minority get this and are consequently well equipped for serving as surgical assistants, but the majority of practising physicians lack such training, and consequently are not fitted to help the surgeon. I see no reason why a great many more young men should not, during their course of study, learn as much at least as a first-class surgical nurse in taking charge of the after-treatment of a great many surgical operations. It can be taught them, and the necessary course for such instruction ought to be made obligatory in the medical colleges, if it be not so already.

II.

A word now as to the gradual but decided reduction of the doctor's earnings and some of the causes thereof may not be out of place. I am far from denying that the abuse of medical charity at the hospitals and dispensaries, particularly the latter, is harmful to the private practitioner, and I believe that there should be no more dispensaries than the number of the poor of the city requires, and that these institutions be supervised by the State Board of Charities. But will the accomplishment of the necessary reforms in that direction benefit us greatly, as a good many seem to believe? I do not think it will, because such reforms remove but one cause of the present financial distress among doctors, and leave other influential ones untouched.

(1) No matter how far we may succeed by forced or voluntary altruism in modifying the consequences of some of Adam Smith's laws of economics, we cannot controvert the laws of trade, we cannot increase the supply of an article far beyond the demand for it and not diminish the value of that article at the same time. The production of medical men has gone far ahead of the actual demand for their services, and is out of all proportion to the increase of population of the United States, in comparison with that of other civilized countries. The country cannot support so many doctors, and therefore the State legislatures, if not the Congress of the United States, ought to pass laws regulating and limiting the establishment of medical schools, of which there need not be more than one to every million of inhabitants; and all now existing medical colleges ought to be made to take out a State license, the granting of which in any case should depend upon satisfactory proof being furnished by said medical college to the State that it maintains the recognized standard of didactic and clinical instruction and possesses the plant required for the purpose. Any medical school not coming up to the required standard ought to be abolished without delay.

Further, the study of medicine for the purpose of making a living out of the practice of it, may, indeed, be undertaken by any one who has the sense to learn the art and science and the means to look on until the living comes to him in time. But all those who lack these means must be dissuaded from entering an overcrowded profession.

(2) Specialism has come to stay, and is so well recognized already by a great many laymen that a number of them never think of sending for the family physician when a surgical case occurs in the house, but to the surgeon; and to the oculist when there is the least thing the matter with the eye; to the dermatologist in skin disease; to the laryngologist, otologist, etc., as occasion may require. That the well-to-do women are confined by specialists and go to the gynæcologists without a previous understanding with their family physician, goes without saying. That this establishment of specialism in the practice of medicine will be disestablished in the near or distant future may perhaps be believed by some, but I am not among those who so believe. Nay, it will surely continue to exist and prosper, the more so as its value is also well recognized by the general practitioner, who is only too apt to consult the specialist himself when there is the least thing the matter with him. Why should not the public follow his example? In my judgment, the income of the doctor is reduced by the competition of the specialist as much as by the competition of the fellow-practitioner; perhaps more. The city practitioner in particular may take this fact well to heart, and cultivate some specialty as he gets along in practice. Besides the great satisfaction he will have in becoming an expert in the practice of some special branch of his art, he will also be better off in the goods of this world.

And there is another condition of things, the bringing about of which has reflected great credit upon the doctor, but also helped to reduce his earnings. I mean the better and healthier mode of living, the improved sanitary surroundings, the out-door life of the people, and their increasing cleanliness. The rules and laws of health and life have been preached by the physicians in public and in private all these years, and the inspectors of the board of health have insisted upon the observance of the same by the poor. Think, for a moment only, on the daily supply of pure water, milk, and food to the inhabitants of this city, and compare what we have now with what we had to put up with twenty-five years ago! No wonder the public is better now, and the time may come soon when the functions of the general practitioner will be mainly those of the sanitary inspector, who looks after the health of his clients, gets his office free of rent, and is paid a fixed salary that is to come out of the money contributed by the taxpayers of the city.

When I began thirty-five years ago, I started practice, as many others have done, in the populous districts of the lower parts of the city, and attached myself to a dispensary—the Northern, it was—where I did surgery for three years. Did the dispensary work do me any good? Decidedly; I got a good deal of experience in minor surgery, and indirectly some private patients, who were sent to me by the poor I took care of at the Northern. Hundreds of men have done likewise and done well. Can a young man travel the same road now? I believe so, though the path may be much more rugged and difficult to find. If he takes umbrage at such low beginning, and lacks a string of cousins and aunts to help him along and sing his praise among the well-to-do, then he may betake himself "*procul urbe ut prisca gens mortalium*"—and it will not be a bad move, if he soon learn to know the ways and tricks of the rustics. They are apt to take kindly to the new doctor; they will take him in softly too, but he will triumph in the long run, if he be smart and understand his business. And the practice of medicine is a business as well as an art, and fully as difficult to succeed in as any other.

There may be other things worthy of discussion in the consideration of the economics of the general profession; let others point them out. I am conscious of having said what I believe to be true, and have essayed to make some suggestions which might be of service to the general practitioner. And, as I am one of them, it is to be hoped that my remarks may be kindly received and impartially read.

25 West Forty-Sixth Street.

THE RELATION OF THE OPERATOR TO THE ANÆSTHETIST.[1]

By SALING SIMON, A.B., M.D.,

former chief resident physician, arapahoe county hospital.

Implicit confidence on the part of the surgeon in his anæsthetist is essential to the success of an operation and safety of the patient; and when this exists no difficulty ought to arise. Unfortunately, in most hospitals one of the younger internes is, as a rule, selected to administer the anæsthetic. The operator accustomed to having a novice give chloroform or ether for him is kept on the *qui vive* while performing the operation and watching the administration of the anæsthetic. Such a condition of affairs is not conducive to the best work of the surgeon. If the anæsthetist is one who forgets his patients in his anxiety to watch the operation, the surgeon is certainly justified in giving some attention to the patient; but if the former is a careful man, who fully realizes the importance of his position and gives his entire attention to the patient, the operator should let him alone. Nothing is more annoying to the one giving the anæsthetic than to be continually warned by the surgeon to watch his anæsthetic, when his undivided attention is given to the same. On one occasion recently, while I was witnessing an operation in one of New York's hospitals, the operating surgeon kept continually yelling at the interne who was administering ether and seemed to be doing his work well. "For Heaven's sake, don't let the man die on the table!" "Don't crowd the ether!" etc., were some of the things hurled at his head, although at that particular moment and for fully a minute previous the cone had been removed from the pa-

[1] Read before the Colorado State Medical Society, June 17, 1897.

tient's face; in fact, the operator did not appear to be watching the patient's condition, but simply from force of habit, I suppose, or absence of students, had to keep his tongue in motion.

It seems to me an important part in a faultlessly conducted operation, after a competent anæsthetist has been selected, to leave the administration of the anæsthetic and the patient to his care. He should, except under unusual circumstances, be allowed to choose the anæsthetic or change it when he considers it expedient. It is almost unnecessary to add that the use of stimulants while the patient is upon the table should be left entirely to his discretion. The duty of the operator toward the patient, as far as the administration of the anæsthetic is concerned, ought to end with the selection of the anæsthetist.

The position of the anæsthetist is not an easy one. Upon him depends not so much the success of the operation (for every operation is successful and beautiful even though the patient die), but the recovery of the patient. He should be so preoccupied with his patient and anæsthetic as to be almost oblivious of everything else going on in the room. He should use the least amount of anæsthetic necessary to bring about the degree of narcosis desired by the surgeon. (And let me add that he should avoid so saturating the patient with the anæsthetic as to require an hour or more after completion of the operation for the latter to come out from under its influence.) If he finds the patient failing, after having resorted to the usual methods of stimulation he must warn the operator in due season, in order to give the latter a chance properly and rapidly to conclude his operation. It is in cases of the kind mentioned that the judgment of the anæsthetist will be most severely tested. He must be careful, on the one hand, not to alarm the operator unnecessarily, and, on the other, not take too many chances with the patient. When any doubt exists in his mind, he should briefly and quietly state the patient's condition to the surgeon, and thereby to some extent divide the responsibility in case the latter wishes to continue. But not for one moment should he relax his watchfulness or feel that in so doing he has shifted the burden of responsibility upon other shoulders than his own. A story—and let us hope it is only a story—is told of a young interne who, while giving an anæsthetic, warned the operator several times to desist, as the patient was doing badly. At each warning the surgeon glanced up for a second, made light of the young doctor's alarm, and continued his operation. At its conclusion the surgeon looked up and asked, "Doctor, how is the patient?" and was met with the laconic reply, "She has been dead for the past five minutes."

An excellent solution of the problem, and what ought to be the desideratum of every surgeon, would be the professional anæsthetist. It is doubtful, however, whether one taking the work up as a specialty could make a living at it alone; and especially is this true in the smaller cities.

The difficulty arises from the fact that every physician gives anæsthetics occasionally, and, no untoward results following, he believes it to be a very simple and easy matter. He forgets that he cannot judge of its dangers from his limited experience.

The time may come when the medical profession will recognize that proficiency in the administration of anæsthetics requires special training, and then the specialist, the professional anæsthetist, will supply a long-felt want.

303 Jackson Block.

Mammary Carcinoma.—Set up an experimental cirrhosis by injecting dilute alcohol about the tumor. Twenty-five cases are reported thus treated.—Nasse, *Virchow's Archiv*, 146, 2.

THE TREATMENT OF CRUSTA LACTEA, OR INFANTILE ECZEMA.

By W. P. Kistler, M.D.,

Allentown, Pa.

The occurrence of this affection in infants and children under four years of age is so common, its clinical appearance so marked, and the opportunity for its complete observation by every practitioner of medicine so frequent, that the writer will not unnecessarily take up space for its description.

The large number of cases treated, and the more than ordinary success obtained in its cure, prompt me to give the treatment pursued during a busy practice of over thirty years. Milk tetter occurs among the rich as well as among the poor, and is a most annoying affection, not only to the little sufferer, but to the mother or nurse who has charge of the case, when sleep is so frequently disturbed by the child's distress. In the etiology of infantile eczema, an inherited or congenital tendency to eczematous inflammation may exist, and such cases are as a rule more difficult to cure than cases in which the active cause can be demonstrated.

There are three chief indications to be fulfilled in attempting to cure this distressing complaint; namely, elimination, palliation of local distress, and correction of malassimilation and restoration of strength—which latter are, indeed, the main factors.

For elimination, calomel in purgative doses—one to two grains (preferably tablet triturates), according to age—the object being to stimulate the liver and to obtain a perfect clearance of the stomach and bowels; the dose to be repeated according to circumstances—once, twice, or thrice a week, as the patient's condition may indicate.

For alleviation of local distress, itching, etc., the benzoated oxide-of-zinc ointment is an old but capital application to soothe and protect the skin. The following is another excellent dressing, viz.:

℞ Salicylic acid	2	parts.
Bismuth subnitrate	40	"
Cornstarch	15	"
Ointment of rosewater	100	"

These ointments should be spread thickly on pieces of muslin and carefully applied, especially in the moist variety. When there is merely a dry squamous form of the affection present, and in the face, the ointment can be rubbed over the surface of the skin. These salves may be repeatedly applied until a thick, white, and rather dry coating forms upon the surface of the skin, which greatly lessens the itching and the redness, and allows a healthy epidermis to form. Soap and water are powerful agents to aggravate this existing inflammatory condition, and the frequent washing of an infant or child affected with eczema is to be strenuously interdicted.

The third indication, restoration of strength, is accomplished by correcting the malassimilation and restoring the blood to its normal condition. The best agent for effecting this is that valuable alterative tonic—arsenic; Fowler's solution, in doses of one to three drops, according to age, may be given. It should invariably be conjoined with iron; the ammoniated citrate, so readily soluble in cold water, combined in proper doses, is a very convenient and efficient preparation for this purpose. The same should be administered three times a day. The elixir of gentian and tincture of chloride of iron in suitable doses are also an eligible tonic and stomachic in this class of patients.

Hygienic and dietetic measures must likewise not be neglected.

Progress of Medical Science.

A New Method of Intestinal Anastomosis.—The possibilities in surgery, and especially in abdominal surgery, appear to be practically illimitable. But a few years ago, and the prediction that the operation for removing the entire stomach could be performed with any degree of success would have been scouted as the vaporings of a dreamer. Now that this apparently impossible feat has become an accomplished fact, it would be rash to assert that any operation, however radical, is too difficult for the surgeon to attempt with the hope of good results. This advance in practical surgery, in which our country has played a satisfactory part, is undoubtedly one of the most striking features of recent years. Almost every week some novel mode of performing an operation is suggested or tried. This is as it should be, for it is in experiments that the path which leads to final success lies. Dr. J. Shelton Horsley, in the *New York Polyclinic* for December, describes a new method of intestinal anastomosis that has occurred to him, and which has been tested on animals and the cadaver. From a perusal of this article, it would appear that the means proposed by Dr. Horsley are both feasible and simple. These are as follows: "After the incision in the abdominal wall, the diseased intestine is drawn well out of the abdominal cavity, and sterilized tapes are placed through the mesentery several inches from the point to be resected, and tied round the intestine just tightly enough to check the fæcal flow. Fæcal matter is stripped from between the tapes before they are tied. The intestine is resected, bleeding points in the mesentery are secured with artery forceps and ligated with silk, and the ends mopped out with moist bichloride sponges. The mesentery is incised for several inches at right angles to the intestine, or a V-shaped section removed to facilitate the subsequent manipulation. The ends of the bowel are then placed side by side, opening in the same direction and being in contact along their free surfaces opposite the attached mesentery. A pair of artery forceps inserted in the ends and clamped holds them in this position. A finger of the left hand is inserted into one end of the intestine and the thumb into the other, and over them as a bobbin a Cushing suture of fine silk in an ordinary cambric needle is commenced. The first stitch approximates the portion of the two limbs of the intestine near the mesenteric attachment. The suture is then carried obliquely for about two inches, when dealing with the small intestine, to the border opposite the mesenteric attachment, and continued over the other side, where it stops at a place corresponding to its point of commencement. Here the needle is left on the thread, and an artery forceps, padded with sterilized gauze to prevent injury to the thread, seizes it where it emerges at the last stitch. This keeps the sutures tight. The bowel is now partly everted, exposing a U-shaped septum, grasped by the artery forceps first applied. This septum is cut away with curved scissors, leaving a margin of one-third of an inch. An overhand suture of silk in a curved needle is then commenced at one edge of the 'shelf' left by cutting away the septum, and is carried through all the intestinal coats. When the suture reaches the end of this shelf, it is continued by slightly invaginating the rest of the resected ends, which consists of about one-fourth of the entire circumference. It terminates at its point of commencement. The first line of sutures is now finished by continuing it about one-fourth of an inch from the overhand suture. The incision in the mesentery is closed, the intestine lightly sponged with gauze wrung out of hot sterilized salt solution, and dropped back into the abdominal cavity." It is claimed as a special feature of this manner of operating that all fear of stricture is removed. Experiments made on three dogs by Dr. Horsley resulted as he had anticipated.

Know Syphilis in all its manifestations and relations, and what remains to be learned will not stretch the pia mater of a megalocephalic senior student.—William Osler.

The Nature of the Cells in Soft Moles and their Relation to Malignant Growths.—Fleshy nævi have long been looked on as epithelial inclusions in the connective tissue—misplaced embryonic growths, according to Cohnheim's view. But this does not exhaust the interest in such moles, since with them is bound up a larger scientific question—how certain malignant tumors are to be regarded, which have sometimes been classed as sarcomata, sometimes as carcinomata. Should, then, the epithelial nature of the nævus cell be accepted by the majority of anatomists, this will necessarily open the way for the pathologist, when it is seen that any other view is irreconcilable with so many accepted pathological theories. The nævus cells, according to Unna (*Deutsche med. Zeit.*, June 21, 1897), are found in very various numbers in all soft moles, in the form of solid groups, balls, cords, and larger masses, more rarely single. They are simply deposited without the intervention of any investing membrane in the connective tissue, which, except that it contains fewer elastic fibres, is otherwise normal. These cells are distinguished by two peculiarities, more manifest near the surface, where they are less compressed: First, the vesicular form and considerable size of the nucleus; and second, the complete absence of fibrillar connective tissue beween the cells within the groups. They differ from the surface epithelium in that their protoplasm is less amenable to staining, and in the absence of prickles; thus they have more affinity with gland epithelium. From the developmental point of view, the nævus cells are only snared-off epithelia deposited in the connective tissue. This can be determined by examining such moles taken from the cadaver of newborn or young infants, in which can be seen: (1) epithelial proliferation; (2) metaplasia of the epithelium, namely, a structural and tinctorial change in the epithelial protoplasm: and (3) the snaring off of the epithelium and its deposition in the connective tissue of the corium. Variations in the degree of these account for differences in the forms of the nævi of children. These can be divided into four categories: (1) those with simple epithelial proliferation; (2) those in which to this are superadded metaplasia, and snaring off after a thoroughly concordant fashion; (3) those in which metaplasia of the prickle cells follows closely on the epithelial proliferation, but the snaring off of the metaplastic parts is disproportionately delayed; (4) those in which the epithelial proliferation, the metaplasia, and the separation occur so harmoniously that there is no increased accumulation of epithelium on the surface of the nævus. It may be objected that the cell masses in the cutis are not epithelia, but endothelia; but three circumstances militate against this. There is nowhere any indication of cell proliferation in the cutis and vessels, which is necessary as the basis of a connective-tissue theory of the origin of the cell masses. And not only are changes to be found in the surface epithelium, but also in that of the hair follicles and sweat ducts. Besides, the prickle layer in these organs is proliferated here and there, and, more than that, altered metaplastically. This in addition favors the hypothesis that the nævus cells in the adult are in part derived from the prickle layer of the epidermic appendages.—*The Edinburgh Medical Journal*, January, 1898.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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NATIONAL QUARANTINE AND THE MARINE HOSPITAL SERVICE.

THE discussion concerning the advisability of a national health law has culminated in a consensus of opinion on the part of the general public, of the health authorities, and of the medical profession, that the time has come for an ultimate settlement of the questions at issue. To this end several bills are now before Congress, advocating governmental control of quarantine and the consistent adjustment of State rights in preventing the spread of disease from one commonwealth to another. The experiences of widespread epidemics, notably that of yellow fever last summer, and the inability of the different health boards adequately to meet the then existing emergencies, have proven the urgent necessity for more stringently protective regulations than at present exist. The fundamental difficulty has been the apparent impossibility of reconciling merely local differences with the general good. Each State, having a sanitary code of its own and being naturally jealous of its legal rights, has fought against a proper understanding of mutual interests and the consistency of adopting proper means to desirable ends. It is perfectly obvious that, in order to harmonize such more or less radical disputes of authority, there should be created some centralized power in the general government, which should control every part of the widest territory or the longest stretch of coast, and compel each State to do its part in the realization of a perfected system of common protection.

To accomplish such a purpose, very many efforts have been made during years past by sanitary and medical organizations, but thus far there has been no reasonable agreement on the fundamental principles and on the practicable and consistent management of necessary details for effective and comprehensive work. The medical profession, with a laudable effort to gain proper recognition in such a movement, has been overambitious in claiming too much for itself at the start. While it would be eminently desirable that a distinct department of public health should be created, having a cabinet officer at its head, it is quite evident, considering the state of public opinion at present, that there is no appreciation of the necessity of such a radical and far-reaching measure as yet; and it is also quite clear that the profession must grow up to the situation rather than force it. This disposition on the part of the framers of many of the bills is the real stumbling-block to all effective legislation on the subject. It has been so in the past, and it is so in the present. It is the old story—when we ask for too much we are likely to get nothing. Every one who has studied the attempts at legislation in the direction of national quarantine must have been impressed with their complexity, impracticability, and cumbersomeness.

There is just now not so much a necessity for educating the public in sanitary matters as for perfecting suitable police regulations for threatening epidemics. Thus it would naturally appear to be reasonable to elaborate, strengthen, and amplify what we may already have in that line, rather than to aim at some new, untried, and obviously unwarrantable measures. From such a point of view the bill of Senator Caffery, "granting additional quarantine powers and imposing additional duties upon the Marine Hospital service," deserves the support of every one who may hope for a logical settlement of the great question at issue. This bill has for its purpose such a development of the Marine Hospital plant as will make it possible for the general government efficiently to control all maritime and inland quarantine, and is framed on the practical basis of aiding and advising the local authorities and not interfering with them, unless in cases of emergency or when large districts of country are affected and when a general impartial and uniform system of protection is demanded. The secretary of the treasury naturally remains at the legitimate head of the department. Much as it would compliment the medical profession to have a physician in such position as a member of the cabinet, the proposed measure is the next best solution of a question concerning which there are many pros and cons. The secretary has already supreme control of maritime customs, and can, on sufficient grounds, refuse the entry of any vessel bound for our ports. When to such power that of enforcing quarantine is added, it is easy to conclude that both functions can work together harmoniously and consistently. Then, again, there can be no question, in this instance, regarding the constitutionality of so-called invasion of State rights, as Congress has the right to regulate commerce and can interfere with anything that pertains to it.

One very forcible argument in favor of the bill is the fact that the Marine Hospital service, having done so much in arresting and preventing epidemics, is fully competent to exercise increased powers in the line of work with which it is already perfectly familiar. With such great interests at stake as the health of the entire nation, there will be no possible temptation to make distinctions in favor of one or other district, but all can come under a uniform regulation, "as far as climatic conditions will justify."

The main opposition to national quarantine comes quite naturally from local authorities which are jealous of the privileges of revenue and of political patronage. This is evidenced by offers on the part of several

States to purchase the present quarantine plants of the government and manage them as independent establishments. The pecuniary measures which comprise the levying of arbitrary and excessive fees on commerce, and which are the main ones considered by the different State quarantines, are to the last degree oppressive, burdensome, invidious, and unnecessary. By a new order of things there will be no call for special fees, and all the ports of entry will be on an equal basis as regards quarantine regulation. The advantages of the latter system are already proven in those localities where only national inspection prevails, by the fact that increased trade is naturally attracted to such favored ports to the exclusion of neighboring ones not so favored. Thus it will be seen that millions of dollars can be saved to commerce, which are now demanded on the purely technical ground of State rights to collect special fees.

It is useless, however, to multiply arguments in favor of national quarantine. The real question that concerns us now has reference to the best and readiest means to the desirable and imperative end. The best answers to objections urged against all bills heretofore presented are very effectively, consistently, and practically given in the admirable, far-reaching, comprehensive, and just provisions of the Caffery bill. The Marine Hospital service eminently deserves every opportunity for increased usefulness and good work. Even with its limited resources it has made an admirable and unimpeachable record. The profession and the public should be ready with their endorsement at the time when such is so much needed to make all the really necessary quarantine reforms within the reach of ready realization.

THE LATEST FRILL ON THE NEURON THEORY.

SCIENCE has found the seven-leagued boots, and to-day covers more ground in one stride than she once did in a century, when she trotted like an obedient housedog in the footsteps of the fathers. This is very enterprising in science, and of undoubted benefit to those whom she is hastening to aid; but there is a tendency to get out of breath among the humble devotees who try to keep up with her. Having reached a satisfying, all-embracing conclusion on some doubtful question, these devotees are tempted, like Ulysses' crew on reaching the land of the lotus eaters, to—

> "Sit them down upon the yellow sand,
> And say, 'We will no longer roam.'"

But even while they are preparing to sit down and enjoy the prospect of a new point of view, science takes another stride; and the satisfying conclusions, the well-constructed theory, and the point of view vanish into thin perspective, and become things of a far-off yesterday.

It is only within the last half-decade that neurologists have begun to interpret diseases of the nervous system in terms of the neuron, and now a recent contribution from a well-known investigator in histological science, working with methods on which he has spent years in elaborating and perfecting, suggests a new point of view, and, should his ideas prevail, another reconstruction must be accomplished.

In his latest communication, F. Apathy, in the "Mittheilungen aus der zoologischen Station zu Neapel," vol. xii., 1897, "Das leitende Element des Nervensystems und seine topographischen Beziehungen zu den Zellen," presents a series of observations with numerous illustrations which merit special attention.

Among the many erudite things discussed in this paper, the structure of the protoplasm of the nerve cells is most vigorously expounded. The author studied the nervous systems of the leech and the earthworm among the invertebrates; the angler, the triton, rabbit, and ox among the vertebrates.

Apathy believes that both histologically and histogenetically two kinds of nervous elements are to be distinguished, and he designates them as the "nerve cell" and the "ganglion cell." The nerve cell develops neuro-fibrils which conduct nervous impulses, and the ganglion cell produces the force necessary for the conduction of these impulses.

These neuro-fibrils are the agents in the upsetting of the neuron theory as it now stands; for, according to Apathy, a neuro-fibril or bunch of fibrils may originate in a single nerve cell and traverse the bodies of several ganglion cells, becoming, it may be, more attenuated as it extends, until a single fibril may end in a sense or muscle cell. Thus the neuro-fibril acts like a long telegraph wire, with relay stations in the shape of ganglion cells, which help the impulses along.

According to this investigator, five different methods of communication between ganglion cells have been found, in the most important of which the axis-cylinder processes of two cells connect by means of various ramifications, forming an anastomosing reticulum.

As to the path taken by the neuro-fibrils and their behavior in the ganglion cells through which they pass, Apathy describes two types—(1) larger cells, (2) smaller cells. In the first type the neuro-fibrils enter into what he designates as the "chromatin zone," one of seven distinct zones which he describes as being present in the ganglion cell of the leech. In this zone the neuro-fibrils break up into a fine reticulum of primitive fibrils, and then again recollect on the opposite side of the ganglion cell to go on in the cell process. In the second type of cells the neuro-fibrils coming into the body of the ganglion cell break up into two series, and enter his fourth and seventh zones, the "outer chromatin zone" and the "perinuclear zone"; these two zones representing concentric hollow spheres, connected by fine radial neuro-fibrils.

Apathy tells us that the cellulipetal fibrils pass into what he terms "the perisomal latticework" (a part of the outer chromatin zone), and then pass along the radial fibrils to his "perinuclear zone" or the boundary between his fifth and seventh zones; after ramifying in this latter zone they collect and pass out as a single, thick, cellulifugal neuro-fibril. "No primitive fibril passes through the body of a ganglion cell without being broken up into a reticulum in some part

of that cell and again collecting into a fibril," and "no entering primitive fibril ever terminates within the ganglion-cell body," nor "does any primitive neuro-fibril originate within the body of a ganglion cell."

If these dicta be true, even the modern neuron theory must soon take its place among the many outgrown garments which science has worn for a time and then laid aside.

CHOLERA IN JAPAN.

In view of the important events happening now in the far East, any information concerning Japan is of interest. Dr. W. F. Arnold, of the United States navy, has published in the "Report of the Surgeon-General of the Navy for 1897" a most valuable paper on cholera in Japan. It is stated that the first appearance of cholera in Japan was in the year 1822, and that the disease was introduced into the country by means of Dutch ships from Java. The second epidemic outbreak, according to Japanese accounts, was from 1858 to 1860, when, if local traditions can be relied on, it caused several hundred thousand deaths. Davidson, of London, asserts that one hundred thousand deaths occurred in Tokio in one month. With the third epidemic in Japan, the reliable history of the disease begins. This happened in 1877, and was ascribed by the Japanese to an English man-of-war which put in at Yokohama, with one of her crew dead from cholera. The fourth epidemic broke out in 1881 and 1882, and the fifth in 1885 and 1886. The sixth outbreak of cholera on a large scale was in 1891 and 1892, and the seventh and last, in 1895, was without doubt a result of the war between China and Japan. Although an enormous amount of work has been done among the Japanese in the way of instructing the common people how to avoid infection with cholera, yet there are many risks to the public health maintained everywhere in the way of primitive waterclosets, while the water supply in the large towns is defective. An unusual incident of the efforts to instil into the minds of the common people the necessity of cultivating habits likely to afford them immunity from cholera has been, says Dr. Arnold, the establishment of a microscope in a temple. It is said that the demonstration of the living organisms in water to housewives was much more impressive than were lantern exhibitions or any other means of illustration. The opinion of Davidson that cholera is of late years endemic in Japan is not in accordance with the conclusions arrived at by Dr. Arnold, who says that "it would appear that the conditions of life favor the survival of the cholera vibrio the least in Japan, where the dark, hot, and crowded living-rooms of the Chinese do not exist. In general the life of the cholera vibrio is longest in dark, moist places at room temperatures."

On the other hand, Dr. Arnold goes on to say: "The primitive arrangements serving as waterclosets throughout Japan, the conservancy of human excrement, and the liability of many water supplies to contamination, are conditions as favorable to the requirements of the cholera vibrio as could have been supplied by design. Under these circumstances, there would appear to be little difficulty in understanding both the customary subsidence of cholera in Japan in the late autumn and the comparatively numerous but widely scattered cases of the year or years succeeding. Other countries, in which infection is more infrequent, have shown, and are now showing instances of the survival of cholera vibrios that are more noteworthy than any of the recent experiences of Japan. They are not expected to become permanent homes for the cholera vibrio, whence it may be carried to yet other countries; and I doubt if Japan has much to fear in this direction."

FRUIT CURE.

According to a celebrated health expert, blanched almonds give the higher nerve or brain and muscle food, and the man who wishes to keep up his brain power will do well to include them in his daily bill of fare. Juicy fruits give more or less the higher nerve or brain food, and are eaten by all men whose living depends on their clearheadedness. Apples supply the brain with rest. Prunes are said to afford proof against nervousness, but are not muscle feeding. They should be avoided by those who suffer from the liver. But it has been proved that fruits do not have the same effect upon everybody. Some men cannot eat apples without suffering from acute dyspepsia. "Fruit cure" is a form of treatment which is quite the rage in continental Europe now with persons suffering from real or imaginary maladies.

The *New York Times* says, in reference to this one of the latest fads: "In the tenth century, an investigator has discovered, many medical authorities became enthusiastic in their writings over the remarkable curative virtues of grapes; while a certain Van Sweeten, of a more modern date, is said to have recommended in special cases the eating of twenty pounds of strawberries a day. The same gentleman also reports a case of phthisis healed by strawberries, and cites cases in which maniacs have gained their reason by the exclusive use of cherries. These instances savor rather of the ridiculous, but there is no doubt that the so-called grape cure for indigestion and other evils is carried on in many places on the continent, and that people betake themselves to Meran, Vevay, Bingen, or to Italy and the south of France, with the intention of devoting six weeks to the cure, during which time they are expected to have gradually accomplished the feat of consuming from three to eight pounds of grapes daily. Grapes are said to exercise a salutary action on the nervous system and to favor the formation of fat—that is to say, when fruit of good quality is employed; if the grapes are not sufficiently ripe and are watery and sour, the patient may lose rather than gain weight. The valuable results obtained by a fruit diet in cases of dyspepsia are due to the fact that the noxious germs habitually present in the alimentary canal do not thrive in fruit juices."

That fruit is a most valuable article of food cannot be denied, and that many diseases may be greatly benefited by a diet largely composed of fruit is true

enough. It is a fact, too, that the majority of people eat more meat than they require. Meat eaten once a day is sufficient for a person not engaged in manual labor or who does not take much strong outdoor exercise. A large number of the complaints contracted owe their origin to the consumption of food which entails a greater drain on the gastric juices than the system is able to withstand. The cures attributed to the grape occur for the most part with those who are accustomed to high living, and are really owing to the fact that the organs of digestion are given a much needed rest. Semistarvation would answer the purpose almost as well. For the person whose work lies chiefly indoors, a mixed and varied diet is most conducive to good health.

THE MEASURE OF WORTH.

Is it true, as stated in a telegram to a daily journal of this city, that only mediocrities in medicine are well spoken of by their fellows? In commenting upon the opposition from his professional colleagues with which Dr. Péan met during his career, it is said that "the public may estimate the value of the physician by the amount of criticism he receives from his contemporaries."

This is a proposition which calls for refutation. It is an injustice to physicians, because of its glaring falsity. The shining lights in the medical profession, in this country at least, and we believe the statement holds good for France as well, are recognized, respected, and even revered. It would be a sad thing indeed if those who were spoken well of should have to be classed with the mediocre from whom "doctors have nothing to fear." Let no man deem himself great because he is opposed and censured. Let no man take it to heart if he be well spoken of. Physicians are not so unjust as would thus appear.

ANÆSTHESIA.

Anæsthesia is a subject whose interest never palls, but recently the attention paid to it has been greater than ever. Dr. Dudley Buxton a few weeks ago delivered a powerful address on anæsthetics before the Society of Anæsthetists in London. After reviewing in an interesting manner the history of anæsthesia and touching on the much vexed question of the cause of death from chloroform syncope, he gave it as his opinion that chloroform is a dangerous drug except when administered by skilled hands. The custom in England among many practitioners of using chloroform in a careless manner, by means of a cloth or towel, and without first measuring the quantity, was severely censured. *The Lancet*, commenting on Dr. Buxton's address, says that "anæsthesia has been practised from time immemorial—certainly from that convenient legal period 'beyond' the memory of living man."

In connection with these remarks it may be to the point to call attention to a short article which appeared in *Le Siècle* as long ago as 1881. This article states that a manuscript by Papin, so well known by his inventions for applying the motive force of steam, had been discovered at Marburg in Hesse-Cassel. The title of the work was "Traité des Operations sans Douleur," and it was stated to contain an account of "the different means that might be employed to deaden or rather altogether nullify sensibility when surgical operations are being performed on the human body. Papin composed this work in 1681, when filling the situation of professor in the University of Marburg, and in it he anticipated the effects produced in modern times by ether and chloroform. He communicated his idea to his colleagues in the university, but from them received anything but encouragement. In consequence he took such a disgust to medical pursuits that he gave up his profession as a physician and directed his attention to natural philosophy, in which he subsequently became so celebrated. The work in question is now in the private library of the Duke of Hesse."

THE ELMIRA REFORMATORY AND THE INDETERMINATE SENTENCE.

To do a little investigating, or have a little done, or change a few laws, is a perennial ambition that springs into life in the patriotic bosom of many newborn statesmen in Albany. It is much easier to tear down than it is to build up. Any crude hand, at one fell blow, may destroy the most sublime picture that artistic genius ever created.

The Elmira Reformatory is an institution for the scientific treatment of criminals. It is a place where boys and young men from sixteen to thirty years of age, not hardened criminals but usually tyros in crime, are sent and made to serve a sentence or undergo treatment for a length of time that is undetermined on their admission to the reformatory.

It has come to be a recognized fact in the science of penology that the criminal is sick, diseased, and that his reformation is to be sought through the cure of his malady. The Elmira Reformatory has been in successful existence for nearly a quarter of a century. It is claimed by the management of the institution that eighty per cent. of the young criminals committed to it for care and treatment leave the institution reformed and afterward lead useful lives as law-abiding citizens.

If this be true, and we have no cause for doubting it, since the results sought are so carefully and scientifically produced and conscientiously tabulated in the end, it is to be regretted that there appears to be arising a desire to rob it of its distinguished reputation by destroying its chief feature, namely, the indeterminate sentence.

The value of the indeterminate sentence to this institution can best be illustrated by a parallel case that would be this: A physician visits a patient sick with pneumonia and says to him: "You are sick; you must go to the hospital. I will send you there for twenty days," thus fixing in advance the date for the discharge of the sick man, whether he has recovered at that time or not. So with the Elmira Reformatory. It may take

one, or two, or three, or more years to cure or reform a criminal, and the determination of the date on which that will be accomplished cannot be fixed in advance; it must be left to the discriminative judgment of the skilled penologist in charge of the reformatory, whose business it is to treat the criminal as the physician treats his patient.

It is furthermore worthy of note that the governor of the State, in his last annual message to the legislature, called attention to the indeterminate sentence in the law governing this institution, apparently with a view to legislation that would effect its abolition. If it should be abolished, it would destroy in a great measure the chief value of the reformatory and would prove a serious calamity to the growing cause of penology everywhere.

The Elmira Reformatory stands second to none of its kind in the world, and it is hoped that such unwise legislation as the abolition of the indeterminate sentence may never come to pass.

News of the Week.

Pension Examining Surgeons.—The United States civil-service commission announces that on March 5, 1898, an examination will be held at Washington and at other places throughout the United States, for the position of pension examining surgeon. As the result of this examination, vacancies will be filled at Bridgeport, Conn.; Lynn, Mass.; Washington, Ind.; and Vicksburg, Miss. Applicants must be graduates of reputable medical colleges, and not barred by State or other laws. The subjects of the examination are as follows: Thesis, anatomy and physiology, physical diagnosis, general and special pathology, and surgery. The subject of the thesis will be upon some common medical theme, and each competitor will be required to write not less than two hundred and fifty nor more than five hundred words. Persons who are legal residents of the places where the vacancies exist will be given preference in appointment. Persons desiring to enter this examination should write to the United States civil-service commission at Washington for application blanks, forms 304 and 375, which should be properly executed and promptly filed with the commission at Washington. No applications will be accepted after the hour of closing business, on Friday, February 25th.

A Legacy for the Establishment of a Hospital.—By the will of ex-Chief Justice John Scott, of Bloomington, Ill., his estate, amounting to about $2,000,000, is to be held in trust for the benefit of his heirs until their death, when it is to go to the city of Bloomington for the foundation of a hospital.

The Hatfield Memorial Prize.— Messrs. Walter and Henry R. Hatfield have given in trust to the College of Physicians of Philadelphia a fund for the foundation of a triennial prize in memory of their father, the late Dr. Nathan L. Hatfield. Competition for the prize, which will amount to $500 or more, will be open to scientists and physicians of the United States, and the award will be made to the author of the best essay on a special subject containing deductions based upon original research. The award of the prize, as well as the selection of a subject, will rest with a committee of three appointed by the president of the College of Physicians.

The Lebanon Hospital Alumni Association.—At the second annual meeting of this society, held January 18, 1898, the following officers were elected for the ensuing year: *President*, Dr. Frederic W. Loughran; *Vice-President*, Dr. Edwin L. Rose; *Secretary and Treasurer*, Dr. M. L. Maduro.

The Association of American Anatomists.—The next meeting of this association will be held in December, 1898, in New York City. The president is Dr. Burt G. Wilder, Cornell University, Ithaca, N. Y.; and the secretary Dr. D. S. Lamb, 800 Tenth Street, N. W., Washington, D. C.

The Wooster Medical College, which is located in Cleveland, and is not connected with the Wooster University but with the Ohio Wesleyan University at Delaware, is to erect a new building, if satisfactory arrangements can be made with the Ohio Wesleyan authorities.

The National Veterinary Association will meet next year at Omaha, Neb., upon invitation of the Nebraska Veterinary Association which has just held its semiannual meeting at Lincoln.

The Register of Physicians of the Illinois State Board of Health will shortly be issued, and it is desired that it may be as correct as possible. Every licensed physician practising in that State is therefore to send his or her name and address on a postal card to Dr. J. A. Egan, Springfield, Ill. The number and date of the certificate should also be sent with the name and address.

The Sioux Valley Medical Association held its semiannual meeting in Sioux City, Iowa, on January 20th and 21st, under the presidency of Dr. Sherman, of Cherokee.

The Cumberland County (N. J.) Medical Society convened at Hotel Stephens, Vineland, January 11, 1898. The society was called to order by the vice-president, Dr. Judson. Interesting papers were read by Dr. Ware, on the "Old-Time Doctor," and by Dr. S. T. Day, on "Puerperal Eclampsia."

Dr. Samuel C. Busey, of Washington, who was elected to deliver the address on State medicine before the American Medical Association in Denver, has resigned the appointment on account of ill health.

The Society of the Alumni of the City (Charity) Hospital held its eighth annual dinner at the Hotel Savoy on the evening of Wednesday, February 2d. One hundred members and guests were present. The toasts were responded to by Dr. W. M. Polk, Rev. Dr. David Greer, Dr. Leroy M. Yale, Mr. Frederic Perry Powers, Col. E. C. James, Col. Richard H. Savage, Dr. Richard C. Newton, and Commissioner Keller of the department of charities. The president of the

society, Dr. Brooks H. Wells, presided and introduced the speakers. The annual election of officers resulted in the choice of the following: *President*, Dr. Walter B. Johnson, Paterson, N. J.; *Vice-President*, Dr. William Leland Stowell; *Secretary*, Dr. Charles J. Proben; *Treasurer*, Dr. Henry H. Schroeder; *Editor*, A. T. Muzzy.

The West End Medical Society.—At the annual meeting of this society, held on January 26th, the following officers were elected: *President*, Dr. Robert H. M. Dawbarn; *Vice-President*, Dr. C. G. Kerley; *Treasurer*, Dr. H. G. Myers; *Pathologist*, Dr. Walter Bensel; *Recording Secretary*, Dr. C. B. Carter; *Corresponding Secretary*, Dr. Charles Good. At the dinner toasts were responded to by Drs. Hubbard, Jelliffe, Jarman, Newcomb, Halsey, Kerley, Brockway, Ware, Dowd, Tucker, and Crandall.

The Origin of the Yellow-Fever Epidemic.—The committee of the Mississippi legislature, appointed to investigate the yellow fever of last summer, has recently made its report. It finds that the yellow fever originated at Ocean Springs, Miss., but not from the United States Marine Hospital quarantine station at Ship Island, as was supposed, and it declares that the quarantine station is in no sense a menace to the health of the Gulf coast or the South. It was generally believed that the yellow fever was introduced by Cuban refugees, who met at Ocean Springs in June to arrange for a filibustering expedition to Cuba. This theory, however, is not accepted by the committee, which asserts that the yellow fever got into this country as early as the latter part of April, and came not from Cuba, but from Guatemala. The existence of yellow fever was not recognized until September, although it had actually been present, in the belief of the committee, for five months. Although the report exonerates the Ship Island quarantine from all blame in the introduction of the disease, it nevertheless recommends its removal, as being injurious to property in the neighborhood.

Measles at Elizabeth.—The epidemic of measles, which has existed for some time at Elizabeth, N. J., is now on the wane.

The Bill to License Dispensaries.—The Sullivan bill, empowering the State board of charities to license dispensaries and placing them under the board's supervision and control, has been reported favorably to the New York State senate by the senate committee on public health. The committee amended the bill so as to permit the action of the State board of charities in refusing a license to be reviewed by the supreme court.

The Effort to Repress Public Spitting.—At a recent meeting of the Women's Health Protective Association, the president announced that she had had an important interview with Nathan Straus, the new president of the health board, who promised his hearty co-operation and the co-operation of the health board in the effort now making to enforce the law against spitting in public places. It was not made quite clear, however, in what way the rule could be enforced. The tobacco-chewing conductors might justly be called monopolists if they allowed none but themselves to defile the floors of the cars, and there are few passengers who are so public-spirited as to risk a personal altercation and insult in an effort to enforce a regulation of the board of health.

Dr. Samuel Pozzi, of Paris, author of the well-known "Treatise on Gynæcology," has recently been elected to the French senate from Dordogne.

The New York Hospital Library.—The governors of the New York Hospital have decided, it is announced, to close the library. It is not yet known what disposal will be made of it, but the books will not, so it is said, go to the library of the Academy of Medicine—which, if true, is a great pity.

The Pierce County (Washington) Medical Society met in annual session in the parlors of the Fannie Paddock Hospital, Tacoma, on January 25th. The officers chosen for the ensuing year are: *President*, Dr. H. W. Dewey; *First Vice-President*, Dr. P. B. Wing; *Second Vice-President*, Dr. C. Balabanoff; *Secretary*, Dr. C. E. Taylor; *Board of Censors*, Drs. S. H. Coleman, J. H. Yocom, and C. Quevli. The regular meetings of the society are held on the first Tuesday evening of each month.

The Church against Chewing Gum. — Bishop Vincent, of the Methodist Church, has appealed to the temperance societies in Kansas to discountenance the chewing-gum habit. He argued that the foundation of temperance reform should be laid at the chewing-gum age of childhood, as the habit was a sort of self-indulgence that should be restrained. If the child's will was educated to resist this habit, it could be more easily trained to resist other habits. The bishop was particular in his criticism of the gum-chewing girl, and drew a far from flattering portrait of her as a perpetual masticator.

The Senn Medal.—The members of the American Medical Association who intend to compete for the medal offered by Dr. Senn for the best essay on some surgical subject are requested to forward the typewritten copies of their contributions before March 1, 1898, to Dr. J. McFadden Gaston, chairman, 1½ Edgewood Avenue, Atlanta, Ga.

The Health of Gladstone.—There have of late been many disquieting rumors published in the London journals concerning the health of Mr. Gladstone. Moved by these not entirely well-founded reports, *The Lancet* publishes the following statement and asserts that its information is upon excellent authority: "Mr. Gladstone has suffered since the autumn of last year from a chronic nasal catarrh accompanied by facial neuralgia which resisted all the most careful treatment. Therefore, at Mr. Gladstone's urgent desire and because the climatic influence had previously always restored him to health, he was allowed to go to Cannes in spite of any risk attendant upon the long journey. At first the neuralgic pain almost disappeared and there were but fitful attacks. Subsequently

the presence of the mistral with cold and wet weather produced the return of the pain, but at no period has there been any evidence of increase of other inflammatory symptoms. The pain has continued since, though varying from day to day. This has doubtless had a depressing and disappointing effect upon the distinguished patient, but otherwise his general physical condition remains very much the same, and there is no further development to record."

Philadelphia's Interest in Dr. Evans' Will.—According to the will of the late Dr. Thomas W. Evans, of Paris, a large part of his fortune is to go, under certain conditions, to the city of Philadelphia for the founding of a museum and dental college. Under direction of the mayor, a petition has been filed in the common pleas court, asking for the granting of a charter in order that trustees may be appointed to take charge of the city's interest in the estate. The mayor has also asked the council for an appropriation to retain counsel in France to protect the interests of the city.

The Legal Rights and Limitations of Physicians.—It is proposed to provide free courses to physicians in Berlin, in which they shall be instructed in all the laws bearing upon the profession and its practice. According to the plan proposed, clear explanations will be given of the laws concerning accidents, insurance, judiciary functions, etc., and it is hoped thus to protect physicians from the annoyance and loss to which they are now so often exposed by reason of their ignorance of the law.

The Plague is reported to be causing terrible ravages in the interior of China, in villages on the banks of the Yangtse Kiang River.

The Title of Professor has been bestowed upon Dr. Carl Günther, the celebrated bacteriologist of Berlin, who is so popular with American physicians studying abroad.

The Red Cross in Cuba.—Miss Clara Barton, president of the American Red Cross, has gone to Havana to assist in receiving and distributing the supplies sent from this country for the relief of the destitute in the island.

Famine in Russia.—The St. Petersburg correspondent of the London *Times* reports that a failure in the harvest has caused terrible distress among the peasantry of the interior provinces, especially in central and southeastern Russia. In some places they are worse off than during the famine of 1891. In Tambov, a place to the southeast of Moscow, the peasants are feeding their half-starved cattle with the thatches of their roofs. Typhus and other diseases are making rapid headway among them.

Opposition to the Caffery Quarantine Bill.—The lower house of the Mississippi legislature has adopted a concurrent resolution, protesting against the Caffery quarantine bill and requesting the Mississippi senators and representatives "to vote for any measure that will give to the Marine Hospital service or United States authorities complete control of all external quarantine, provided our State board of health be allowed to manage and control all quarantine matters within the borders of the State."

Dr. Benjamin Lee, secretary of the Pennsylvania board of health and of the State quarantine board, has been appointed health officer of Philadelphia by Governor Hastings, to fill the vacancy caused by the resignation of Theodore Stulb.

Medical Society of the Missouri Valley.—The semiannual meeting of this society will be held at Red Oak, Iowa, Thursday, March 17, 1898.

Frauds of Frauds.—Suit has been brought recently against a number of druggists in San Francisco for selling imitations of various much-advertised pills and other patent medicines. The makers of the medicines in the East had their suspicions aroused by the fact that the stuff was sold at retail below wholesale prices, and a little investigation revealed the printer who made the spurious labels.

A Dispute over Scarlet Fever.—There have been many cases of scarlet fever recently at Fishkill Landing, and as a means of hindering the further spread of the disease the board of health ordered the Union Free School, having about eight hundred scholars, to be closed. The board of education regarded this as an entirely unnecessary precaution, and thought that the reports of the number of cases were greatly exaggerated. They protested against the action of the board of health and requested that the school be opened again, but the health officer will not consent.

The Medico-Legal Society of Philadelphia held its regular quarterly meeting on January 25th, at which there was a large attendance of physicians. The question of the purification of the water supply of Philadelphia was discussed at length, and a committee was appointed to confer with the mayor as to the best and most speedy means of effecting this much-needed improvement. It was decided to call a special meeting of the society for the evening of February 22d, to discuss the medical-charity abuse. Dr. George Mays read a paper entitled "Calomel *versus* Antitoxin." The following officers were elected for the ensuing year: *President*, Dr. J. H. Dripps; *First Vice-President*, Dr. E. B. Wheeler; *Second Vice-President*, Dr. A. M. Eaton; *Treasurer*, Dr. G. M. D. Peltz; *Secretary*, Dr. C. H. Clewell.

Examination for the Army Medical Service.—An examination of candidates for appointment to the medical corps of the United States army, to fill existing vacancies, will be held at Washington, D. C., during the month of May. Persons desiring to present themselves for examination by the board will make application to the secretary of war, before April 15, 1898, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied

by certificate based on personal acquaintance, from at least two reputable persons, as to citizenship, character, and habits. The candidate must be between twenty-two and twenty-nine years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the board. Successful candidates at the coming examination will receive a course of instruction at the next session of the Army Medical School, beginning in November, 1898. Further information regarding the examinations may be obtained by addressing Dr. George M. Sternberg, surgeon-general, United States army, Washington, D. C.

The Fifth District Branch of the New York State Medical Association will hold its fourteenth annual meeting at 315 Washington Street, Brooklyn, on Tuesday, May 24, 1898. Gonorrhœa will be the subject for discussion, and the following papers will be read: Dr. Robert W. Taylor, "Pathology and Treatment of Gonorrhœa in Males;" Dr. J. W. S. Gouley, "Urethral Strictures;" Dr. William E. Beardsley, "Gonorrhœal Rheumatism;" Dr. Lawrence Coffin, "Gonorrhœal Ophthalmia in Adults;" Dr. William McCollom, "Moral Prophylaxis and the Ethical Duty of Physicians to the Public;" Dr. J. C. Bierwirth, "The Medico-Legal Responsibility of Physicians to their Patients and Patients' Friends;" Dr. L. Grant Baldwin, "Symptoms and Diagnosis of Gonorrhœa in Females;" and Drs. Walter B. Chase and Frederick H. Wiggin, "The Palliative and Operative Treatment;" Drs. N. L. North, Jr., A. Mathewson, and L. A. W. Alleman, "Gonorrhœal Ophthalmia in Infants." Dr. N. W. Leighton is president, and Dr. E. H. Squibb secretary.

The American Laryngological, Rhinological, and Otological Society.—The southern section of this society will meet in Atlanta, Ga., Monday, March 28th, at 10 A.M., in the parlors of the Aragon Hotel. Dr. A. W. Calhoun is chairman, and Dr. Dunbar Roy is secretary.

The Indiana State Medical Society.—The next meeting of this society will be held, May 5 and 6, 1898, at Lafayette, Ind., instead of at Evansville, as previously announced.

The Mothers and Babies' Hospital.—This institution has taken the property at Lexington Avenue and Fifty-second Street for its future home. The building was originally constructed for a private hospital, and is, with some alterations now being made, well adapted to the needs of a lying-in hospital.

The American Academy of Medicine.—The twenty-third annual meeting of this society will be held at Denver, Col., on Saturday, June 4, and Monday, June 6, 1898. It is planned to hold three sessions on Saturday, beginning at 10 A.M., at 3 P.M., and at 8 P.M. Another session will be held on Monday, at 10 A.M., at which time it is hoped all the business can be completed, affording the fellows an opportunity to attend the meetings either of the Association of American Medical Colleges or the National Confederation of State Medical Examining and Licensing Boards, which meet on this day. This plan contemplates holding the reunion session on Monday evening. According to the preliminary programme just issued, seventeen papers have been promised.

Trouble Ahead for Lovers.—A reformer in the Ohio legislature has introduced a bill requiring persons applying for marriage licenses to pass a medical examination. The bill forbids the issuance of a license to any person suffering from dipsomania, insanity, or tuberculosis. It provides for a marriage examining board of three physicians in each county.

Smallpox in the South.—According to a telegram to the daily papers from Chattanooga, small-pox is spreading in that region, and it is estimated that there are one thousand cases in Northern Georgia, Tennessee, North Carolina, Southern Kentucky, and Virginia. The disease has appeared at various places in Alabama, and is causing alarm in the mining districts of east Tennessee. The State board of health of Tennessee has ordered compulsory vaccination.

The American Medico-Psychological Association.—The fifty-fourth annual meeting of the American Medico-Psychological Association will be held in St. Louis, Mo., commencing May 10, 1898, and continuing until May 13, 1898, inclusive. Arrangements have been made by the committee for the accommodation of members at the Southern Hotel, where all meetings of the association will be held.

Dr. Edgar J. Spratling, for three years last past of the Matteawan State Hospital, this State, has been appointed first assistant in the Massachusetts Hospital for Epileptics at Palmer. This institution is nearly ready for occupancy, and is expected to accommodate all the epileptics of that State, sane and insane, public and private.

Influenza in Rome.—The Rome correspondent of *The Lancet* writes that influenza is threatening to become epidemic in Rome, the number of cases having greatly increased during the first weeks in January. The disease has attacked with peculiar partiality the members of the sacred college, and very few of those now in Rome have escaped; in some, he says, the disease has declared itself with a gravity which is really alarming. Much uneasiness is felt as to the condition of Cardinals Parocchi (the vicar of Rome), Agliardi (sometime nuncio at Vienna), Oreglia (dean of the sacred college), and Mertel, who is dean by seniority, being now in his ninety-fourth year. The Pope has fortunately thus far escaped a visitation.

The Convincing Testimonial of a Savage Man.—An American consumption cure is being advertised very extensively in England, and among the numerous favorable certificates is one which states that "out of a number of cases of consumption treated therewith, only one proved unsatisfactory. The remedy has far surpassed our most sanguinary expectations."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending February 5, 1898. January 29th.—Passed Assistant Surgeon L. H. Stone ordered to be examined for retirement, February 4th, and to wait orders; Passed Assistant Surgeon B. R. Ward, upon completion of temporary duty in New York, to proceed home and await orders. January 1st.—Medical Inspector J. G. Ayers ordered to assume charge of hospital on Widow's Island, in addition to present duties; Assistant Surgeon H. H. Haas ordered to the *Vermont*. February 1st.—Surgeon A. C. H. Russell ordered to duty in the bureau of medicine and surgery, February 9th. February 4th. — Assistant Surgeon G. C. Hubbard ordered home and granted three months' sick leave.

The Late Dr. O. W. Braymer.—At a special meeting of the District Medical Society of Camden County, N. J., held January 10th, the following was adopted:

"We, the Camden District Medical Society assembled, called together by the sudden death of our esteemed associate, Dr. Orange W. Braymer, do hereby acknowledge with mingled grief and humility our childlike misapprehensions of such transitions in life.

"While yet in the full vigor of his professional manhood, and while attending the surgical needs of a suffering patient, the angel of death appeared, and very soon carried him to the bourne 'where his weary brain and tired feet will no longer brave the midnight summons, nor attend the calls of a poor suffering humanity.'

"Need we recall his manly form and earnest kindly face, or rehearse his many deeds of charity and devotion to his profession to remember him? Nay, it is well known by those who knew him best that his ill-requited devotions to his profession and his patients, his faithful friendships, and conscientious performance of all duties indicated his true nobility and reflected honor upon us, as well as upon his family, church, and State. His life is worthy of emulation, and may its impress be indelibly stamped upon our tablets of memory.

"His bereaved family, crushed by the sudden loss of an affectionate husband and father, can obtain consolation alone from that God who, as Divine Ruler of the Universe, 'knows best how to give, knows best when to take away.'

"Therefore, as a slight token of esteem and love for our dead, we hereby

"*Resolv*: That these sentiments, so well engraved upon our hearts, be recorded upon the pages of our society's history, and also transmitted to his grieving family as a memento of our sympathy; and be it further

"*Resolved*, That we attend in a body the last sad rites upon our dead brother, and bow with submission and humility to the will of God our Creator.

"O. B. Gross, M.D., J. M. Ridge, M.D., D. Benjamin, M.D., J. H. Wills, M.D., E. E. De Grofft, M.D., *Committee*."

The British Medical Association.—The sixty-sixth annual meeting of this association will be held in Edinburgh, under the presidency of Sir Thomas Grainger Stewart, on July 26th–29th. An address in medicine will be delivered by Prof. Thomas Fraser, one in surgery by Prof. Thomas Annandale, and one in psychological medicine by Sir John Batty Tuke. There will be sixteen sections, four more than before, the subjects of anatomy and physiology being assigned to separate sections, and three departments not hitherto separately formed are constituted distinct sections, namely, neurology, medicine in relation to life assurance, and tropical diseases.

Against Senate Bill No. 5.—At a meeting of the medical board of the Willard Parker and Riverside hospitals the following resolutions were adopted:

"*Whereas*, Senate bill No. 5, now before the senate committee on cities, contains radical changes in the methods now in operation, and involves material restriction in the character of the work now performed in the department of health; and

"*Whereas*, The passage of said bill would interfere with the continued progress and successful administration of the department by prohibiting the production of vaccine virus, diphtheria antitoxin, and other antitoxins, and restricting scientific research, and by limiting the work in the prevention of infectious diseases, especially tuberculosis, diphtheria, the septic diseases, and tetanus, and by removing important safeguards intended for the prevention of diphtheria, small-pox, and tuberculosis; and

"*Whereas*, The enactment of this bill would not in any respect tend to the improvement of the public health or be in the interest of the whole people of New York City; therefore be it

"*Resolved*, That this board does hereby respectfully protest against the passage of senate bill No. 5.

"*Resolved*, That these resolutions be spread upon the minutes of this board, and that copies be transmitted to the senate committee on cities, to the health board of the health department of the city of New York, and to the medical journals of this city."

Sale of Mummies in London.—Some mummies which were imported from Egypt thirty-five years ago, were sold by auction in London recently. These bodies were said to have been when alive Ptolemy II., Philadelphus, King of Egypt, Antiochus Sotee, King of Syria, and Alpina, Queen of Babylon. Ptolemy is reputed to have been the nephew of Alexander the Great, and was himself the most gifted of his line. These bodies were termed by the auctioneer "fine authentic remains," and letters testifying to their genuineness were given by Dr. Birch of the British Museum and Professor Bonomi. The whole lot sold for $375. The distinguished Ptolemy fetched a third of this sum.

Typhoid Fever is prevailing to an unusual extent in Jersey City, some forty cases having been reported in January. An investigation will be undertaken to determine the cause of the outbreak.

The American Dermatological Association.—The date of meeting of this association has been changed to May 31st, June 1st and 2d.

Reviews and Notices.

A Text-Book on the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia. 8vo, pp. 1,287. Philadelphia: W. B. Saunders. 1898.

This text-book covers the ground very well, and presents a well-condensed review of a very extensive field of study. The spaces given to each subject are well-apportioned and are systematically arranged in a natural order of sequence. Departing somewhat from the standard discussion of the different diseases, the author first considers the special pathology of the affections, and then follows up with the clinical phenomena. His descriptions of these and other points are lucid and practical, and will give the student ample satisfaction. The charts of diagnosis, which are mostly arranged by the author, are well presented, and will very effectually aid in the proper analysis of leading points of difference between the diseases considered. Commendable attention is given to the bacteriological causation of diseases, and numerous illustration plates to that end are introduced in different parts of the work. Throughout the work the author has shown himself an accomplished pathologist and a practical clinician. His alleged modern methods of orthography will hardly commend themselves to the conservative portion of his readers. We have to look twice to recognize our old friend quinine, as she appears with her bobbed tail.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. Second Edition. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics, Jefferson Medical College, Philadelphia. 8vo, pp. 605. Philadelphia and New York: Lea Brothers & Co. 1897.

To such as may not have become acquainted with the character of this work through its first edition, it may be proper to state that the plan followed by the author is quite different from that of similar works on the subject. Its practical value consists in making a diagnosis from leading symptoms as classified in accordance with their manifestations in the different regions of the body. This is an easy and natural method, and will serve very effectually in guiding the thought of the study in the proper directions of further investigation. The second edition, which has been thoroughly revised and considerably enlarged, is divided into two parts. The first treats of the manifestations of disease in the different organs, such as head, face, hands, arms, feet, legs, tongue, mouth, pharynx, eye, skin, thorax, abdomen, pulse, blood, bladder, and bowels, while the second part discusses the manifestations of disease by symptoms, being divided into separate chapters, as fever, headache and vertigo, coma, vomiting, cough, pain, tendon reflexes, and speech. The whole field of diagnosis is thus quite effectually covered, the preparation for its study in proper detail being given in an admirable introduction on the general principles of diagnosis. The work is well illustrated by over two hundred engravings and thirteen colored plates, the latter comprising nerve areas of skin, fever parasites, urinary crystals, and excellent representations of typical diagnostic appearances of the tongue in fevers and stomach affections.

Economics, Anæsthetics, and Antiseptics in the Practice of Midwifery. By Haydn Brown, L.R.C.P., L.R.C.S., Edinburgh. Pp. 103. London: J. and A. Churchill. 1897.

The title is the most ambitious part of this booklet, the nine chapters of which contain a series of stray thoughts, or soliloquies, without any particular cohesion. The term "economics" does not seem applicable to any of these discursive remarks, unless, perhaps, to those on the department of the lying-in chapter. We would suggest "æsthetics" as at least more euphonious. One has no fault to find with the excellent advice given in every page, but it has all been given so many times before!

It is somewhat comforting to learn that our English brethren have not found obstetrics any more profitable than we have, and that their muses have not yet attained to a state of perfection.

While the reader will run across not a few useful hints and practical suggestions in glancing through these "talks," the general impression produced is that the author has sought to relieve his own mind quite as much as to instruct the callow practitioner.

Manual of Bacteriology. By Robert Muir, M.A., M.D., F.R.C.P. Ed., and James Ritchie, M.A., M.D., B.Sc. With 108 illustrations. London: Young J. Pentland. New York: The Macmillan Company.

The series of Pentland "Student Manuals" has met with such deserved good reception that it is of interest to look over the present volume on bacteriology, which fully maintains the high standard of excellence set by its predecessors. As a work of practical utility to beginners and to practitioners of medicine it is one of the best of the smaller manuals that have come to our notice. The work is specially to be commended for its excellent *résumé* of the modern researches which have been prosecuted along etiological and hygienic lines. The clinical features in the book are also excellent, as the authors have restricted themselves to those bacteria which are productive of disease, thus making a work for the medical man rather than for the biologist.

The illustrations are for the most part from photo-micrographs and are excellent. This work, and Lehmann and Neumann's "Atlas," make an ideal combination for the student and for the practitioner.

Atlas and Essentials of Bacteriology. By Prof. K. B. Lehmann, Chief of the Hygienic Institute in Würzburg, and Dr. Rudolf Neumann, Assistant in the Hygienic Institute in Würzburg. With 63 chromolithographic plates, comprising 558 figures and numerous engravings. Wood's Medical Hand Atlases. New York: William Wood and Company. 1897.

To have Lehmann and Neumann's "Atlas" in English is a stimulus to the student and a boon to the practical worker in bacteriology. The present volume is useful to both classes of readers and also to the practitioner.

That which renders it of the greatest value is the excellent series of lithographic plates, which show in natural size and color the growth characters of a large number of organisms, both pathogenic and non-pathogenic. These show the forms of the growth upon most of the ordinary media, as gelatin, agar agar, and potato, in natural size, and also magnified pictures of individual colonies.

The text portion of the book though terse is scholarly. Our present knowledge of bacteriological subjects is briefly summarized and put in convenient shape. It is to be regretted that the systematic portion of the German edition, dealing with the descriptions of the organisms, has been omitted, as this would have been of great value to the worker interested in differential diagnosis, though of less importance to the student or practising physician.

The technical appendix is short and practical, and the directions for cultivation, staining, and animal experimentation are clear and concise.

Experimental Appendicitis. Dr. Beaussenat. Bulletin de la Société Anatomique de Paris. Pp. 155. 1897.

In a communication made to the anatomical society of Paris Dr. Beaussenat presented the results of four series of experiments on rabbits, which illustrated in an interesting manner the different anatomical types of this disease.

In the first series of attempts he produced intestinal irritation by means of indigestible foods and irritant poisons. The appendix was the site of three types of lesions:

1. Multiple ulcerations, involving the mucosa only.
2. Follicular lesions, with œdematous thickenings of the entire appendix.
3. Coincident with these follicular lesions small subperitoneal abscesses developed.

In a second series of experiments the ligation of two small vessels emanating from the appendicular artery, which ran in a semicircular manner about the appendix, was practised. As a result, a marked gangrenous appendicitis was set up, with or without perforations. In those cases in which there was no perforation, the serous layers alone remained intact.

In a third series, the blood was infected with the colon bacillus, and a trauma of the appendix produced by wounding the mucosa. After two or three months the rabbits were killed, and in three out of six rabbits experimented upon

small circular ulcers with sharply defined borders were recognizable at the site of the traumatism.

Finally, intra-appendicular injections of colon bacillus were practised. In some the small circumsessile vessels were ligated, in others not. In those cases in which the ligation had been practised, infiltration and hypertrophy, and sometimes suppuration of the lymphatics at the base of the appendix, were found, while in the series in which the ligature had been omitted no lesions appreciable by the eye were obtained.

EXERCISES IN PRACTICAL PHYSIOLOGY. By AUGUSTUS D. WALLER, M.D., F.R.S., Lecturer in Physiology to St. Mary's Hospital Medical School. Part III., Physiology of the Nervous System, Electrical Physiology. New York and London: Longmans, Green & Co. 1897.

THE present small volume, bound in cloth, gives a series of exercises and demonstrations to facilitate class-room work in practical physiology. The principal forms of electrical stimulation are carefully taken up, and the book will no doubt find a very useful place in the physiological laboratory.

A TEXT-BOOK OF SPECIAL PATHOLOGICAL ANATOMY. By ERNST ZIEGLER, Professor of Pathology in the University of Freiburg. Translated and Edited from the Eighth German Edition by DONALD MACALLISTER, M.A., M.D., Linacre Lecturer of Physic, and Tutor of St. John's College, Cambridge; and HENRY W. CATTEL, M.A., M.D., Demonstrator of Morbid Anatomy in the University of Pennsylvania. Sections IX. to XV. New York: The Macmillan Company. 1897.

WE have had occasion in a previous number of the MEDICAL RECORD (October 30th, p. 638) to speak of the earlier chapters of this very excellent translation of Ziegler's "Pathology." The appearance of Parts IX. to XV. so shortly after that of the first series is evidence of the industry of the translators.

The present sections deal with the alimentary tract, the liver and the pancreas, the respiratory system, the urinary organs, the generative organs, the eye and the ear, making a volume of six hundred and forty-two pages, which completes the translation of the original.

To offer a criticism of Ziegler's "Pathology" borders on the presumptuous; nevertheless, there are a few features that this translation brings out which are not wholly satisfactory. For instance, under the head of "Typhlitis and Perityphlitis" a very inadequate description of the lesions of appendicitis is given, and the old tale of grapestones, apple pits, and cherry pits is given, notwithstanding that repeated microscopical examinations have shown in great part the absence of the necessary histological elements in these fæcal concretions which superficially resemble such foreign bodies. No mention is made of the action of the bacillus coli communis or of its etiological relation to the disease. The chapter upon the pancreas is somewhat brief, considering the work that has been done upon this organ. In the discussion of tuberculosis of the lungs we find no mention of the importance of mixed infections, or of the etiological significance of the bodies of dead tuberculous organisms.

The translators have in several instances omitted lists of bibliographical references. While this detracts in part from the value of the book, it is a saving of space; moreover, it may be claimed that those who are able to read the references in the original could get the German edition, and thus in an English translation such lists are out of place. We believe, however, that bibliographical references constitute one of the most valuable features of a book of this type, even to a student; for a knowledge that others have done so much research often stirs him to go beyond didactic text-books into the field of actual work.

ATLAS OF CLINICAL MEDICINE. By BYROM BRAMWELL, M.D., F.R.C.P. Ed., F.R.S. Ed., Assistant Physician to the Royal Infirmary, Edinburgh. Vol. III., Part III. Edinburgh. 1897.

THE author completes his "Atlas of Clinical Medicine" with this quarto fasciele of about fifty pages and sixteen plates.

The present contribution is one of the best of the series. It includes the following original studies: "Notes on Cases of Pseudo-Hypertrophic Paralysis and Other Forms of Progressive Muscular Dystrophy" (these cases are well illustrated with photographic reproductions of the characteristic attitudes assumed in this disease, and a series of excellent photo-micrographs of the pathological findings is given); "Cyanosis and Congenital Heart Disease," with one colored plate; "Report upon Case of Calcareous Degeneration of the Heart and Arteries;" "Chlorosis;" "Pernicious Anæmia;" "Alopecia Areata," with two illustrations. In addition, three excellent lithographic reproductions of typical cases of mental disease are given. They are of acute dementia, chronic dementia, and senile dementia. A final plate of lupus vulgaris is more strikingly true to life than pleasant to look upon.

The paper and presswork are of the finest quality, and some of the plates would repay framing.

A REPORT ON THE INFLUENCE OF MILK IN SPREADING ZYMOTIC DISEASE. With a Tabular Analysis of Forty-Eight Outbreaks. By ERNEST HART, D.C.L., Editor of the *British Medical Journal*, Chairman of the Parliamentary Bills Committee of the British Medical Association. London: Smith, Elder & Co. 1897.

SO long ago as 1881 Dr. Ernest Hart read a paper on "The Influence of Milk in Spreading Zymotic Disease." He had then collected a mass of evidence which appeared to show that many of the recent epidemics were due to contaminated milk. But Dr. Hart was in advance of the times; for a short period his paper created somewhat of a sensation, but this soon passed away and people fell back into the old grooves of thought. Dr. Hart has again come forward with a new report on the same subject, and states that he has traced ninety-five fresh epidemics caused solely by milk; he even goes further than this, and says that he is positive that these are but a fraction of the total number of outbreaks caused by milk. The paper is full of interesting details, and also gives many suggested remedial measures. Now that the question of milk in relation to spread of disease is exciting universal interest, it is to be hoped that the views of Dr. Hart and of those who think with him will be received with the attention they deserve.

REPORT OF PRELIMINARY INVESTIGATIONS OF THE METABOLISM OF NITROGEN AND CARBON IN THE HUMAN ORGANISM, WITH A RESPIRATION CALORIMETER OF SPECIAL CONSTRUCTION. By W. O. ATWATER, Ph.D.; C. D. WOODS, B.S., and F. G. BENEDICT, Ph.D. Washington: United States Department of Agriculture. 1897.

PROFESSOR ATWATER'S experiments on his "Man in the Box" have achieved such a wide degree of popularity that this report of his investigations is received with interest. The studies on the problems of food supply and their economic relations here recorded were begun some years ago at Wesleyan University, and are still in progress. The present report is an introduction to the work, and considers the general problems, the methods of study, details the experiments, and gives a few conclusions.

UEBER DIE TABES. Eine Abhandlung für praktische Aerzte. Von P. J. MÖBIUS in Leipzig. Berlin: S. Karger. 1897.

THE present brochure of one hundred and thirty pages considers in short and concise form the important facts of our present-day knowledge of this disease. The chapters consider, in their order, the symptoms and course of the disease, the pathological anatomy, the etiology, the differential diagnosis, the prognosis, and the treatment. The final chapter gives an extremely instructive collection of histories illustrating the regular forms and a number of anomalous forms observed.

THE WOUNDS OF WAR, AND THE MECHANISM OF THEIR PRODUCTION AND THEIR TREATMENT. By SURGEON-COLONEL W. F. STEVENSON, A.B., M.D., M.Ch., Dublin University; Professor of Military Surgery, Army Medical School, Netley. New York, London, and Bombay: Longmans, Green & Co. 1897.

THIS is a well-printed and neatly bound octavo of four hundred and twenty pages on military surgery, past and present, which, while prepared more particularly for the surgeon in war, is so interestingly written that the civil surgeon cannot fail to find it of profit.

General considerations of the character of firearms, types of wounds, and the primary phenomena met with in gun-

shot and perforating wounds are presented in the three opening chapters. The fact that in times of war eighty-five per cent. of all deaths are due to primary hemorrhage is striking.

The author is thoroughly alive to the importance of proper aseptic and antiseptic procedures in war injuries, and expresses sanguine hopes of the outcome of some of the severer compound injuries which in the pre-Listerian days led to loss of limb and life. In chapters six, seven, and eight, gunshot wounds of the joints and long bones are described with their methods of treatment, while injuries of the head, the chest, the abdomen, and the pelvis occupy the ninth to the eleventh chapters. The concluding chapters discuss the subject of the modern small arm, and give a series of practical ideas on the methods of taking care of the wounded during actual conflict.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M.D., Professor of Hygiene and the Director of the Laboratory of Hygiene, University of Pennsylvania. Fourth Edition, Enlarged and Thoroughly Revised. Philadelphia and New York: Lea Brothers & Co. 1897.

WE have in previous numbers of the MEDICAL RECORD commented favorably on this guide to the introduction of the study of bacteria. The present volume is much larger than are its predecessors, and has been thoroughly gone over. Some new chapters have been added, the bacillus of bubonic plague is included, and the discussion of the questions of infection and immunity materially altered.

The main feature of the book's excellence is as a class book for students; for this purpose it is unexcelled.

DIE AMÖBEN, INBESONDERE VOM PARASITAREN UND CULTURELLEN STANDPUNCT. Von SANITÄTSRATH DR. ROBERT BEHLA. Berlin: August Hirschwald. 1898.

A VAST amount of investigation of the lower forms of animal life has been published by zoologists, physiologists, and physicians during the past ten years. In fact, since the appearance of Peifer's "Die Protozoen als Krankheitserreger" the field has been actively tilled.

The present brochure of seventy-five pages, illustrated with one lithographic plate, collects into convenient shape some of the important observations that have been recorded during this time. The various chapters discuss the classification of the protozoa, the amœbæ in general, the species of amœbæ, the parasitic amœbæ, the amœbæ of dysentery, and a short account of the attempts made to cultivate these organisms is given. A fairly complete list of the literature completes the contribution.

The essay presents in readable and compact form the main facts, which could be obtained otherwise only by a wide reading.

THE LIVING SUBSTANCE AS SUCH: AND AS ORGANISM. By GWENDOLIN FOULKE ANDREWS. Supplement to *Journal of Morphology*. Vol. XII., 2. Boston: Ginn & Co. 1897.

THIS essay of seventy-six pages first appeared in the *Journal of Morphology*, and is here reprinted in an attractively bound book form.

It is a thorough and painstaking study of protoplasm, as the word is used in its widest sense, and of some of the problems of the living substance as they are seen at the present day.

The writer shows a marked leaning to the views of Bütschli on the structure of protoplasm, though she is not a servile follower. To such as are interested in the general philosophical problems of the correlating of structure and function the book is heartily commended, but it is to be remarked that the path made by the present writer is by no means always a highway.

Intubation for Foreign Body.—An instance is reported by Sevestre and Bonnus (*Journ. de Méd.*) of a girl of five years who had drawn a bead into the larynx, occasioning several attacks of suffocation, one attended with abundant hæmoptysis. After a month intubation was performed, and in an attack of coughing following the introduction of as large a tube as possible, the foreign body was expelled.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 3, 1898.

EDWARD G. JANEWAY, M.D., PRESIDENT.

Intestinal Hydrotherapy: Methods and Uses.—DR. ROBERT COLEMAN KEMP read a paper on this subject. He said that, correctly speaking, hydrotherapy included the internal as well as the external use of water. Internal hydrotherapy was the employment of water in the intestinal tract for therapeutic purposes. Referring to the use of hot-water irrigation, the statement was made that in shock there was a vasomotor palsy, and the proper balance between the forces of inhibition and acceleration on the heart was lost. The hot injections aided (1) in restoring the proper tone of the vasomotor centres and the balance between the forces governing the heart action; (2) the heart action was also aided by the filling up of the blood-vessels; (3) the heat centres were stimulated; (4) the temperature of the blood was increased; and (5) the tone of the sweat centres was restored.

Experiments on Animals.—Dr. Kemp said that last year he had conducted a series of experiments on dogs, to determine the action of hot and cold irrigations with the double-current catheter. Each dog received about one and one-half grains of morphine, and occasionally a small quantity of ether, and a manometer was applied to one of the arteries. Then the intestine was irrigated with decinormal saline solution for ten or fifteen minutes, and the result noted. From these experiments it was learned that, if a moderate increase in the pulse tension was not objectionable, a temperature of 105° to 108° F. could be employed; but if a higher blood pressure was desired, the temperature of the fluid should be 110° to 120° F. Cold irrigations (90° to 60° F.), if kept up for twenty minutes or more, weakened the heart. The hot irrigations were excellent in shock, or before or during an operation to prevent shock, or in chloroform narcosis to prevent contraction of the vessels. Cold should be employed with caution, for idiosyncrasies to cold were more often presented than were those to heat.

In Shock from Hemorrhage.—A strong dog was bled until almost exsanguinated. The blood pressure was then found to have fallen from one hundred and fifty-five to one hundred and twelve millimetres.

Double-current irrigation with decinormal saline solution was then employed, and the temperature of the fluid gradually raised to 120° F. In ten minutes the blood pressure had risen to 140° F., and the heart was acting with fair force.

Effect on Body Temperature.—The dogs were treated as before. In some of the animals clinical thermometers were inserted in the iliac arteries, and in others in the internal carotid. Incisions were made in the axillæ, and thermometers were also inserted here. The room temperature was about 72° F., and the animals were left uncovered. Before irrigation the average axillary temperature was 99° to 99.5° F., and the temperature of the aortic blood 102.5 F. The normal blood pressure was one hundred and twenty-five to one hundred and fifty millimetres. After an interval of about fifteen minutes, irrigation was begun and kept up for twenty minutes, the temperature being increased from 110° to 120° F. It was found that the temperature of the aortic blood rose from 0.5° to 0.8°. When cold water was suddenly substituted, the temperature fell and the heart became rapid and feeble. Clinically it had been found that cold rectal irrigations were much safer than the high enemata.

Chapin had employed cold enemata in the diarrhœas of children, to reduce the temperature.

Effect on Renal Secretion.—The speaker said that, other conditions remaining the same, the secretion of the kidney was increased by a greater quantity of blood flowing through the organ. In his experiments in this direction, the animals had been treated as in the other experiments, but laparotomy had been performed and the ureters catheterized, thus excluding any chance of absorption from the intestine. The bowel was then irrigated with saline solution, the temperature being raised from 100° to 120° F. An increase in the renal secretion was noted in ten minutes, and it was very marked in twenty minutes. The pulse tension was also raised at once. If the temperature of the irrigating fluid was 100° to 102° F., the increase in the secretion did not become noticeable until after about twenty minutes. By adding a little ferrocyanide of potassium to the irrigating fluid, and testing the urine with iron as it came from the ureter, it was ascertained that in twenty minutes the urine gave the Prussian-blue reaction, no matter what the temperature of the fluid, but the higher temperatures were particularly effective in increasing the renal secretion. Small rectal enemata of saline solution and high irrigation at 100° to 104° F. increased the renal secretion without affecting the blood pressure. As cold irrigation for twenty minutes caused the animal to pass into a condition of severe shock, this method was not applicable to cases of renal insufficiency.

Hypodermoclysis.—Laparotomy was performed on a dog, and the left ureter catheterized. Five cubic centimetres of ferrocyanide of potassium was then added to three ounces of decinormal saline solution, and this mixture was injected into the tissues of the groin. In three and one-half minutes the Prussian-blue reaction was noted in the urine. Hypodermoclysis should be of value clinically in shock, in cholera, and in acute uræmic suppression to increase the secretion and to dilute the poison.

Infusion.—A dog was treated as in the last experiment, and then salt solution at a temperature of 110° F. infused slowly into the right femoral vein. In from one and one-half to two minutes the blue reaction was obtained.

Enemata.—The high enema was administered through a colon tube, and best with a fountain syringe raised about two or three feet above the patient. The colon tube should be inserted for twelve or eighteen inches, and the fluid allowed to run in slowly. The high enema was employed to relieve fæcal impaction, and also tympanites. The quantity should be one to one and one-half quarts, and the temperature 101° to 104° F. A physician in this city had told him that he had secured much better results, in exciting the renal secretion, from an enema of two ounces of salt to one and one-half quarts of hot water, than from the decinormal saline solution. It should be remembered that the colon of an infant could hold about one pint without distention, and that the adult colon held about nine pints.

Double-Current Irrigation.—In this method he preferred to use his own irrigating-tube—a tube within a tube, with the return current passing through the outer one. This tube was made of metal, hard rubber, or soft rubber, as desired. A fountain syringe was attached to the central tube. By alternately pinching the outflow tube and that of the fountain syringe, the quantity of fluid entering and escaping was easily regulated. If the return flow became clogged, the obstruction was removed by reversing the current or by the use of a small hand syringe. For diarrhœal affections the temperature of the irrigating fluid should be 101° to 105° F., and the fluid might be a weak flaxseed tea (two drachms to the quart) or have from five to fifteen minims of oil of peppermint added for each pint.

Beneficial in Dysentery and Rectal Prolapse.—Dr. William H. Thomson said that for many years he had been convinced of the fact that the reason for the great intractability of the ulcers of chronic dysentery was that the ulcer was continually bathed in foul matter. For this reason he had long been in the habit of ordering that the rectum in such cases should be washed out after every movement, with some disinfectant—preferably oil of peppermint. A long experience had taught him that it was far more effective than were other methods. All chronic inflammatory affections of the mucous membrane resulted sooner or later in a condition which was best treated by lavage. Since he had found that it was possible to practise thorough lavage of the entire colon, he had been proportionately successful in the treatment of chronic ulcerative or membranous colitis. Formerly he had dreaded these cases. He had late lytreated five such by the aid of Dr. Kemp's tube, and he had been very much impressed with the ease with which vast masses of mucus and membrane could be removed. The dislodging of these masses sometimes caused considerable pain. It was very important to remove them, because while retained they allowed the absorption of many toxins. It was the latter which gave rise to the various nervous manifestations often associated with this condition of the bowel. Of course this method of lavage could be used directly for cases of autointoxication. Every clinician occasionally observed in the course of convalescence from typhoid fever the occurrence of severe rigors, with rise of temperature. These were really pyæmic attacks, and the source of the infection was almost invariably located in the large intestine. The speaker then referred to the interesting physiological relation between the nerves of the pylorus and those of the rectum. It was for this reason, he said, that in dysentery a movement of the bowel followed the introduction of anything into the stomach, and this explained also the great emaciation observed in this disease. The therapeutic indication was clear—the application of a sedative to the rectum. He had found hot water extremely useful for this purpose. In that most depressing affection—rectal prolapse in old people—continuous hot-water irrigation of the bowel, for twenty or thirty minutes, gave most excellent results. In inflammation of the prostate or of the seminal vesicles, it was also exceedingly valuable. But the most remarkable effect of all was to be found in the influence on the renal secretion.

Allays Urethral Spasm.—Dr. Robert W. Taylor said that in that troublesome form of congestion of the prostate occurring after gonorrhœa he had found the irrigation treatment very useful. Inflammation of the prostate and seminal vesicles would be allayed by the use of hot irrigations. In some cases of gonorrhœa affecting the posterior urethra, retention of urine occurred from spasm. It was usual to treat this by hot sitz baths, but he had found it more convenient and satisfactory to use the irrigating-tube.

Promotes Absorption of Pelvic Exudates.—Dr. E. H. Grandin said that, in his hands, the method of continuous rectal irrigation had replaced the older method of vaginal irrigation in the treatment of plastic exudates, more particularly the recent ones. By this method quicker absorption was secured, probably because the hot water could be used continuously for a longer time. His custom was to place the patient in the left lateral position, or else in the dorsal position with the head lower than the buttocks. This method of continuous irrigation could be easily kept up, if necessary, for an hour or more at a time.

Useful in Acute Suppression of Urine.—It had proved extremely useful in his hands in cases of urinary toxæmia and renal insufficiency, in which the symptoms showed uræmic eclampsia to be imminent.

He knew of no method equal to irrigation of the bowel with water at a temperature of 115° to 120° F. In one case the patient had not passed water for thirty-six hours. Fifteen gallons of water at a temperature of 120° F. were used by continuous irrigation. This excited the action of the skin, the bowel, and kidneys, and the woman recovered.

Superior to Saline Infusion.—In cases of collapse from hemorrhage this irrigation treatment seemed to him superior to either infusion or injections under the skin. In cases of ectopic gestation in which rupture had occurred, he had been able to save several patients by employing continuous hot irrigation during the operation.

Non-Saline Injections are Fatal.—Dr. R. H. M. Dawbarn said that, although many patients still died from shock after major operations, little progress had been made in the treatment of this condition, and but little space was devoted to its consideration, even in the latest text-books; yet it was only along the line of prevention that we could hope to do much. In 1890, having lost a member of his family from shock after an operation, he had devoted a good deal of time to laboratory experiments on shock and its treatment by hot saline infusion. He was pleased to find that Dr. Kemp's experiments had so completely confirmed his own regarding the stimulation of the heart produced by water of a temperature of 115° to 120° F. It was during these experiments on animals that he had learned accidentally that plain water, without salt, would almost immediately kill an animal by destroying the blood corpuscles. It was for this reason that salt solution should be used.

Our Effort Should be to Prevent Shock. — Since 1891, in every severe operation in which shock was to be expected, while the patient was still under the anæsthetic, he had practised infusion of one or two litres of hot saline solution. He felt positive that in this way he had many times prevented shock. If later on there seemed to be an indication for further saline infusion, instead of reopening the vein he resorted to Dr. Kemp's method of continuous irrigation. The results had been most satisfactory. The method also had the advantage of restoring or maintaining the animal heat.

Dr. Ramon Guiteras said that in many diseased conditions of the rectum hot irrigations by the double-current tube were exceedingly beneficial. The method was of most service in cases of abscess, ulcer, and various tuberculous and syphilitic lesions. Plain water alone would sometimes produce an unpleasant dry condition of the rectum, and in these cases it was desirable to use saline solution or weak flaxseed tea. In the male these hot irrigations were chiefly useful in seminal vesiculitis, acute prostatitis following urethritis, and acute exacerbations of chronic prostatitis. By diagrams, taken from frozen sections, the speaker showed that with a Kemp tube it was possible to direct the current of hot water upon the seminal vesicles.

Dr. A. M. Phelps said that ulceration of the rectum and colon demanded treatment by continuous irrigation, together with the performance of inguinal colotomy. This had been his recent practice.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, January 27, 1898.

Simon Marx, M.D., Chairman.

Cæsarean Section for Intraligamentous Cyst Complicating Pregnancy.—Dr. Herman J. Boldt exhibited a specimen from a case in which he had done Cæsarean section for a large tumor. This tumor had more than filled the pelvis and had absolutely obstructed the parturient canal. There was an almost complete atresia of the vagina, so that the patient had first presented herself to him because of complete sterility. At the first examination the uterus seemed to be very small, and there was a small nodule alongside of this organ. He proposed to do an operation for the formation of a vagina. She went from observation for a time, and on her return it was found that the small nodule at the side of the uterus was decidedly larger. He then decided that he had to deal with a case of pregnancy, in spite of the almost microscopic size of the vaginal orifice. She went on to term, and was delivered by Cæsarean section, and at the same time of the tumor, which proved to be an intraligamentous sarcoma. The speaker said that he would invariably advocate total extirpation of the uterus instead of the Porro operation, when an operation of that kind was indicated at all. The child lived eleven days, and the mother made an uneventful recovery.

Midwives.—Dr. H. J. Garrigues read a paper with this title. He said that in 1884 a bill had been introduced into the legislature, the object of which was to give a charter to a certain institution for midwives. He had been sent, along with Dr. Warden, as a committee of the New York County Medical Society, to endeavor to kill the bill, and this they had succeeded in doing. There was no general State law, he said, for midwives, but there were two special laws affecting them—one for the city of Buffalo, and the other for Rochester. Both of these had been enacted in 1895, Buffalo being the pioneer in the movement.

Absolutely No Restrictions in New York. — In New York City any one could become a midwife, no matter what her qualifications, the law simply requiring her registration. There were at least five "schools" of midwifery in this city, where instruction was given and diplomas were issued. This astounding condition, the speaker declared, could not last forever, and if they were let alone in time a law would be enacted placing midwifery, like other branches of medicine, entirely in the hands of licensed medical practitioners.

Historical Sketch.—Dr. Garrigues said that it was not until the beginning of the seventeenth century that doctors began to attend midwifery cases, and in England physicians were not called in to normal cases of labor until the beginning of the present century. In Germany, even at the present time, physicians were not very commonly employed in ordinary cases of labor, except among a few of the well-to-do. Of the hundreds of thousands of midwives who had practised their art, only four had recorded their experience in books—three in France, and one in Germany. The practice of midwifery required special and important qualifications, for not only were two lives involved instead of one life, but knowledge of three special departments was often required—*i.e.*, internal medicine, surgery, and pædiatrics. In private practice the mortality was twice as large as in maternity hospitals, and, while the physicians were partly to blame, a large share of the responsibility belonged to the midwives. The average midwife, Dr. Garrigues averred, was entirely incapable of foreseeing complications, and, preach as one would, she could not be persuaded to practise antiseptic midwifery.

Poor Obstetricians and Inveterate Quacks.—Midwives not only did harm by being poor obstetricians, but they were notorious and inveterate quacks, and did not shrink from administering potent drugs and performing abortions. The latter evil was largely due to the fact that they were allowed to give certificates of stillbirths, and who could say that a child's death was from natural causes?

The Financial Aspect.—As it was often claimed that the chief reason for the existence of midwives was

that they would attend for a very small fee, Dr. Garrigues was at considerable pains to show from a long array of statistics that there was an abundance of physicians who would assume the care of midwifery cases for sums that the poor could afford to pay. For those too poor to pay even a small fee there was abundant provision, for, of all our numerous charities, none perhaps was so much overdone as that connected with the maternity institutions.

The Remedy.—Dr. Garrigues declared that midwives were a relic of barbaric times. Although they had never been recognized by law, they had been tolerated so long that it would be necessary, in order to do away with them, to pass a law distinctly limiting such practice to licensed physicians. It would be desirable to have such a legislative bill indorsed by this section, he said, and by the Academy of Medicine as a whole. No constitutional rights were infringed by preventing midwives from displaying signs or practising their art for a consideration; certainly this did not prevent one woman from helping another in confinement.

Educate the Midwives in Existing Institutions.—Dr. W. M. Polk said that the laity had some rights in this matter, as well as the medical profession, and that, in comparison, the physicians constituted a small minority. All that the laity wanted was educated service. It seemed to him desirable to forbid the licensing of any institution having for its object the instruction of midwives. This could be done at the schools and lying-in hospitals already in existence. He saw no reason for any one being allowed to practise midwifery without a full general medical education.

A Menace to Public Health and Morality.—Dr. T. K. Tuthill was convinced that the midwives of the present day were a menace to the public health, and while they were not abortionists, as a class, their occupation gave an opportunity for much immorality. The reputations of physicians were often endangered because of the blunders of midwives.

Midwives Should be Qualified Practitioners.—Dr. J. Henry Fruitnight said that about fourteen years ago he had read a paper, of similar tenor to that of the one just presented, before the Society of Medical Jurisprudence. He believed that the practice of midwifery, like other departments of medicine, should be limited to duly licensed practitioners. He favored the abolition of midwives.

A Strong Demand for Midwives.—Dr. N. E. Brill said that there must be a demand for midwives, or they would not exist, and hence he queried if it were practicable or desirable to attempt to put an end to a strong natural demand of this kind.

Abolish Midwives Gradually.—Dr. Robert A. Murray said that midwives existed here because foreigners coming here were accustomed to have them in their native lands. The reason they existed in the old country was that regularly qualified physicians could not be obtained at a rate within the means of these people. It was a mere question of money. He was in favor of abolishing them, but, believing that this could not be done at present, he thought it was more expedient to endeavor to restrict them, as had been done in the medical-practice act.

Midwives are Irregular Practitioners.—Dr. Malcolm McLean could see no place for an irregular practitioner of medicine in the State of New York today, and a practitioner who was capable of practising only one branch of medicine was an irregular practitioner. He would, therefore, advocate the abolition of midwives as soon as it could be easily done. It was well known that midwives arose in the East because of the division of the sexes, but such a reason no longer existed—there were female as well as male physicians.

No Legal Right and No Good Reason for their Existence.—Dr. E. H. Grandin thought the time had come when the community should realize that midwives had no right to exist—he doubted if they had any legal right, because they were not legally qualified medical practitioners. All the community could do was to amend the law so as to give this privileged class a right to "malpractise," as they now did. No midwife, with a mere smattering of knowledge of how to tie the cord, was competent to give the necessary medical supervision prior to the confinement. Moreover, there was no good reason for the existence of midwives at the present time, for many physicians would gladly accept the midwife's minimum fee, and, if even this could not be paid, there were excellent institutions for the free treatment of just such cases. Any bill presented to the legislature should have the single object of abolishing midwives.

A Blot on our Civilization.—Dr. George Tucker Harrison heartily indorsed the views expressed in the paper, believing that the midwife was an anomaly and a blot on our civilization.

Doubtful of Ability to Abolish Midwives at Present.—Dr. H. J. Boldt favored the abolition of midwives, yet doubted very much if it were possible to do this at the present time.

Midwifery Schools Now Foster Quackery.—Dr. C. A. Von Ramdohr denied that there was a single school of midwifery in the city of New York, although admitting that there were certainly so-called "schools" which were nothing but hotbeds of quackery. Midwives were recognized indirectly by boards of health. If we could prevent their registration, they would gradually die out. He was of the opinion that it was impossible to enact a law abolishing midwives, but he was equally positive that this agitation would do good.

The Midwife Belongs to the Age of the Bone Setter.—Dr. Julius Rosenberg said that he had read a paper on this subject before the New York County Medical Society, in 1893. He had pointed out that, while one-half of the confinement cases in this city came into the hands of midwives, the law did not require any evidence of qualification on the part of these midwives. Moreover, while the mortality from stillbirths in the large European cities was three per hundred, in this city it was nearly eight per hundred. A committee had been appointed to investigate the statements made in his paper. This committee had confirmed them, and had advised legislation which would suppress incompetent midwives. The matter, in accordance with the bylaws of the society, was referred to the State Medical Society, and there it ended. He believed that midwives should be absolutely abolished.

Favors Restriction and Regulation.—Dr. H. N. Vineberg said that he thought equally dark pictures could be painted regarding so-called qualified physicians as had been done for the midwives. Many of the latter received fully as good a practical training as graduates of our medical schools. While he believed midwives were a curse, as they existed at present, he thought they were nevertheless a necessity in a city like this. Their practice should, therefore, be regulated and restricted.

Favors Abolition.—Dr. H. L. Collyer also favored abolition of midwives, or, if this did not seem feasible, their restriction.

Dr. Garrigues, in closing, said that the majority seemed to favor abolition, but this could not be done in a day. The great objective point should be to prevent any more women from becoming midwives; then the practice would soon die out. Midwives were scarcely known outside of large cities having a large foreign population.

Resolution Adopted.—The following resolution was then adopted:

"*Resolved*, That the section on obstetrics and gynæcology strongly recommends taking immediate steps to secure the passage of a law providing for the supervision of all persons, not legally qualified physicians, now engaged in the practice of midwifery, and debarring from such practice all persons proving not to be competent and qualified."

Therapeutic Hints.

Impacted Fæces.—Instead of plain water for injection, use brewery yeast.—HARDEN.

In Severe Lumbago.—

℞ Ammonii chloridi ..... gr. xx.
Ammonii carbonatis ..... gr. v.
At dose in water.

Or:

℞ Ammonii chloridi ..... ʒ iij.
Liquoris hydrargyri perchloridi ..... ♏ ss.
Spiritus chloroformi ..... ♏ ss.
Infusi gentianæ compositæ ..... ad ʒ vi.
M. S. Tablespoonful ter in die ex aqua.

—R. STUART BENNIE.

Inhalation of Balsam in the Treatment of Catarrh of the upper Air Passages.—In laryngitis and catarrhal bronchitis a few drops of the following mixture are to be placed in a caraffe-shaped bottle and heated gently over the flame of a spirit lamp. When the bulb becomes filled with the vapors they are drawn by the patient through the nose by means of a tube with a flaring end.

℞ Eucalyptol ..... 0.25 cgm.
Menthol ..... 4 gm.
Terpinol ..... 2 gm.
Essence of pine ..... 1 gm.
M. S. For local use.

—KAFEMANN.

Rheumatoid Arthritis.—

℞ Colchicine ..... gr. $\frac{1}{360}$
Methyl salicylate (distilled from betula lenta) gr. iij.
For one capsule. S. Administer every hour or on alternate hours.

—ELGEOS.

A Specific for Chlorosis, according to Hayem (*La Méd. Mod.*, November 10, 1897), is the oxalate of the proto-oxide of iron, in doses of ten to twenty centigrams daily for as short a time as possible. The cure is completed by hydrotherapy, aerotherapy, and a climate of high altitude.

Tetany in Infants.—In rebellious cases the constant electric current. Relieve the gastro-intestinal derangement with:

℞ Bismuth salicylate ..... 0.30 cgm.
Benzo-naphthol ..... 0.15 cgm.
Sugar ..... q.s.
M. ft. pulv. tales No. 12. S. Take four daily.

Anthelmintics if internal worms are suspected. If the contractions persist:

℞ Potassii bromidi ..... 3 gm.
Chloralis hydratis ..... 1 gm.
Syrupi aurantii ..... 50 gm.
Aquæ destillatæ ..... 100 gm.
M. S. Three dessertspoonfuls daily.

—TORDEUS.

Neuralgia of the Ophthalmic Branch of the Trigeminus.—

℞ Neutral hydrochlorate of quinine ..... 0.10 cgm.
Hydrochlorate of morphine ..... 0.5 cgm.
Distilled water ..... 10 gm.
M. S. For external use. For instillation upon the cornea.

—MARKOV.

Alopecia Areata.—Cover the whole scalp with a one-per-cent. bichloride solution, after having made punctures over the bald area with a bunch of four needles bound together.—MARTIN.

Or make isolated punctures, especially about the periphery of the patch, with the point of a hypodermic needle dipped in:

℞ Acidi carbolici puri 3
Tincturæ cantharidis 6
Repeat every four or five days.

—PANICHI.

Massage in Chorea.—All the flexions are first to be made over the trunk and limbs, and, when the subject becomes habituated, passive movements of the limbs and of the head by gentle bending and unbending are carried out. The calming action is due to reflex effect upon the central nervous system. In chorea following infectious diseases the benefit is attributed to the exchanges being quickened, producing a more rapid neutralization of the toxins.—FEDROV, *Archives Russes de Neurologie*, No. 33, 1897.

Zona.—

℞ Menthyl salicylate ..... 4.50 gm.

To be applied upon the sound skin intervening between the plaques of eruption, and covered with oil silk and cotton to retard evaporation.—CHAMBARD-HÉNON.

Infectious Pyelonephritis.—Subcutaneous injection of saline solution in large daily quantities of two thousand grams. Within a month sixteen litres are thus administered and fourteen litres are injected per rectum. The results of the observation show that two thousand grams of saline solution can be injected daily for a number of days without danger.—BOVET *and* HUCHARD, *Journal de Médecine de Bordeaux*, November 7, 1897.

Saline Solutions, according to some recent observations of Tomasoli, should give good results in severe injury from burns. In a series of animals experimented upon, eight out of ten dogs survived under the use of two hundred grams daily of artificial serum, while those not so treated all died within two days of the injury. Two clinical observations are given to show the rapid amelioration by this method in extensive burns.—*Riforma Medica.*

Chronic Dry Myringitis.—

℞ Sozoiodic acid ..... 0.25 cgm.
Alcohol, absolute ..... 1 gm.
Castor oil ..... 10 gm.
M. S. For external use.

—STETTER.

Thiersch's Solution.—

℞ Ac. salicylici 1
Ac. borici 6
Aquæ 500
Filter.

Subcutaneous Treatment of Syphilis.—Inject each day, for one month, unless stomatitis develops, one or two cubic centimetres of the following solution:

℞ Hydrargyri benzoatis ..... 0.25 cgm.
Sodii chloridi (chemically pure),
Cocainæ hydrochloratis ..... āā 0.06 cgm.
Aquæ destillatæ ..... 30 c.c.

One cubic centimetre of this solution contains about one centigram of benzoate of mercury. Or, to assure a perfect solution of the benzoate:

℞ Hydrargyri benzoatis ..... 0.30 cgm.
Ammonii benzoatis ..... 1.50 gm.
Aquæ destillatæ ..... 30 c.c.

It is preferable to prepare the benzoate of mercury freshly rather than to use that of commerce.

—GAUCHER.

In Obstinate Atonic Diarrhœa, when simple astringent and ordinary digestive agents have failed to produce satisfactory improvement, a combination of remedies in accordance with the following prescription will usually give the desired results:

℞ Tincturæ ferri chloridi ..... ℥ ij.
Tincturæ catechu ..... ℥ iij.
Tincturæ opii camphoratæ ..... ℥ iv.
Extracti rhei aromatici fluidi ..... ℥ ij.
Spiritus vini gallici ..... ℥ ij.
Syrupi simplicis ..... q.s. ad ℥ viij.

M. S. For a child one to two years old one-half to one teaspoonful every four to six hours.

—A. L. Hall.

For Roughness of Voice.—

℞ Morphinæ muriatis,
Cocainæ hydrochloratis ..... āā 0.005
Tincturæ aconiti ..... gtt. 2
Pulveris radicis althææ 0.15
Sacchari albi ..... q.s.
M. ft. tab. No. 1. Ten such daily.

—*Medicinisch-chirurgisches Centralblatt.*

Ivy Poisoning.—None of the remedies used in the treatment of this disease is specific. All of them are designed to relieve the itching and burning and to subdue the inflammation. The following are of about equal value: (1) Saturated solution of boric acid; (2) fluid extract of grindelia robusta, one drachm to four fluid ounces of water; (3) aqueous solutions of sodium hyposulphite, one drachm to the ounce; (4) Labarraque's solution, twenty-five to fifty per cent.; (5) black wash, diluted one-half with lime water; (6) bromine, ten to fifteen minims to one ounce of olive oil.—Schonberg, *Philadelphia Polyclinic*, October 16th.

Acute Nephritis.—

℞ Diuretin ..... gr. lxxx.
Syrupi simplicis ..... ℥ v.
Aquæ destillatæ ..... ℥ v.
M. S. One tablespoonful every two hours.

—Steiner.

Tuberculosis in Children.—

℞ Balsami peruviani 5
Olei jecoris aselli 10
Gummi arabici 5
Aquæ destillatæ ..... q.s. ad emulsio 80
Syrupi aurantii corticis 20
M. S. Teaspoonful every two hours after meals.

—Schmey.

Prickly Heat.—

℞ Spiritus ætheris nitrosi ..... ℥ i.
Magnesii sulphatis ..... ℥ i.
Olei cajuputi ..... ♏ i.
Syrupi tolutani ..... ℥ ij.
Liquoris magnesii carbonatis ..... ℥ ij.
M. S. Teaspoonful thrice daily.

—Godhart *and* Starr.

Acute Coryza.—

℞ Menthol, crystals ..... ℥ iiss.
Toluol ..... gr. vss.
Alcohol, absolute ..... gtt. xi.
Liq. ferri sesquichloridi ..... gtt. vi.
M. S. Locally.

—Loeffler.

Vomiting of Pregnancy.—Cocaine hydrochlorate, one-sixth grain, by hypodermic injection once or twice a day immediately before meals; inject in the hypogastric region.—Pozzi.

Acute Mania.—

℞ Sulphonal ..... gr. xv.
Sodii bicarbonatis ..... gr. iv.
M. For one cachet. S. From one to three such cachets daily. In cases that are rebellious much larger doses are given.

—Kadt.

Hydrotherapy.—The therapeutic application of water demands at least as much care as the use of medicinal agents. Owing to the flexibility of water as a remedial agent, greater demands are made upon the practitioner than in the use of medicines. The best results may be obtained only by following an exact technique in each case. The reason that different results are obtained by different physicians from the application of water may be found in the technical errors committed on account of an erroneous conception of the *rationale* of hydrotherapy.—Simon Baruch.

Hemorrhoids of Pregnancy.—

℞ Sulphur, precipitated,
Cream of tartar ..... āā ℥ i.

—Da Costa.

Neurasthenia.—

℞ Sodii bromidi ..... ℥ i.
Liquoris potassii arsenitis ..... ℥ iss.
Extracti ergotæ ..... ℥ i.
Tincturæ opii camphoratæ ..... ℥ i.
Aquæ ..... q.s. ad ℥ iv.
M. ft. sol. S. Teaspoonful in water after meals.

—Curran Pope.

Intestinal Antiseptic.—

℞ Naphthol ..... gr. xlv.
Chloroform ..... ♏ xv.
Castor oil ..... ℥ iij.
Essence of peppermint ..... gtt. v.
M. Dose: A tablespoonful in port wine, beer, or hot and sweetened black coffee.

—De Maximovitch.

Gonorrhœa.—

℞ Oil of gaultheria ..... gr. xxx.
Bismuth subnitrate ..... ℥ x.
Vaseline, liquid ..... ℥ vi.
M. S. Inject thrice daily, after urination and retain for few seconds.

—Duquaires.

Vaginal Antisepsis.—

℞ Hydrargyri bichloridi ..... 0.30 cgm.
Acidi tartarici ..... 1 gm.
Cupri carbonatis (malachite green) ..... 0.01 cgm.
S. For one package, to dissolve in two quarts of water.

—Cassine.

Remittent Malarial Fever.—The malarial remittent fever is found most commonly in the South and Southwest; it is due to the so-called æstivo-autumnal parasite, which during the acute stage may exhibit segmentation so often (though one cycle takes several days to complete) that the fever may be intermittent or remittent, or even continued pyrexia may result from the growth of many sets of parasites, maturing at short intervals; the presence of the crescents and ovoids occurring after the first week, however, is both pathognomonic of this fever and of the æstivo-autumnal type.—Dr. Mark A. Brown (*Cincinnati Lancet-Clinic*, August 14th).

Hyperidrosis.—

℞ Bals. peruvian ..... ℥ ss.
Acidi formicici ..... ℥ ij.
Chloral. hydrat ..... ℥ ij.
Alcohol ..... ℥ v.
M. S. Apply with a cotton swab, or over large surfaces as a spray.

—Heusner.

Treatment of Gout.—You know that we inherited from Sydenham the belief that gout is made worse by red meats and that they should not be used. I have seen gouty patients in whom a single piece of ordinary red roast beef would precipitate a furious attack. I have also seen many gouty patients who would not get well until they were put upon red meat. What is the diet for gout? There is no diet for gout. It is diet for the individual. I have seen gouty patients who, if they took starch or sugars, went right down; and I have seen gouty patients who had to take starch and sugars to be built up. Therefore the first principle in the diet of gout is to adapt it to the individual

before us. You judge of the case by the effects of experiment. In a large majority of cases sugars and starches have to be cut off. In spare gouty patients starches often do good; farinaceous diet may be essential. You have to order your diet according to the individual. A milk diet is one which probably suits the large majority of patients. But that which suits the individual, the stomach, the digestion, will suit the gout or kill the gout.—H. C. Wood.

The Treatment of Blennorrhagic Conjunctivitis in the Newborn.—Everbusch (*Jour. de Méd. de Paris*, June 27, 1897) proposes painting the under side of the eyelids with lunar caustic in cases of corneal ulceration, otherwise the employment of nitrate of silver. He prescribes also several drops of a five-per-cent. solution of physostigmine three or four times daily, alternating with drops of a one-per-cent. solution of scopolamine. Every hour the following instillation should be employed:

℞ Chlorinated water..... 1 part.
Distilled water..... 2 or 3 parts.

Peroxide of Hydrogen is recommended in acute suppurative disease of the middle ear. Spray out or syringe the external meatus with warm sterile water, and, while the head is inclined to the opposite side, fill the opening with a solution of the peroxide. Then perform inflation, so that air is blown from the tympanum through the meatus.— Politzer, *Monats. für Ohrenheilk.*, May, 1897.

Cycling is a dangerous exercise for many persons. The physician should make sure of the perfect health of the individual before sanctioning it. It is usually injurious for the aged.—Mennella.

Blood Letting.—When other remedies failed, in twenty-six cases venesection restored the patient to health. The list includes puerperal fever, eclampsia, paralysis from congestion of the brain, brain fever; meningitis and cerebro-spinal meningitis; pneumonitis in its first stages; congestion of the lungs, liver, and abdominal viscera; peritonitis; croup, tonsillitis, hemorrhage of the lungs, and incipient phthisis. Repeated bleedings will do more to cure consumption in its early stages than any other single agent, especially when used in conjunction with an open-air life and in a dry and medium high atmosphere. Hoff would have every medical student instructed in the art of venesection. —Hoff.

Pertussis.—

℞ Bromoform..... 48 gtt.
Ol. amygd. dulc..... 15 gm.
Gummi arabici..... 10 "
Aq. laurocerasi..... 4 "
Aq. dest.....q.s. ad 120 "

M. S. For children under five years, as many times four drops a day as the child is old in years. From five to ten years a daily dose of twenty drops.

—Marfan.

Large Acne Pustules.—

℞ Ichthyol,
Bismuth subnitrate,
Zinc oxide.....āā 1
Vaseline..... 10

M. S. Apply at night.

—Hebra.

Thyroid Extract.—Thyroid extract has become a firmly established therapeutic agent, yet is not so generally or so fully recognized as it deserves. From year to year fresh triumphs are recorded; not only in myxœdema, but in cretinism, acromegaly, rickets, obesity, catalepsy, and ichthyosis it has scored signal success. The effects of from one to five grains of the extract are to accelerate the pulse and respiration, to increase temperature, to improve tissue metabolism, to cause a greater elimination of urea, and a more complete assimilation of nitrogenous products. There is also increased activity of the mucous membranes and skin, and the body weight is diminished, while at first there is muscular weakness. If the dose be too large there are flushings of the face, dizziness, accelerated heart action, with rise of blood pressure succeeded by a fall, nausea, vomiting, trembling of the limbs, and other toxic symptoms of more or less gravity. This toxicity depends somewhat on the preparation, fresh glands being less toxic.—W. H. Neilson.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEPUTATION TO THE WAR MINISTER ON ARMY MEDICAL REFORMS—THE MEDICAL ACTS—MR. HORSLEY AND MR. CARTER IN CONTROVERSY—THE PRESIDENT OF THE COUNCIL—THE ARCHBISHOP'S ADDRESS AT THE LONDON HOSPITAL—DR. BASTIAN—SIR F. BATEMAN — MR. HART'S SUCCESSOR — DR. JONES — PROFESSOR SIMPSON—SIR W. WADE—ROYAL INSTITUTION'S WINDFALL—THE LATE DRS. PRICHARD AND TAYLOR.

London, January 21, 1898.

Yesterday Lord Lansdowne received a deputation of the medical profession, in order to hear from it a statement as to the army medical department. The minister listened with close attention to the representations made, and professed to be entirely with the deputation in regarding the present state of things as serious. He said he was giving consideration to the subject, for there was, comparatively speaking, very little competition for vacancies in the army medical staff, and the best men did not present themselves. The deputation had urged the formation of a medical corps and the burning question of rank and titles. His lordship said he saw no objection to the formation of a corps, but it was intimately connected with the question of rank and command; he understood that the profession made no demand for command of any kind outside the corps itself. He regarded some of the present titles as extremely cumbrous, but thought it not beyond the power of the authorities to discover more suitable designations. The matter had been lately examined with care, and he hoped soon to be able to announce the conclusion of the war office. Then he asked, if the concession of the corps and titles were made, whether the authorities might rely on receiving from the profession assistance in procuring an adequate supply of the best candidates. In reply to this Dr. Farquharson, M.P., who had introduced the deputation, expressed his decided opinion that the establishment of a medical corps and the concession of titles would result in a satisfactory solution of the difficulties hitherto met with, both as to the number and qualifications of candidates. The deputation included representatives of the three kingdoms.

When two such doughty champions as Messrs. Victor Horsley and Brudenell Carter take up the gloves, we expect the play to be fast and furious. The South-west Medical Society has afforded the field for a dialectical contest of a spirited character. Mr. Horsley, as I reported, read a paper before this society on the medical acts as they are and as they ought to be. Mr. Carter soon afterward followed before the same society and traversed most of Mr. Horsley's statements. Both gentlemen had previously been at issue in the General Medical Council, and now descended into a more popular arena. Mr. Horsley is the champion of the gen-

eral practitioner and a most active medical reformer. Mr. Carter is apparently satisfied with things as they are, and defends the corporations. Both are able penmen and eloquent speakers. Both seem determined advocates. Mr. Horsley has done so much to enforce the rights of practitioners while president of the Defence Union, and is still so zealous in their cause, that he can always reckon on their sympathy. Mr. Carter's cause is unpopular. He cannot expect that the corporations for which he speaks will easily gain the affections of their alumni, whom they have estranged by long neglect. His eloquence is vain in such a cause, and he may as well throw up his brief. He seems to have been conscious of this, for he indulged in the worn-out plan of abusing plaintiff's attorney. Indeed, some of his remarks were so personal and so uncalled for that they provoked murmurs, and after his address the chairman felt called upon to explain that there was nothing in Mr. Horsley's address of a personal kind. We shall probably be treated to a further wordy warfare, waged in the larger field of the press.

Meanwhile Mr. Horsley has issued a report to registered practitioners on two points on which he objects to the action of the president of the Medical Council. One of these refers to the penal proceedings; the other to the position of foreign practitioners in England. This opposition to the president is condemned in no measured terms by Mr. Carter, as if it were a personal question. But surely an official, however highly placed, is not above criticism. It is certain official acts which Mr. Horsley calls in question, and, though there may be something to be said on both sides, it is ridiculous to maintain that opposition to such acts is a personality. The subject will undoubtedly again be discussed in the council. It is a "burning question" now in the profession, and most men seem to agree with Mr. Horsley in spite of their respect for the venerable president.

The Archbishop of Canterbury gave an address before the London Hospital Christian Association on the 11th inst. He spoke in high terms of our calling—"a glorious occupation," the study of which he thought at the head of natural science. Then he proceeded to show that there are too chief entrances of truth into the intellect and soul. One is by the bodily senses employed by the mind for investigation; the other the moral and spiritual faculty by which the mind can grasp truths which cannot be reduced to the test of experiment. Yet these truths are of the very highest importance, and both are worthy of study.

Dr. Bastian has resigned his offices at University College, but will retain the physiciancy of the Hospital for Epilepsy.

Sir Frederic Bateman, of Norwich, whose writings on "Aphasia" and the "Localization of the Faculty of Language" are so well known, has had an attack of right hemiplegia, but there were no loss of consciousness, no affection of the speech, and no impairment of intellect. It is hoped he may be able to resume his literary and professional work.

Dr. Dawson Williams, who for seventeen years has been assistant editor, succeeds Mr. Hart as editor of the association journal. The sub-editor, Mr. C. L. Taylor, takes the post of assistant editor.

Dr. Macnaughton Jones has been elected president of the Gynæcological Society for the ensuing year.

Professor Simpson is vacating the chair of forensic medicine at the University of Glasgow, on account of his declining health.

Sir Willoughby Wade is leaving Birmingham, where he has so long been a prominent figure, to settle in Italy. This step is due to the failing health of Lady Wade.

Mrs. Tyndall has handed over to the Royal Institution £1,000. This sum was left by the late professor to be thus disposed of at such time as convenient to his widow, to be used for the promotion of science.

Two veteran oculists have lately gone over to the majority. Dr. Augustin Prichard died at Clifton on the 6th inst., at the age of seventy-nine. He was formerly surgeon to the Bristol Infirmary and to the Ophthalmic Institution. He lectured on anatomy and surgery at the Medical School. He was appointed consulting surgeon when he retired from active duty at the infirmary. The other veteran alluded to was also a provincial—Robert Hibbert Taylor, formerly ophthalmologist to the Liverpool Royal Infirmary. He was deeply interested in various philanthropic institutions, especially those that ministered to the deaf and dumb. He established the first ragged school in Liverpool, and took part in many other good works. He died at the age of eighty-six.

THE PRODUCTION OF THE RASH IN EXANTHEMATOUS DISEASES.

To the Editor of the Medical Record.

Sir: In your issue of January 1st an interesting letter appears from Dr. Gage, of McCook, Neb., giving a theory as to the production of rash in any of the exanthematous diseases. His general view is that many rashes may be caused by the efforts of the skin to eliminate various poisons from the body. He has, in point of fact, reasoned out a conclusion similar to one published by myself so long ago as the year 1890, at the British Medical Association meeting at Birmingham.

Under the heading of "Internal Irritants," I have discussed a number of substances capable of setting up symptomatic skin rashes. These included (*a*) micro-organisms, (*b*) bacterial products, (*c*) certain drugs, (*d*) the virus of various diseases generated in the body, *e.g.*, gout. All these agents, I suggested, inflamed the skin as a result of direct irritation of the excretory glands. The proofs were to be found in the presence of iodine and bromine in skin lesions; in the urea to be seen on the skin surface in uræmia, and the urates in eczema of gouty origin; in the presumable infectiousness of the desquamations of many exanthems; in the toxic properties of normal sweat, demonstrated by Arloing; and lastly, in the tuberculin recently detected in the sweat of phthisis by Dr. Salter.

At the same time I pointed out that the skin was affected merely as one of a series of excretory organs, and laid down the general law that any "internal irritant" capable of causing a symptomatic rash might inflame other channels of waste exit from the body. The resulting affections I named excretory bronchitis, excretory diarrhœa, excretory nephritis, excretory pharyngitis, excretory dermatitis, and so on. I pointed out that the theory gave a rational basis to methods of treatment hitherto empirical, such as purging and sweating, and that it gave hints of therapeutic value. The theory of excretory origin is capable of very wide application; thus it explains the rash of exanthems, of antitoxin and tuberculin injection, of ptomain poisoning, of drugs, and of various phenomena, such as pruritus and phthisical night sweats.

My views have been drawn up formally in a small book, "Excretory Irritation" (Baillière & Co., London, 1897), which, I understand, has commanded some sale in the United States. As a skin specialist the subject has always presented a peculiar attraction to me personally, but its bearings are wide enough to repay careful attention on the part of the philosophical student of disease, whatever his exact position in the world of medicine.

David Walsh, M.D.

Temple, London, E. C., January 10, 1898.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 5, 1898:

	Cases.	Deaths.
Tuberculosis	173	88
Typhoid fever	9	2
Scarlet fever	105	6
Measles	312	12
Diphtheria	141	29
Laryngeal diphtheria (croup)	7	0
Chicken-pox	13	0
Cerebro-spinal meningitis	0	1
Pertussis	1	0
Erysipelas	1	0

A Novel Judicial Decision.—A Chicago boy who threw a bucket of scalding water on a shopmate during a quarrel has been offered the alternative by the judge before whom he was summoned for the offence of giving up grafts of his skin to his injured mate or going to jail pending the results of the injury. If the grafts take, the boy's life is expected to be saved, but should the man die, the water thrower must be tried for murder.—*Atlantic Med. Monthly*, December 25, 1897.

Discovery of Dwarf Races in South America.—The news has just been brought from South America of the existence of a remarkable race of pigmies in the neighborhood of the upper Amazon. A Mr. Sullivan, of Boston, has been travelling in unfrequented parts of the South American continent, and finally arrived at the headwaters of the Rio Negro, which mingles with the tributaries of the Orinoco in Guiana. Mr. Sullivan says: "I met with, while on the Rio Negro, one of the tributaries of the upper Amazon, a race of remarkably small people, who were more likely of an Indian than a negro origin, judging from their hair and the peculiar color of the skin, which was of a brilliant reddish-yellow. They are very ugly in shape. Their stomach, which is distended in the back as well as in front, is big and out of all proportion to their tiny, spindling arms and legs. From inquiry it appears, as nearly as could be ascertained, that their home was at the headwaters of the Orinoco, or else that part of Venezuela near the Brazilian border or Rio Negro watershed. These people are not over four feet eight inches in height, and the woman are less than this. They all appeared to be of the same race, and give the same location as their home." This discovery, if authentic, and there seems to be no doubt of its genuineness, should be of the greatest possible value to anthropologists. Humboldt, in the beginning of the century, recorded the tradition of a race of dwarfs inhabiting parts of South America, and stated that these pigmies were supposed to dwell in the country at the head of the Orinoco; but, as he did not visit these regions himself, concluded that the rumors were without foundation. Mr. Sullivan's observations curiously verify Humboldt's suppositions, and should go far to clear up the point as to the existence of numerous pigmy tribes in Guiana and Venezuela.

"The Lancet" on the General Practitioner in England.—*The Lancet*, in its issue of January 1st, makes some pertinent remarks on the position of the ordinary medical man in Great Britain, and says: "The general practitioner has, as a whole class, fallen, we regret to think, upon ill times. His work has grown no lighter, his responsibilities are no less exacting, but in many directions his remuneration has decreased. He is suffering in part from the overcrowding of the profession, in part from the competition of lay associations, in part from the faulty administration of certain great medical charities, and in part from the rampant prevalence of quackery, which enjoys in this era of civilization an immunity that is as perilous as it is astounding. Quacks there have been, and quacks there will ever be, but never, we believe, in the history of the world, have the mendacious statements of the charlatan enjoyed such credit or his worthless wares been bought so cheerfully and so universally at such exorbitant prices as now at the end of the nineteenth century." These words will apply with equal force, particularly as regards quackery, to the medical profession of America as to that of England *The Lancet* suggests some legislative restraint of quackery. It might be as well if a like procedure were followed here.

"Literaturitis" the Disease of Modern France.—This is a complaint an account of which will be found in no medical text-book. M. Charles Bastide is responsible for the naming of this *fin-de-siècle* disease, and in the current number of the *Fortnightly Review* discourses on its origin, its contagiousness, and on its various symptoms. It may be said that, although it is more or less prevalent in all parts of the civilized world, it is in France that its course is most virulent. The inoculation of "literaturitis" begins at an early age; the boy at school is the first to receive its baneful seeds into his system, and as he advances in years the disease gains a firmer hold, until at last the malady is past cure. In a word, the epidemic referred to is that disseminated by the corrupt literature of the day. According to M. Bastide, "Public unrest in France, the unsteadiness, the tendency to excitement, the frantic loves and hates, may be in a large measure attributable to the unwholesome pabulum France digests. Paris is the hotbed in which grow many poisonous fungi, and unfortunately Paris prepares the food and distributes it." This perhaps is scarcely a subject to be commented on in the pages of a medical journal, as it concerns the physical body only indirectly. Still there can be no doubt that the reading of pernicious literature does harmfully affect the body through the influence of the mind, especially with the young. Such books, too, tend to suggest and foster habits which, if continued in, will eventually wreck both body and mind.

Health Reports.—The following statistics concerning small-pox, cholera, and yellow fever have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended February 5, 1898:

SMALL-POX—UNITED STATES.

			Cases.	Deaths.
Alabama,	Pinckard	January 23d	Small-pox reported.	
	Selma	January 13th	1	
Tennessee,	Knoxville	January 22d	1	
Virginia,	Calhoun	February 1st	Small-pox reported.	
	Norton	February 1st	Small-pox reported.	

SMALL-POX—FOREIGN.

Bohemia,	Prague	December 26th to January 15th	35	
China,	Hong Kong	December 11th to 18th	4	3
Cuba,	Cienfuegos	January 17th to 23d	..	11
	Sagua la Grande	January 15th to 22d	47	7
England,	Southampton	January 9th to 15th	1	
India,	Calcutta	December 18th to 25th	..	1
Russia,	Odessa	January 1st to 15th	15	4
	Moscow	January 1st to 8th	2	2
	Warsaw	December 24th to January 8th	8	11

CHOLERA—FOREIGN.

India,	Bombay	December 28th to January 4th	..	4
	Calcutta	December 18th to 25th	..	10
	Madras	December 11th to 24th	..	3

YELLOW FEVER—FOREIGN.

Cuba,	Manzanillo	January 1st to 15th	..	5
Jamaica,	Kingston	January 15th to 22d	1	1

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Original Articles.

SUGGESTIONS AS TO PROPHYLAXIS, CONTAGION, AND TREATMENT OF PNEUMONIA.[1]

BY BEVERLEY ROBINSON, M.D.,

NEW YORK.

IN no disease should a strictly routine treatment be followed less frequently than in pneumonia. Every case is, as it were, a law to itself, and much judgment is required in the management of every person thus affected. This statement is partly explained by the great difference of severity in the type of the disease according to the character of the epidemic, and also because of the variability of the constitution and powers of resistance to disease in each individual. It can be readily admitted, therefore, that, while some general plan of treatment may be well adapted in some instances to conduct the patient safely through the numerous dangers of the disease, there may be much diversity of opinion in regard to the judicious management of particular cases or special symptoms, and no systematic rules of guidance should be rigidly adhered to at all times.

It is discouraging to note, moreover, that although great progress has been made in the pathology and diagnosis of this disease, distinct advances are not readily recognized in its management. A very thorough report in regard to the treatment of pneumonia in the Massachusetts General Hospital, by Drs. Townsend and Coolidge,[1] does not show any decided improvement in its therapeusis. The death rate remains always very large and has not diminished in late years in any notable degree. There are some facts, however, which make us hopeful as to the practical outcome of future additions to our knowledge. We do not admit at present, as did older writers, that most cases in which the lung becomes rapidly consolidated are in their nature purely inflammatory. On the contrary, the local exudation of the lungs is found to be dependent upon the presence of septic germs as an efficient causative factor, and the combined symptoms of the disease rank it as an essential fever. Regarded after this manner, our treatment is more rational and in some respects very different from the one almost universally adopted a quarter of a century ago.

In a brief but suggestive paper by Dr. Henry F. Walker,[2] it is proposed to reduce the mortality of pneumonia, not by any new method for the relief of the individual case, "but rather to diminish the number of cases and thus protect the community." The idea which prevails in this writer's mind is evidently that of prophylaxis against the spread of this dread disease. How can it be effected?

Pneumonia, or lung fever, should be classed among the infectious diseases. It is disseminated by contact. It is taken by the attendants who nurse the patient and who breathe more or less constantly the contaminated air of the sick-room filled with his expired breath which is frequently the great carrier of the infection.

In order to prevent contagion, as much isolation for this disease may be required as we now enforce for scarlatina and typhus. In corroboration of these views, Dr. Walker reports two cases from his own practice within a brief period, in which pneumonia was unquestionably taken by near relatives who faithfully nursed those who were dear to them. In the instances referred to, the disease when contracted resulted fatally. The danger of taking pneumonia seems greater if the nurse is simply a relative, rather than one who by training is accustomed to sickness. "Affectionate attention and expressions of endearment" increase the danger of succumbing to the poison inhaled.

The conclusions reached from these considerations are to banish every unnecessary person from the sick-room and to warn those in charge to take needful rest and food. Change of air from time to time seems also to be required, and thus the necessity of night and day nurses becomes almost imperative. Free ventilation of the patient's room is likewise essential. No longer should rooms for pneumonia patients be close and overheated. The temperature must be moderate —65° to 68° F.—and suitable arrangements made for thorough ventilation. Unnecessary breathing of the air directly from the patient's lungs should be avoided as far as is practicable. This warning is of course more important to relatives than to nurses. Some disinfectant vaporized by boiling water may be advantageously generated in the room, both for the possible good to the patient and to prevent the spread of disease. The drug upon which I rely most for this purpose is beechwood creosote. I believe its judicious use is almost always satisfactory. Creosote is easily volatilized: it has undoubted antiseptic power; the odor of its vapors is unobjectionable, harmless, and they frequently arrest cough and bronchial irritation in a remarkable manner.

In the case of a boy, fifteen years old, who had pneumonia following grippe two years ago, I made use of these inhalations with apparent benefit. They were not used persistently, however, at that time, and inhalations such as those of benzoin, eucalyptol, and turpentine, etc., were also employed; so I am unable to affirm which remedy was most efficacious. About two weeks ago (March 3, 1894) this boy, after one week of catarrhal bronchitis of moderate severity, was suddenly taken with marked fever (102° F.) and pronounced general prostration. A warm creosote inhalation was constantly used during twenty-four hours. No cough mixture was given. Subsequently the fever disappeared, apparently owing to the influence of the inhalations upon the bronchial tract. The sputa at the time the inhalations were begun were thick, sticky, yellow, or green, although moderate in quantity. At the termination of the inhalations they were less abundant, watery in color, and less tenacious. The cough was almost gone.

In case of pneumonia following the grippe, I can affirm their useful effects in promoting the rapid resolution of the disease. I have also had some reasons to believe that they prevented the transmission of the primary affection, and it might be of the complicating

[1] Read before the Practitioners' Society of New York, January 7, 1898.

pneumonia. This view is plausible, since we know that thorough disinfection of hospital wards has arrested the spread of pneumonia, when previous to the use of disinfectants the disease showed no tendency to abatement.[3]

It is true that while inhalations have been suggested in croupous pneumonia and occasionally used, they have not hitherto been very favorably received. Thus Oertel [4] says that croupous pneumonia does not in itself offer any indication for the local application of medicinal agents in the form of either vapor or spray. He thinks the high fever and irritability of the inflamed lung contraindicate it. If these inhalations are given simply for the purpose of quieting inflammation, I am convinced from frequent experience that this object is often thus attained in a very obvious manner. But this is not all. I give them also because I believe their antiseptic power is considerable, and this indication Oertel has not apparently considered. Yet he is willing to indorse the inhalations of chloroform up to commencing narcosis in the later stages of pneumonia, when respiration is frequent and irregular, secretion suppressed, and the surface cyanosed (Sturges).[5] Leaving aside the utility of the antiseptic action of the creosote, I am satisfied that the mere inhalation of steam promotes increased secretion of the inflamed bronchial mucous membrane. Moreover, the viscid character of the sputum is thus lessened, and, expectoration being rendered easier, the dyspnœa is notably diminished. Such effects have been frequently noted by myself and others in catarrhal pneumonia,[6] and occasionally I have seen the same result in minor degree in croupous pneumonia.

In the treatment of croupous pneumonia numerous antiseptic drugs have been given internally with more or less obvious good effects.[7] The great difficulty is to give them in sufficient quantity and in a suitable manner. I claim that a sufficiently large quantity of creosote may be given by inhalation to justify its exhibition from every rational standpoint of treatment. As has been wisely said, there are other ways of estimating the value of a drug than the numerical, and a medicine may be rationally selected with which to treat disease on the ground of its ascertained physiological action, even though statistical results are not obtainable as yet in regard to the particular disease. In accord with this view, I feel further inclined to recommend creosote inhalation to my colleagues in the prophylaxis and treatment of pneumonia, on account of the influence I believe it possesses.

The following case is briefly reported to show what creosote inhalations seemingly effect:

Case of Limited Lobar Pneumonia in a Child, Apparently Much Benefited by Constant Warm Inhalations of Creosote Vapors.—G. V——, seven years of age, had had a frequent, dry cough for a week. She went to Dr. Leffert's office several times for local treatment of her throat. The cough persisted. On March 11, 1894, I saw the child. The cough continued. Nothing could be discovered in the throat or chest to account for it. There was no stomach derangement. The bowels had moved as usual in the morning. That night the child was restless, had fever, and cough was frequent and distressing; no sputa. I ordered compound tablets of ammonium chloride, one or two every hour.

March 12th, the temperature was 102 F., under the tongue; there were moist râles, a bronchial voice, and bronchial breathing at the apex of the left lung. In front and posteriorly over this region there was marked dulness. The child was confined to her bed. I ordered solution of ammonium acetate, one drachm every two hours; castor oil, two drachms; and creosote inhalation. A drachm of creosote was dissolved in an ounce of alcohol, and a teaspoonful of the solution added to a pint and a half of water in the croup kettle. Steam was to be vaporized in the room constantly, and creosote to be added from time to time.

March 13th, the same local conditions prevailed, and the same treatment was continued. Temperature, 101 F.

March 14th, compound wine of quinine, one drachm, was given every four hours; spirits of Mindererus, one drachm, every four hours, alternately with the quinine. The creosote inhalation was continued. The cough and fever continued.

March 15th, she spat up one characteristic rusty sputum, viscous and thick. The local condition at the left apex was more pronounced, but still limited to the upper lobe of the left lung.

March 16th, the temperature was normal and cough persisted. The local signs were somewhat less marked. Creosote inhalation and quinine were continued. A few tenacious but not rusty sputa were voided. Under the microscope the sputa showed diplococci pneumoniæ and an excess of fibrin. The child was allowed to sit up and be dressed. This patient had no chest pains and was quite bright during her illness; she had slight cyanosis of the face and lips for two days, and some inappetence. There was no chill at any time. The hygienic surroundings were perfect. The lungs everywhere except at the left apex were in a normal condition apparently.

To show the value of disinfection in arresting the spread of pneumonia, I would cite the facts reported by Emmerich in regard to an epidemic in a prison at Amberg. In this epidemic, in which one hundred and forty-one prisoners were attacked, one hundred and one dying of the disease, "no further cases occurred after the prison had been thoroughly disinfected and cleansed."[8] The danger of the transport of the specific microbe of pneumonia from one person to another is probably far greater in a hospital ward where there are numerous patients than it is in the case of one patient who occupies a single room and sees only his personal attendants. In any event, the use of a disinfectant like creosote is indicated. Already in the treatment of many acute catarrhal conditions of the respiratory tract, I have found antiseptic inhalations very useful in shortening their duration and preventing apparently their dissemination. It is well known that frequently when a simple cold affects one member of a family, the entire family is likely to become similarly affected. Pneumonia may not be, and probably is not, so contagious or infectious as ordinarily benign catarrhal affections are. As a more severe disease, it calls merely on this account for greater precaution in regard to prophylaxis.

If I were to be guided solely by my own observations, I should regard the risk of contagion as relatively small. Indeed, I fail to recall instances in which the transport of the contagion was unquestionable, although I have watched carefully for this accident. Yet this is no reason, in view of the proofs afforded by the observations of others, to disregard the possibility of this untoward occurrence. The collective investigation committee of the British Medical Association,[9] in one hundred replies as to the etiology of pneumonia, found nine in which the observations showed apparent transmission of the disease from one member of a family to others. In one history at least the evidence is very convincing. Zimmermann has also contributed an interesting observation illustrating the contagious character of pneumonia. In this instance the father transmitted this disease to his three children; there was here a family predisposition, which helped the transmission of the contagion due to the specific pneumococcus.[10] In the cases reported the information was given that the child first attacked

slept for two nights in the same bed with the father, who was affected with typical pneumonia. Osler in this connection states that on several occasions he has known two, three, and even four persons to be admitted to hospital from the same house. He regards pneumonia as a specific infectious disease, depending upon a micro-organism, and leads one to infer by numerous examples that he believes it to be contagious." It is probably the pythogenic form of disease, viz., the form attributable to sewer-gas emanations, in which infection is most to be met with, but not exclusively so (Powell). In the second epidemic described by Maunsel [12] in India, twenty of the attendants were attacked. Several striking instances of the apparent origin of pneumonia by contagion are quoted by Drs. Sturges[13] and Coupland from various authors. There appears to be evidence to show, therefore, that under certain circumstances not completely known pneumonia may be communicated by one person to another (Powell). Delafield [14] regards the question of the contagious nature of pneumonia for the present as an unsettled one. He thinks it is true that the disease occasionally occurs in circumscribed local epidemics, and from time to time we see several persons in one house successively attacked. On the other hand, it is well known that physicians, nurses, and relatives who take care of cases of pneumonia are not often attacked by the disease.

Drs. Sturges and Coupland, after analyzing all the evidence obtained from different sources, conclude that "there is less clincial evidence of the occurrence of pneumonia by contagion than there is of its origin from exposure, from sewer gas, from want of food, even from mental or bodily depression; and, if it be granted that any of these agents may possibly provoke pneumonia, it may be doubted whether it is further necessary, in order to satisfy the facts, to make any large appeal to this origin by contagion."

In estimating the value of the statements recorded, we must usually be in doubt as to whether, of a number of cases which occur almost simultaneously or successively within brief periods, all are due to one efficient cause acting at the same time, or have been directly communicated from patient to patient.

I would here refer to a very interesting paper by Dr. C. W. Townsend,[15] entitled "Notes on the Infectious Nature of Acute Lobar Pneumonia," in which the infection is clearly shown in many instances. "It would be safe to say that all of the houses in which two or more cases of pneumonia occurred showed some sanitary defect, due either to the faulty construction or condition of the drainage system, or to the faulty hygienic conditions of the inhabitants, or both." The testimony of Dr. Townsend was strongly corroborated by that of Dr. F. Minot, who had known lobar pneumonia to be probably caused by emanations from sewage-soaked soil in a house supposed to be in perfect sanitary condition (page 302).

On the other hand, in a case like that of Girdner's,[16] it certainly would seem as though the contagion were directly carried through the air from the patient. In this case the nurse who was attacked was competent and faithful; she constantly lifted the patient from his pillow and held a towel for him to expectorate in, thus breathing the exhalations from his lungs.

In addition to the use of antiseptic inhalations, it is also advisable as a measure of prophylaxis to disinfect thoroughly the sputa of patients affected with pneumonia; never to allow these persons to spit in their handkerchiefs or upon the floor; to prevent the sputa from becoming dry, and to direct that after the spittoons are emptied they be rendered innocuous by heat or otherwise. Indeed, the same rules are applicable as to the disinfection of the sputa of tuberculous patients. It is also indicated to disinfect the furniture, blankets, bed linen, draperies, and carpets in the bedchamber of the patient after recovery from illness, as we should do in other contagious disorders. Inas much as pneumococci are present in the mouth at the initial stage of the pneumonic invasion, it is wise to have the patient make use of antiseptic gargles. Dr. G. Lejon[1] is very strict as regards this observance, and "enjoins in every case strict buccal antisepsis, by rinsing the mouth frequently with solutions of boric acid (4 to 1,000) or of thymol (1 to 1,000). It is indicated, also, to continue the use of these antiseptic gargles even after the pneumonia is recovered from, as pneumococci may still remain in the mouth and may possibly occasion a recurrence of the pneumonia in the individual. It has been taught, indeed, by some authors that intestinal antisepsis should be attended to, as the bacteria can emigrate from the intestine to the lungs and thus cause secondary bronchopneumonia. The forcible objection to be urged against the wide dissemination of similar views is that it would produce great dread in the hearts of those who are obliged occasionally to nurse relatives ill with pneumonia because they cannot have the services of a trained nurse. This objection, it seems to me, should not be regarded as sufficiently important to militate against possible means of limiting the spread of a disease so fatal as pneumonia.

There is one other matter in connection with the question of contagion which has much interest, and it is the possibility that one may take pneumonia in part and not necessarily the whole disease. More than once I have noticed that when visiting a hospital ward where pneumonia cases were numerous I have suffered from headache and general malaise. These symptoms I have attributed, when no other sufficient cause was evident, to breathing too much of the poisonous or infective exhalations. Not only my own impression exists that certain symptoms are produced by inhaling either pneumonia, diphtheria, or other poison laden atmosphere, but the observations of other clinicians corroborate this view. Alongside of numerous morbid manifestations in the localization of the pneumococcus upon different viscera, there exist pathological affections attributable to the same micro-organism and in which there is no appreciable organic determination. These are the incomplete, rudimentary forms of the pneumococci infection. Up to the present time they can be referred only to this origin when they occur coincidently with cases of pneumonia. This fact forces one to invoke the influence of a contagion or epidemic influence." In many such cases, although the symptoms are not always similar or wholly characteristic, they are frequently distinct and apparently attributable to the presence of cases of pneumonia. So far as physicians are concerned, and why they often take, as I believe they do, abortive forms of disease and not the disease in its completeness, may be explained by the assumption and in the light of acquired knowledge that they undergo a species of preventive inoculation or acclimatization, so to speak, to the influences to which they are exposed. The long-continued inhalation or ingestion of a germ-tainted air may be considered as conferring partial immunity upon the individual from filth disease, which would readily attack and fully develop itself in one whose system had not been exposed to the acclimatizing process." Air which is contaminated by exhalations from the sick has long been known to be injurious. The organic emanations being greater from the sick than from those in health and the metamorphosis of tissue more active, pure air is essential to prevent the transport of infectious disease, as well as to facilitate recovery.[2]

We do not as yet know everything about the etiology of lobar pneumonia, and even the most searching bac-

teriological investigations do not always reveal its cause. At times the passage of the infective microbe may take place through the air immediately from the patients, or, what is almost equally possible, by means of dry sputa floating in the air just as in tuberculous phthisis. These sputa, as well as the dust of the floor of the room where the pneumonia patient is, may contain numerous pneumococci. It cannot yet be admitted, however, that one particular spore is the only means by which this disease can be produced or propagated. Pneumonia cannot always be accounted for by the reception of the specific organisms, but may possibly be regarded as some form of vasomotor (?) disturbance bringing about changes, possibly favorable to the development of ever-present germs. In considering these difficult but interesting problems, one must not confound what may be the carriers of the disease with the disease itself, or look upon what may be only epiphytes as genuine disease spores.[21] Sturges remarks that these microbes may be associated with pneumonia in an accidental rather than a causal manner; that they are epiphytes on a soil already prepared for their sustenance.[22]

Be this as it may, is it not wise to prevent the inception of the disease by a rational therapeusis, not unlike Dr. Park's as regards the prophylaxis of virulent diphtheria—viz., to use injections of solutions of boric acid for a catarrhal nose or throat in time of epidemic? One can readily see that the prophylactic treatment of pneumonia is based mainly upon its probable origin as a germ disease. Curative treatment, as already stated, has also kept in view latterly what may be accomplished by considering the microbic origin of pneumonia. It has been determined, mainly by the investigations of the Klemperer brothers,[23] Foa, Mosny, Emmerich, and Neisser, that immunity from pneumonia can be readily conferred upon animals by injections of blood serum taken after the crisis of this disease. The discovery of the antipneumotoxin makes us hope that we shall obtain the arrest of pneumonia among men during the course of its evolution. Already the Klemperers have inoculated pneumonic patients with serum taken from others after the crisis. This inoculation has led several times to the sudden reduction of temperature, which rose again only on two occasions. These experiments have been repeated by Foa and Scabia,[24] who used immunized serum from rabbits, and by Lichtheimer, who injected blood serum obtained from a man who had but recently recovered from an attack of pneumonia. In two cases thus treated there were rapid fall of temperature, slowing of the pulse, and profuse perspiration.

Charles Jansson also reports the results obtained from the treatment of ten cases of pneumonia by the injection of the serum of immunized animals. No result was obtained in one case; in three, temporary fall of temperature was observed; in five other cases, in which the temperature fell, it was ascribed to the occurrence of the crisis; in the tenth case, that of a confirmed alcoholic syphilitic, the injection was followed by a really marvellous result. The patient, who was delirious and moribund, showed a marked improvement almost at once.[25]

In all, there have been reported about thirty cases of pneumonia in human beings in which decided benefit was conferred by the injection either of serum from animals rendered immune, or of serum of convalescents from pneumonia. If these experiments in regard to the antipneumotoxin be correct, we have evidence in many of these cases of the benefit received by injections of it in the blood, and therefrom proof also of the correctness of the theory of immunity thus established.

"But it may be objected that the evidence of benefit in cases of pneumonia is equivocal, since in many untreated cases of the disease defervescence occurs early, and that little more than this was accomplished in the test cases. The regularity with which critical symptoms occurred, after a certain interval of time subsequent to the injections, seems to show, however, a direct relationship of cause and effect. The early development of the crisis is certainly unusual in cases untreated, and appears to show the influence of the injections. In any event, the injections proved harmless."[26] The injections of blood serum of persons who have passed the crisis of pneumonia may have a specially useful effect in those cases of septic pneumonia which are so fatal during any other kind of treatment, and in which the evident poisoning of the system is out of all due proportion with the localized inflammatory lesion of the lungs. Such seems to be at least the hope of Delafield.[27]

Since the foregoing was written, now some time ago, other and favorable cases of acute pneumonia treated with the antipneumonic serum have been reported. Among these I would cite particularly that of Dr. Washburn, recorded by C. J. Harnett, M.B.,[28] in which the patient, aged thirty-nine, a man of intemperate habits, was almost pulseless, with involvement of nearly the whole left lung when the first injection of antitoxin was made. From what at one time appeared to be a hopeless condition recovery took place, and it was reasonable to infer that the treatment with injections was instrumental in bringing about recovery. It would now appear without doubt from the observations of Osler[29] and others that the prognosis of pneumonia has far more to do with the grade of the toxæmia than with the mechanical interference with respiration and circulation.

The cardio-respiratory centres are unquestionably more or less intensely affected by the toxins present in this disease, and it is to their presence and action that fatal endings are most frequently due. But, as Osler sadly adds, "against it [this toxæmia] we have as yet no reliable measures at our disposal." I am not prepared at present wholly to admit this, in view of what I have written and of my later experience. In the discussion of a paper on "The Treatment of Acute Broncho-Pneumonia in Young Children," by Dr. H. D. Chapin, which I read at a meeting of the New York County Medical Society, April 26, 1897, I stated that in treatment I had for years been accustomed to keep the room full of creosote vapor in broncho-pneumonia, and to older children I also administered the drug internally. While in practice the creosote treatment seemed to have proven its value, theoretically it seemed to be indicated, for broncho-pneumonia was believed to be an infectious disease. I knew of no drug which possessed germicidal power which could be administered internally in any notable quantity except beechwood creosote. While my experience with creosote in broncho-pneumonia is limited, especially limited in young children, I still have strong faith in its value, at least in older children.[30] At the meeting referred to I presented a boy of about thirteen years who had recently recovered under the creosote treatment.[31] At the time Dr. Chapin read his paper before the New York County Medical Society, I had under my care a gentleman just convalescing from a very severe attack of grippal pneumonia. During the course of the pneumonia creosote vapor was almost constantly used for several days in the bedchamber of the patient. During a short time creosote in small repeated doses, combined with glycerin and whiskey or brandy, was given internally. My patient recovered from what I considered at one time a most threatening state. I believe the creosote treatment was of service in the management of the case. Dr. Janeway and Dr. A. H. Smith both saw this case with me in consultation. During my service last winter in St. Luke's Hospital,

several cases of pneumonia were treated partly with creosote internally and partly by inhalation. These cases, in my judgment and in that of my house staff, were favorably affected by the creosote treatment, although we could not carry it out altogether as we desired, from the fact that the patients were treated in the general ward of the hospital.

In this place, and as support to my own views of the creosote treatment of pneumonia, I would cite Dr. A. H. Kerr, of Pittsburg, Pa., who regards creosote as almost a specific in this disease. The result of two cases treated after this manner by him was read before the South Side Medical Society, November 12, 1894, and published in the *Pittsburg Medical Review*, June, 1895, page 168. In the formula employed by Dr. Kerr, one-sixty-fourth grain of strychnine and eleven minims of creosote with a little alcohol, glycerin, and water were given by the mouth every two hours. Personally, I do not believe such large doses of creosote by the mouth are desirable. Further, I am of the opinion that creosote vaporized and inhaled frequently, almost constantly for several days, is far more beneficial and essential than the same drug when it is given by the mouth.

In a very valuable paper on the "Essential Nature of Croupous Pneumonia," read at a stated meeting of the New York Academy of Medicine, December 17, 1896, Dr. Andrew H. Smith, after elaborating in detail a very attractive theory in regard to the course of the pathological process in pneumonia, says that, if his theory be sustained, "it would follow that the most natural direction for therapeutic effort would be that of attempting to render the exudate inimical to the development of the micrococci. This might be effected," writes Dr. Smith, "by acting through the blood, but better and more directly by inhalations." In order to carry out this idea practically, and in imitation of the treatment already made use of successfully by Stipp, Theodore Clemens, and others, Dr. Smith made use in one case of pneumonia of inhalations of chloroform diluted with half its bulk of alcohol. Defervescence took place on the fourth day, forty hours after the inhalations were begun. The patient was a lady, seventy-five years of age, and the pneumonia occupied the lower half of the left lung. Dr. Smith evidently believes that the germicidal power of chloroform was of value, and possibly that the hastening of the crisis was due to this action rather than to its sedative and anodyne effects, which Stipp and Clemens had in view.

One of the points in regard to the course of acute croupous pneumonia which is most important is this: to determine, if possible definitely, whether or not pneumonia has a certain well-defined course terminating in crisis on a given day, which is, so to speak, unchangeable. In other words, is pneumonia capable of jugulation? Can we abort it by any one of our known medicinal means? This question has been answered differently by different authors. Osler, for example, denies that it can. Bristow seems to be of a somewhat different opinion, since he believes that "in very mild cases all the symptoms may subside in three days, or even two days."[32] H. A. Hare feels confident that by the use of quinine, aconite, or veratrum viride, given at the stage of hyperæmia, in suitable cases, we may legitimately hope to prevent the development of the stage of consolidation. Once the latter stage has become evident, he believes there is, at present, no basis for the view that pneumonia can be aborted, or, more correctly, be shortened as to its duration, by the rational use of drugs. One thing is true, however, if we may attach faith to the experimental researches of Welch, and it is that the micrococcus lanceolatus, the admitted cause of croupous pneumonia, is a pathogenic organism, one of those least tenacious of life, and that its loss of virulence is frequent and apt to occur rapidly.[33] Is there not in this important fact a very substantial reason why we should endeavor to employ antiseptic inhalations early in the treatment of pneumonia, before lung consolidation has taken place, and while we may yet legitimately hope that the antiseptic vapor may reach every portion of the affected pulmonary area?

Of course we should expect, as in the treatment of all dangerous infectious diseases, that a certain proportion of patients will die, despite any treatment employed, no matter how rational it may be and how many lives saved may justly be ascribed to its use. This statement is true at present even of the antitoxin of diphtheria, and yet few persons to-day dispute its immense value. It may be true—it probably will be true, of any immunized serum, even the most perfect, employed later against the toxæmia of pneumonia. This affirmation is true, moreover, because the intensity of the poison of pneumonia varies, just as the susceptibility to a poison or the power of resistance to it varies in every individual. William H. Thompson expresses this thought in the following terms: "Pneumonia is too much regarded as pneumonia and nothing else, instead of being an infectious disease which produces very differing effects in those attacked, according to very varying conditions in the infection." And yet all that even Thompson has to offer us as the best available treatment of pneumonia—which he frankly admits is dealing merely with indications—is, first, to lessen vascular excitement of the early stages by aconite and sweet spirits of nitre; and later, "as much our chief task," to deal with threatened heart failure by means of equal parts of the tinctures of nux vomica, digitalis, and strophanthus, and in most extreme cases by camphor dissolved in sterilized oil and given hypodermatically.[34]

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EXPERIMENTAL RABIES, WITH ESPECIAL REFERENCE TO THE BALTIMORE CITY CASES.

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RABIES is a specific contagious neurosis, affecting markedly and peculiarly the nervous system, and capable of unlimited propagation by inoculation. The only certain proof of the existence of this disease is experimental demonstration. Preferably the inoculated material is a portion of the floor of the fourth ventricle (medulla oblongata), which is introduced subdurally by trephining rabbits. By this method the Institut Pasteur, Paris, starting with the medulla oblongata of a cow that had rabies from the bite of a rabid dog, has passed the disease from rabbit to rabbit until the four hundred and eightieth remove has been reached. Two rabbits having been trephined each time, this gives nine hundred and sixty rabbits which have taken the disease.

On October 5, 1893, I received from William R. Tatum, D.V.S., Brighton, Md., the medulla oblongata of a cow that had rabies from the bite of a rabid dog. Starting with this medulla and trephining from rabbit to rabbit, the one hundred and twenty-eighth remove has now (August, 1897) been reached. Seven hundred and thirty-one rabbits have in this way been given rabies. Using the medulla oblongata of a rabid horse, I have passed the disease from rabbit to rabbit to the tenth remove; sixty rabbits were the subjects of this experiment. Three times from the medulla oblongata of the human being I have produced the disease in rabbits. One was from a colored man who sustained a not severe bite—a slight wound over the left eye. The man was attended by Dr. William E. Magruder, of Olney, Md. His medulla oblongata was received from Dr. Tatum. Two rabbits trephined and subdurally inoculated April 19, 1894, developed rabies May 3, 1894, and died May 6, 1894. The two other victims were children, boys, aged eight years and fifteen years. They are two of the four persons who died out of eight bitten by the same dog. These cases have been designated as the Baltimore cases of rabies. On December 1, 1896, a large dog, cross between St. Bernard and mastiff, bit eight boys in Baltimore City Annex. Of these boys four died of rabies within thirty-six days after having been bitten and within nineteen days after the termination of treatment by the Pasteur method in New York. The bites were severe in character and situated on the bare face and neck.

1. Wilson, aged eleven years. Seat of bite on face over left eye. Not cauterized. Date of discharge, December 17, 1896. Date of bite, December 1, 1896. Date of first treatment, forty-two hours after bite. Date of death, January 5, 1897, eighteen days after treatment.

2. Perry, aged sixteen years. Seat of bite on cheek. No efficient cauterization. Date of discharge, December 18, 1896. Date of first treatment, seventy-seven hours after bite. Date of death, December 26, 1896, eight days after treatment.

3. Eppers, aged fifteen years. Seat of bite, back of neck. No efficient cauterization. Date of discharge, December 17, 1896. Date of first treatment, fifty hours after bite. Date of death, December 26, 1896, nine days after treatment.

4. Henry, aged eight years. Seat of bite, left cheek. No efficient cauterization. Date of discharge, December 18, 1896. Date of first treatment, seventy-seven hours after bite. Date of death, December 21, 1896, three days after treatment.

A boy named Kiel was bitten on the ear, but through an ear warmer, and therefore must be excepted from the class of bites on bare parts. All bitten on the bare face and neck died; all the others escaped. They are:

5. Perry, aged eighteen years, brother of No. 2, bitten on the arm.

6. Ashley, aged ten years, bitten on arm.

7. Buhl, aged fourteen years, bitten on arm.

8. Kiel, Joseph, aged fifteen years, bitten on ear through an ear warmer.

The foregoing is a necessary preliminary statement. The chief object of this communication is to bring before the medical profession the experimental details proving that the dog had rabies, and that two of the boys, Henry and Eppers, also had it. In the other two cases a post-mortem examination was not obtainable. Also that the virus was from the dog and not from the treatment.

The following is the post-mortem examination of the dog, December 2, 1896, 2 P.M.: Cross between St. Bernard and mastiff; yellow with white neck; weight, over one hundred pounds; shot after having bitten eight boys, chickens, and dogs. Hard palate dark bluish in color. Rigor mortis marked. Brain soft. Medulla oblongata soft, and softening around central canal of spinal cord. Lungs ooze freely bloody froth. Kidneys, dark red cortex. Bladder empty. Liver normal. Spleen normal. Stomach contains pieces of wood and stone, straw, horsehair—mane or tail. Larynx, blood in, from wounds in mouth. Trachea, blood in, from wounds in mouth. Heart normal. Lymph glands, cervical, blood effused into.

December 2, 1896, 2 P.M.: Trephined three rabbits and injected beneath the dura three minims of an emulsion of the medulla oblongata of this dog in sterilized water.

	Rabbit A.	Rabbit B.	Rabbit C.
December 8th	T. 103.5° F.	T. 103.8° F.	T. 103.4° F.
December 11th	103.7	103.9	103.8
December 14th	102.5	102.5	102.5
December 15th	103	103	104.4 (Cried out when held.)
December 16th, 2 P.M.	102.2 (Vigorous, no disorder of motility.)	103	104.3
5:20 P.M.	102.2	103	104.8
December 17th, 15th day, 2 P.M.	105.1 (Cries out and inco-ordinate; died 5 P.M.; observed to be sick 7 A.M.)	102.7 (Very active, runs about.)	103.2 (Ears erect; legs outstretched; very incoordinate.)
December 18th, 2:30 P.M.		102.8	99.2
December 19th, 17th day		103.2 (Dull but runs when incited.)	(C killed; trephined 3 rabbits, D, E, F.)
December 20th, 18th day		99.8 (Very inco-ordinate, runs about, falling over and over; died this night.)	

December 19, 1896: Killed rabbit C on seventeenth day after inoculation. Trephined and injected the emulsion of its medulla oblongata in sterilized water subdurally into rabbits D, E, and F. Amount injected, five minims.

	Rabbit D.	Rabbit E.	Rabbit F.
December 22d	(Died accidentally.)		
December 29th		T. 103.5° F.	T. 103.8° F.
December 30th		103	102.3
December 31st		103.5	102
January 1, 1897		104	103
January 2d		104	102
January 3d, 15th day		103	102
January 4th		102.2	101.6 (Dull, sluggish.)
January 5th		102.7	103.3 (More alert.)

	Rabbit E.	Rabbit F
January 6th	104	100.7 (Dull, stiff in movement.)
January 7th, 19th day	101.3 (Gritting teeth.)	97.8
January 8th	100.3 (Runs around but slips sideways.)	97.5 (Helpless on side.)
January 9th	97 (Runs around but very inco-ordinate; gritting of teeth marked.)	(Found dead on 21st day.)
January 10th	94.2 (Helpless on side; grits teeth; slight convulsions).	
January 11th	(Found dead 23d day.)	

Thus five rabbits have been given rabies from this dog; three immediately from the dog, two from one of these rabbits, this rabbit having been killed in order to stamp a suggestion of putrefaction as a fallacy. The latter experiment proves the disease to be an infectious neurosis, not a traumatic degeneration.

Experiment demonstrating that Robert Henry, aged eight years, of Baltimore, died of rabies. He underwent Pasteur treatment in New York, arriving there about December 4, 1896, and returning to Baltimore on the night of December 18, 1896, being then sick. He died of rabies, December 21, 1896, 5 P.M. He had been bitten on December 1, 1896. Post-mortem examination, December 21, 1896, 7 P.M.

December 21, 1896, 9:30 P.M.: Four rabbits were trephined and injected subdurally with emulsion in sterilized water of the medulla oblongata of the boy Henry. Amount injected, five minims.

	Rabbit G. Temp.	Rabbit H. Temp.	Rabbit I. Temp.	Rabbit J. Temp.
December 26th, 5th day	103.2° F.	104° F.	103.5° F.	103.8° F.
December 27th	103.8	103.8	104	104.8
December 28th	103.6	103.2	104.2	104
December 29th	103.5	104.1	104	103.9
December 30th	103	102.5	103	104.5
December 31st	103.5	101.5	102.6	106
January 1st, 1897	103.2	103.2	102.5	104.6
January 2d	102.5	103.3	103.5	102.5
January 3d	102.8	101.8	103.6	102
January 4th	101.5	100	103	102
January 5th, 15th day	101	99	102	102.3
January 6th	97.8	96.6	102.6	102.2
January 7th, 17th day	Dead.	97.4 (Died 2 P.M.)	Found dead.	
January 8th	....	....	....	95
January 9th, 19th day	....	....	....	Found dead.

H is dull, stiff, and tremulous, with wound torn open, on the fourteenth day after trephining.

G lies flat on side, hind legs outstretched, creeping, crouching movement, on fifteenth day.

I grits teeth, stiff in movement, inco-ordinate, on fifteenth day.

J very inco-ordinate, falling over and over, on sixteenth day.

Experiments demonstrating that the boy Henry died of rabies; that the source of the virus was the dog and not the treatment; that the disease in the rabbit was a specific infection and not a traumatic degeneration (neuritis, ascending or descending).

January 7, 1897, 2 P.M.: Rabbit K trephined and subdurally inoculated from medulla oblongata of rabbit G, which died on the seventeenth day after having been trephined and subdurally inoculated from medulla oblongata of boy Henry on December 21, 1896.

		Temp. of Room	Temp. of Rabbit.
January 13, 1897, 2 P.M.,	7th day	55° F.	102° F.
January 14th, 1 P.M.,	8th day	55	103.4
January 15th, 1 P.M.,	9th day	60	102.1
January 16th, 1 P.M.,	10th day	58	102

This rabbit is pregnant, paws at floor of cage, is excited, and occasionally utters a subdued grunt. These actions are common to pregnant rabbits and may have no significance as regards rabies.

		Temp. of Room.	Temp. of Rabbit.
January 17, 1897, 1 P.M.,	11th day	58° F.	101.7° F.
January 18th, 1 P.M.,	12th day	62	101.5
January 19th, 1 P.M.,	13th day	60	101.3
January 20th, 1 P.M.,	14th day	54	101.3

Rabbit when laid on floor cannot rise, unable to get up, but when held up by the integuments of the middle of the back it can kick and strike vigorously. This is paralytic inco-ordination.

		Temp. of Room.	Temp. of Rabbit.
January 21, 1897, 1 P.M.,	15th day	66° F.	98.8° F.

Helpless on side with limbs outstretched.

		Temp. of Room.	Temp. of Rabbit.
January 22, 1897, 1 P.M.,	16th day	66° F.	96.2° F.
January 23d, 1 P.M.,	17th day	57	94.5

Can still kick feebly when held up by back.

January 24, 1897, 9:30 A.M., 18th day, found dead.

January 7, 1897, 2 P.M.: Rabbit L trephined and subdurally inoculated from medulla oblongata of rabbit G, which died on seventeenth day after having been trephined and subdurally injected from medulla oblongata of boy Henry on December 21, 1896.

		Temp. of Room.	Temp. of Rabbit.
January 13, 1897, 2 P.M.,	7th day	55° F.	102.7° F.
January 14th, 1 P.M.,	8th day	55	103.8
January 15th, 1 P.M.,	9th day	60	103.9
January 16th, 1 P.M.,	10th day	58	103.5
January 17th, 1 P.M.,	11th day	58	102.5
January 18th, 1 P.M.,	12th day	62	102.5
January 19th, 1 P.M.,	13th day	60	102.6
January 20th, 1 P.M.,	14th day	54	101.7

No coarse manifestation, but the temperature drop is significant.

		Temp. of Room.	Temp. of Rabbit.
January 21, 1897, 1 P.M.,	15th day	66° F.	100° F.

The rabbit assumes a crouched position. It is unable to sustain its body erect on pelvis and scapula. Motility of limbs impaired, hind legs almost completely paralyzed. Falls over on its sides at intervals. This crouched attitude (paralytic rabies) has been a characteristic feature of the disease in most of these rabbits.

		Temp. of Room.	Temp. of Rabbit
January 22, 1897, 2 P.M.,	16th day	66° F.	97° F.
January 23d, 1 P.M.,	17th day	57	96

Much emaciated.

January 24, 1897, 9:30 A.M., 18th day, found dead.

Experiment demonstrating that the cord of rabbit G was not virulent on the ninth day, and therefore the virus with which G was inoculated subdurally was from the dog and not from the treatment.

January 7, 1897, 2 P.M.: Rabbit M trephined and subdurally inoculated from medulla oblongata of rabbit G, which died on the seventeenth day after having been trephined and subdurally injected from medulla oblongata of boy Henry on December 21, 1896.

		Temp of Room.	Temp. of Rabbit.
January 13, 1897, 2 P.M.,	7th day	55° F.	101° F.

Somewhat off food; transferred to warm box.

		Temp. of Room.	Temp. of Rabbit
January 14, 1897, 1 P.M.,	8th day	55° F.	102° F.

Rabbit is very unwell, very thin. Sweats about muzzle. Breath fetid like gangrene. This is an intercurrent malady and has no connection whatever with rabies or with the experimental inoculation. This disease occurs not infrequently among rabbits that have been subjected to no experiment. There is reason to regard this disease as contagious, infectious. It has as a symptom diarrhœa. There is no disturbance of motility.

January 15, 1897, 9th day, found dead.

Two rabbits, O and P, trephined from this rabbit, developed no disease whatever. They were under observation for three months. This proves that this disease cannot be communicated by subdural injection of the medulla oblongata; also that the medulla oblongata did not contain the virus of rabies on the ninth day, which it would have contained had the virus been that of the treatment.

Rabbit N was subjected to the same experiments as rabbit M, and died of the same disease on the eleventh day after trephining. It is to be regretted that no experiment was made to ascertain the condition of the medulla oblongata at this date, as regards the virus of rabies.

Rabbits M and N were in the same box all the time.

Experiments demonstrating that Conrad Eppser, aged fifteen years, Baltimore, died of rabies. He underwent Pasteur treatment in New York, arriving there about December 2, 1896, and returning to Baltimore, December 17, 1896. He died of rabies, December 26, 1896, 12:5 A.M. He had been bitten on December 1, 1896. Post-mortem examination, December 26, 1896, 11 A.M.

December 26, 1896, 6 P.M.: Four rabbits were trephined and injected subdurally with emulsion in sterilized water of medulla oblongata of the boy Eppers. Amount injected, five minims. Rabbits designated by letters Q, R, S, T.

RABBIT Q.

January 5, 1897, 11th day, temperature ..... 103.3° F.
January 8th, 14th day, temperature 103.3
January 9th, 15th day, temperature 102.7
January 10th, 16th day, temperature 103.2

Does not eat. Occasional gritting of teeth at long intervals. Ears at times erect. Runs about actively. In warm pen.

January 11, 1897, 17th day, temperature ..... 97.4° F.

Excited and very inco-ordinate.

January 12, 1897, 7 A.M., 18th day, found dead.

RABBIT R.

January 8, 1897, 14th day, temperature ..... 98.4° F.
January 9th, 15th day, temperature 99
January 10th, 16th day, temperature 96

Marked paralytic rabies. Crouching, creeping, trembling inco-ordinate movement. Had been in a cool box. Transferred to warm pen.

January 11, 1897, 8:30 P.M., 17th day, temperature ..... 96° F.
January 12th, 7 A.M., 18th day, found dead.

RABBIT S.

January 8, 1897, 14th day, temperature ..... 103.2° F.
January 9th, 15th day, temperature 103

Marked paralytic rabies. Crouching, creeping movement.

January 10, 1897, 16th day, temperature (in cool box).... 95° F.
January 11th, 12 M., 17th day, found dead.

RABBIT T.

January 8, 1897, 14th day, temperature ..... 101.5° F.
January 9th, 15th day, temperature 101
January 10th, 16th day, temperature 99.9

Excited and inco-ordinate.

January 11, 1897, 17th day, temperature 99.4

Partly paralzyed. Jerking of head sideways.

January 12, 1897, 18th day, temperature 97

Aborted three fœtuses. Ears erect, legs sprawled out. Falls from side to side when it moves.

January 12, 1897, 19th day, temperature 94

Kicks and cries feebly.

January 14, 1897, 1 P.M., 20th day, found dead.

Experiments demonstrating that the boy Eppers died of rabies; that the source of the virus was the dog and not the treatment; that the disease in the rabbit is a specific infection and not a traumatic degeneration (ascending or descending neuritis).

Rabbit U trephined and subdurally injected with emulsion of medulla oblongata, that of rabbit S, which died of rabies on the seventeenth day, January 11, 1897, after having been trephined and subdurally injected from medulla oblongata of boy Eppers, who died of rabies on December 26, 1896.

January 7, 1897: In attempting to get temperature (the thermometer was introduced per anum almost its entire length) the instrument was broken inside the bowel and considerable hemorrhage resulted.

		Temp. of Room.	Temp. of Rabbit.
January 18, 1897,	1 P.M., 8th day...	62° F.	104.5° F.
January 19th,	1 P.M., 9th day...	60	102.3
January 20th,	1 P.M., 10th day...	54	102.2
January 21st,	1 P.M., 11th day...	66	101.5
January 22d,	2 P.M., 12th day...	66	101.4
January 23d,	1 P.M., 13th day...	57	98.5

Crouching, squeals, uses limbs with difficulty. Seemed dull and inactive on the twelfth day.

		Temp. of Room.	Temp. of Rabbit.
January 24, 1897,	1 P.M., 14th day...	57° F.	97.4° F.

Helpless on side.

January 25, 1897,	1 P.M., 15th day...	47	94.3

Feeble convulsive movement.

January 26, 1897, 12 M., died.

No inflammation within abdomen. No trace of the broken-off thermometer bulb could be found. This accident happened in another case and does not seem to be productive of bad results.

Rabbit V trephined and subdurally injected with emulsion of medulla oblongata of rabbit S, which died of rabies January 11, 1897, seventeenth day after having been trephined and subdurally injected from medulla oblongata of boy Eppers, who died of rabies on December 26, 1896.

		Temp. of Room.	Temp. of Rabbit.
January 17, 1897,	1 P.M., 7th day....	58° F.	105.3° F.

Rabbit has diarrhœa. It is doubtful if this rise of temperature can be attributed to incipient rabies, because it is too early.

		Temp. of Room.	Temp. of Rabbit.
January 18, 1897,	1 P.M., 8th day...	62° F.	103.8° F.
January 19th,	1 P.M., 9th day...	60	103.2
January 20th,	1 P.M., 10th day...	54	102.2
January 21st,	1 P.M., 11th day...	66	104
January 22d,	1 P.M., 12th day...	66	105.4

This elevation of temperature may be attributed to incipient rabies, but the fact that on the seventh day a like rise occurred gives room for doubt.

		Temp. of Room.	Temp. of Rabbit.
January 23, 1897,	1 P.M., 13th day...	57° F.	103.9° F.
January 24th,	1 P.M., 14th day...	57	102.3
January 25th,	1 P.M., 15th day...	47	101.7
January 26th,	5 P.M., 16th day...	47	102

Stiff in hind legs; sidelong movement.

		Temp. of Room.	Temp. of Rabbit.
January 27, 1897,	1 P.M., 17th day...	47° F.	99.4° F.

Stiff, slow, sidelong movement.

January 28, 1897,	1 P.M., 18th day...	47	95.2

Helpless on side.

January 29, 1897, 9 A.M., 19th day, found dead.

Rabbit W trephined and subdurally injected with emulsion of medulla oblongata of rabbit S, which died of rabies, January 11, 1897, seventeenth day after having been trephined and subdurally injected with medulla oblongata of boy Eppers, who died of rabies on December 26, 1896.

		Temp. of Room.	Temp. of Rabbit.
January 17, 1897.	1 P.M., 7th day...	58° F.	103.9° F.
January 18th,	1 P.M., 8th day...	62	103.6
January 19th,	1 P.M., 9th day...	60	104
January 20th,	1 P.M., 10th day...	54	102.8
January 21st,	1 P.M., 11th day...	66	104
January 22d,	2 P.M., 12th day...	66	105

An up temperature, whether incidental or accidental.

		Temp. of Room.	Temp. of Rabbit
January 23, 1897.	1 P.M., 13th day...	57° F.	103.8 F.
January 24th,	1 P.M., 14th day...	57	101.7

Temperature drop. Exhibits no impairment of motility. Eats and seems well.

		Temp. of Room.	Temp. of Rabbit.
January 25, 1897.	1 P.M., 15th day...	47° F.	101.5° F.
January 26th,	5 P.M., 16th day...	47	102
January 27th,	1 P.M., 17th day...	47	99.4

Decided temperature drop, but no motor disturbance. Still active, agile.

		Temp. of Room.	Temp. of Rabbit.
January 28, 1897.	1 P.M., 18th day...	47	98.6

Very stiff and tremulous.

		Temp. of Room.	Temp. of Rabbit
January 29, 1897.	1 P.M., 19th day...	52	94.5

Stiff, tremulous, moves with difficulty, inco-ordinate.

January 30, 1897, 1 P.M., 20th day, temperature too low for thermometer to register.
January 31, 1897, 8 A.M., 21st day, found dead.

Rabbit X trephined and subdurally injected with emulsion of medulla oblongata of rabbit S, which died of rabies, January 11, 1897, seventeenth day after having been trephined and subdurally injected with emulsion of medulla oblongata of boy Eppers, who died of rabies on December 26, 1896.

		Temp. of Room.	Temp. of Rabbit.
January 17, 1897.	1 P.M., 7th day...	58° F.	103.3° F.
January 18th,	1 P.M., 8th day...	62	103.4
January 19th,	1 P.M., 9th day...	60	103.4
January 20th,	1 P.M., 10th day...	54	104.8
January 21st,	1 P.M., 11th day...	66	104.8
January 22d,	2 P.M., 12th day...	66	103.8
January 23d,	1 P.M., 13th day...	57	103.7
January 24th,	1 P.M., 14th day...	57	102.3
January 25th,	1 P.M., 15th day...	47	102.3
January 26th,	5 P.M., 16th day...	47	99.8

Decided temperature drop. Stiff and sprawled movement of hind legs. At one time marked inco-ordinate jerking.

		Temp. of Room.	Temp. of Rabbit.
January 27, 1897.	1 P.M., 17th day...	47° F.	96.4° F.
January 28th,	9 A.M., 18th day, found dead.		

Comments and Conclusions.—If one hundred children had been bitten by this same dog in an identical manner, *i.e.*, severe and numerous bites on the bare head and neck, how many would have likewise perished? A healthy rationality will admit the probability of eighty per cent., ninety per cent., even one hundred per cent. of deaths. These cases entirely corroborate all that is claimed by statistics on this point. That is, the mortality of bites of this description is eighty per cent., ninety per cent., even one hundred per cent., when not treated by the Pasteur method. But all these were treated by this method with a result as disastrous as if they had not been treated at all. It cannot be claimed that they were not timely treated. All were under treatment in about three days after having been bitten. Greater celerity than this is only very exceptionally attainable. Pasteur institutions cannot be located within three days' journey of everywhere. The only possible explanation is that some factor difficult of appreciation caused an unusually brief incubation and speedy onset of the disease. For the completion of immunization fifteen days after the termination of treatment are required. In these cases the disease outran the remedy. If fifteen to twenty days are required for completion of the treatment and fifteen days thereafter for the completion of the immunization, then all cases which develop the disease in thirty-five days are not amenable to treatment. The stage of incubation in six per cent. is between three and eighteen days; in sixty per cent. it is between eighteen and sixty-four days. Granting the accuracy of these statistics from Bollinger in Ziemssen's "Cyclopedia of Medicine," it may be assumed that thirty-five per cent. of those bitten, or, confining the statistics to the subjects under consideration, of children at and below eighteen years of age and suffering from multiple and severe and non-cauterized bites on head and face (bare), thirty-five in one hundred cases of this description will fail to be benefited by the Pasteur treatment; sixty-five cases in one hundred cases escape when treated. Granting that twenty in one hundred would escape if not treated, then forty-five in one hundred are saved by the treatment. The foregoing remarks assume that there has been no defect in the administration of the prophylaxis. The Pasteur Institute, Paris, calls attention to the time limit, but does not plead this statute of limitation. It shows that all the deaths during treatment and at any time thereafter, from bites of the head and face, form only about six per cent. But this showing includes all ages, children and adults, and all bites, severe and slight, single and multiple. This is as inexact as the assertion attributed to John Hunter, that not more than five per cent. of all cases bitten by rabid dogs develop rabies. This may be true of slight bites through clothing, but it is entirely incorrect as regards severe multiple bites on bare parts, especially the face and neck. There are those who assert that mad-dog bites are very rare, and but very few of the few bitten develop the disease. But when they wish to impugn the Pasteur treatment they cite the present cases, asserting that fifty per cent. of the entire number bitten died of the disease, and one hundred per cent. of those bitten on the bare face and neck died. No sufficient number of cases was bitten from which to calculate percentage. They "blow hot and blow cold in the same breath," and mean nothing unless they covertly claim that the treatment produced the disease. The virus of ordinary rabies, that of the mad dog at large, the street dog, *rage de rue*, when subdurally injected into rabbits, never produces the disease before the twelfth day; rarely before the fourteenth day. On the contrary, the virus of the laboratory, the virus of the rabbit at and beyond the fiftieth remove, develops when subdurally injected into other rabbits rabies in seven or eight days. In the cases under consideration, the virus of the medulla oblongata of the boys produced rabies in the rabbit after about the same incubation as did the virus of the medulla oblongata of the street dog in question. The disease did not in any of the rabbits develop before the fourteenth day. Had the virus which gave these boys rabies been that of the laboratory, that which was used in the treatment, then the rabbits which were injected subdurally from the medulla oblongata of those rabbits which had been injected subdurally from the medulla oblongata of the boys would have developed rabies in about the seventh or eighth day. But it has been demonstrated that on the ninth day after injection the medulla oblongata was not even virulent (see rabbit G, *ante*). The use of a second series of rabbits is necessary for two purposes: First, when the virus is passed from one species to another the incubative stage is variable in the first passage. In these cases—the virus from the medulla oblongata of the boys injected subdurally into rabbits—these first rabbits might manifest the disease at some irregular period, probably a longer interval than its real incubative stage. But when the virus is passed

from the medulla oblongata of these rabbits by subdural injection into other rabbits, then these other rabbits exhibit the disease after the stage of incubation normal to the virus. The normal incubative stage of the street virus is about fifteen days. The normal incubative stage of the virus of the laboratory which is used in the treatment is about seven days. Secondly, the other purpose necessitating the use of a second series of rabbits is to exclude the effect of traumatism on the nervous system. Very rarely a case occurs after trephining, even when the virus of rabies is not used, in which after a like incubative stage the rabbit develops and dies with signs and symptoms like those of rabies. That this disease and rabies are not identical is proven by the fact that this disease cannot be given from these rabbits to a second series of rabbits by trephining and subdural injection of their medulla oblongata: still less can it be so propagated indefinitely, as is the case in rabies, which is a specific infectious neurosis. The other disease is a traumatic inflammation or degeneration. Subdural injections of guinea-pigs or rabbits with emulsion of medulla oblongata of dogs suspected to have had rabies is part of the regular routine work of institutions practising the Pasteur method. Not infrequently the dogs are thus demonstrated not to have had rabies. Patients have been treated and the dog subsequently proven not to have had rabies. If a dog under suspicious circumstances bites persons and is at once killed, it is prudent to give these persons the benefit of the doubt and treat them. They cannot safely delay until the termination of an experiment which lasts over fifteen days.

Daily throughout the world institutions administering the Pasteur treatment demonstrate that rabies is a specific infectious (contagious) neurosis, and that no other disease is capable of producing identical signs and symptoms.

ABOUT MUSHROOMS.

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The term mushroom is here used in a broad sense, and includes the vegetable forms commonly so called, as well as those included under the vulgar title of "toadstools;" and also the other fungi. I shall, however, exclude from present consideration the microscopic forms, and allude only to those whose size is sufficient to invite the attention of the naked eye. Many scientific men have been attracted to the study of these (from a biological standpoint) low forms of vegetable life, but the names of Fries and Cooke and Berkeley stand forth pre-eminent as regards the practical outcome of their studies. The foundations laid by these industrious men have been built upon by others, so that to-day the number of macroscopic fungi that have been carefully studied and accurately described runs into the thousands.

We are all of us acquainted with that delicious product of the pastures, the so-called "common mushroom," but there are many who are not aware that there are scores of other species that are as wholesome and as agreeable to the palate, and even more so, as the *Agaricus campester;* and it is to them that I especially ask attention.

The breadth of this subject will be appreciated when I state that Cooke has described and illustrated no less than two hundred British edible fungi, and that Mr. Charles H. Peck, State botanist, has in like manner dealt with upward of sixty species found within the limits of our own State.

The importance of the subject will be understood when we consider the information placed at our disposal by the chemists, who assure us that the mushroom from the chemical standpoint belongs to the animal rather than to the vegetable kingdom; that it possesses a much larger proportion of nitrogen than is found in any other class of vegetable life. The mushroom is essentially protein in its composition, as much so pound for pound as our ordinary butchers' meat, and hence through its economic importance it invites our careful consideration and study.

The profusion with which nature at certain seasons and times has provided such a store of nourishing food, literally to be had for the gathering, has attracted the attention of the economist from very early times. In the days of the Roman emperors mushrooms were an esteemed delicacy, and one of them, known to have been in special favor, has since received the name of *Amanita Cæsarea*, found, though not plentifully, within the borders of our own State.

The Germans, the French, and the Italians are to-day familiar with many species of wholesome fungi: and in a fresh or dried condition they constitute a not unimportant addition to the tables of rich and poor alike. Our Oriental friends in Japan and China are also fungus eaters, and several edible species are propagated artificially: and dried or otherwise prepared mushrooms from these countries are regular articles of commerce.

In England a few scientific observers and enthusiastic fungophagists have sought to spread a wider knowledge of edible fungi among the people of their country, but thus far without the full success that their efforts warrant.

Up to within a very recent period the eaters of fungi, other than the common mushroom, were few in number in America; but during the last few years they have increased so rapidly that now they can be numbered in thousands.

The great popular interest in mushrooms may be said to date from the publication in *Harper's Magazine* of a series of illustrated articles from the pen and pencil of the late Hamilton Gibson, which later were amplified into a volume entitled "Our Edible Toadstools and Mushrooms." I fancy that few can read this book without wishing that they were able to distinguish between the wholesome and the unwholesome sorts, or to be able to tell a mushroom from a "toadstool," as the vulgar would put it. Certainly this author has described the delights of the palate in such an enticing manner that one longs to search the woods and fields for the delicacies that are so charmingly described.

There is, however, another and more sombre side of the question. Many of the mushrooms are distinctly unwholesome, and some of them absolutely lethal; while concerning the greater number science is silent. In other words, there is a large number of fungi that are not positively known to be either edible or the reverse.

We may well be asked whether there is any general rule whereby the edible species can be distinguished from those that are poisonous or otherwise unwholesome. This may be promptly answered in the negative. There are many popular fallacies in this connection. Thus we have it asserted that "good" mushrooms can be distinguished from "bad" ones by cooking them with a silver spoon in the dish, and that if they are wholesome the spoon will remain untarnished, but if there be a poisonous one among the lot the silver will be blackened. This would certainly be a simple test if this were true, but unfortunately it is not. So also some declare that if the skin peels off readily from the cap the mushroom may be safely eaten, but if it is closely adherent the fungus is poisonous. This so-called rule is also untrue.

Others will state that if the gills are pinkish, as

in the *Agaricus campester*, the fungus is wholesome; while if the gills are of any other color they are poisonous. This guide is also fallacious. Certain mushrooms with white, yellow, brown, and even black gills may be eaten with safety—as, for instance, certain species appertaining to the genera Russula, Lactarius, Marasmius, Coprinus, etc., as well as some that have no gills at all, *e.g.*, certain species of Fistulina, Hydnum, Strobilomyces, Boletus, and Polyporus, which, in common with hundreds of other fungophagists, I have eaten with pleasure and without ill effects.

How, then, can we tell the wholesome from the noxious species? Can we do it by a knowledge of the genus? Unfortunately it is not so simple a matter as this. The genus Lactarius contains the wholesome *volemus* and the acrid *piperatus;* the genus Russula has the good *virescens* and the bad *emetica;* the genus Amanita holds the desirable *Cæsarea* and *rubescens*, and also the deadly poisonous *muscaria* and *phalloides;* the Boletus has the *edulis* and the *felleus;* and so with many other genera.

There are but three ways whereby one can learn to distinguish the wholesome from the vicious sorts.

In the first place, when you find an unknown mushroom take it to an expert and ask him its name and nature, and carefully note all the peculiarities of its appearance, so that when you see it again you will recognize it, just as you do the more familiar vegetables and fruits. By this means, if it is open to him, one may in a single season acquire a knowledge of a considerable number of species. No one who has once seen the Amanita *muscaria* should ever mistake it for anything else, and no one who has once seen the edible *Fistulina hepatica* or the *Strobilomyces strobilaceus* could by any possibility confound them with anything else.

Secondly, one may pursue the study of mushrooms just as one would any other branch of natural science, and carefully compare the features of any given mushroom with the detailed descriptions to be found in works of reference.

Thirdly, one may test for himself each mushroom that he encounters. In the majority of instances no harm would come from this practice, but if a person wholly unacquainted with the subject were to attempt it rashly the probabilities are that his experiments would soon be terminated. The career of the ignorant and rash experimenter would certainly be short.

During the season just passed numerous reports of mushroom poisoning have appeared in the public press, and a series of fatal cases was recently reported in the MEDICAL RECORD. The probabilities, in my opinion, are that next season's crop of poison cases will be still larger, owing to the increased interest now taken in the subject of gross mycology. In Boston there is a Mycological Society with a large membership, and this city possesses another with over one hundred members; other societies have been formed elsewhere. So far as I am aware no accidents have happened to any of the members of these societies; but many, very many other persons have undertaken the study of the subject without possessing proper facilities for obtaining accurate information concerning the various species.

At one time the idea prevailed that there were but one or two edible mushrooms, while all others, commonly called "toadstools," were noxious. Now opinion is veering too strongly to the opposite direction. Many begin to fancy that the number of injurious and poisonous mushrooms is very limited. Such is not the fact. Hay gives a list with descriptions of fifty-three species of British poisonous fungi appertaining to twenty-six genera, and this number will doubtless be greatly increased in the future, for at the present moment the effects of the majority of species of fungi on the human system are absolutely unknown.

The injurious effects of the non-edible mushrooms are not the same for every species. Some of them are simply acrid and irritating, as, for instance, the Lactarius piperatus. A fresh morsel of this fungus burns the tongue and mouth much as cayenne pepper would do. Others produce active catharsis and gastritis. In another the action is indicated by its name, to wit, the Russula *emetica*. There is, however, a fourth and much more important class, which contains a subtile poison, not producing immediate violent symptoms, but often delaying all indications of its presence for twelve or twenty-four hours. It then exerts its influence chiefly on the nervous system, and if not promptly met by an appropriate antidote frequently proves fatal. To this class belong the poisons of the Amanita *phalloides*, *verna*, and *muscaria;* and the only known antidote is the hypodermic injection of atropine. On the whole, however, our knowledge of the poisons found in some of the fungi and the symptoms they produce is very limited, and bespeaks further investigation on the part of the chemist, the physiologist, and the clinician.

There is one point, however, that should not be overlooked. Mushrooms consisting largely of protein putrefy as readily as meat does, and hence if eaten in a state of decomposition may give rise to ptomain poisoning.

The first difficulty that the student of mycology is likely to encounter is the dearth of suitable text-books and readily accessible works of reference. There is no complete compilation of the mushrooms of America, and the necessary information must be sought in divers publications. I have more than once been asked what books to read on the subject, and my experience would lead me to recommend the following. In the first place, I would advise the perusal of Gibson's work (Harper & Bros., New York, $7.50). Though not written from a strictly scientific standpoint, it is exceedingly interesting and contains a large amount of useful information. It is handsomely illustrated—too handsomely, in fact, insomuch as the different species have been delineated from the standpoint of the artist rather than from that of the accurate observer. I have no doubt that nature could produce mushrooms that resemble some of Gibson's drawings, but very much question whether it has ever done so. The next work to procure is the report of Charles H. Peck, State botanist, for 1895. To obtain it, address Mr. Melvil Dewey, secretary of the Board of Regents, Albany, N. Y., and inclose $1.35. This is a handsome quarto, with descriptive text and colored plates representing about sixty edible and four poisonous species. With these works at hand, the student is prepared to commence the systematic study of the subject, and this he may do by procuring Underwood's "Suggestions to Collectors of Fleshy Fungi," which may be obtained from the Cambridge Botanical Supply Company for twenty-five cents. This contains a synopsis of the genera belonging to the order Agaricaceæ found in the United States. For the identification of species, perhaps the most convenient work is Massee's "British Fungus Flora," imported by The Macmillan Company, New York (four volumes; price, $8). This book contains descriptions of many species not found in the United States, and omits many that are. For these latter the student may consult Peck's "Boleti of the United States," published by the University of the State of New York, and the State botanist's reports for the past fifteen or twenty years. These contain descriptions of the fungi that have been found in New York State.

Armed with the literature here mentioned, the inves-

tigator will be prepared to search the woods and fields for specimens, with confidence that he will be able to identify a considerable part of his collections and add many a dainty dish to his customary menu.

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MILK POISONING OCCURRING IN INFANTS AND CHILDREN WHO HAVE BEEN FED UPON PASTEURIZED MILK—PASTEURIZED MILK AS A FOOD FOR INFANTS AND CHILDREN.[1]

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In his earliest experiments upon the subject of sterilization, Pasteur convinced himself beyond any question that milk could not be sterilized at the temperature applicable to wine or other fluids, 60° to 65° C. The process now called pasteurization did not apply to milk. He further established that in order completely to sterilize milk it was necessary to subject the fluid to an additional one-half atmosphere of pressure and a temperature of 110° C. In none of the writings of Pasteur do we find him advocating pasteurization, 60°–65° C., as applied to wine, as a means for the sterilization of milk. Pasteurization of milk is a process which did not obtain the sanction of the master whose name it bears. Attempts have been made by others to devise methods and apparatus for the pasteurization of milk (Thiel, Lazarus, Bitter, Russel), with varying success. Their attempts to pasteurize milk resulted in fixing a temperature at which all could agree that the germs of contagious disease which might pre-exist in the milk would be destroyed. This temperature was, after much experimentation, fixed at 75° C. (Bitter). It was also established that the milk must be kept at this temperature for a length of time, then rapidly cooled, and after cooling kept at a safe low temperature, 10 to 15° C., until ready for use. It was also agreed upon that the process of pasteurization applied only to milk for commercial use and transportation. It was meant by Bitter and Lazarus and their teacher Flügge to apply only to milk in the dairy. It was intended that by subjecting milk at the dairy, as soon as it was obtained from the animal, to the process of pasteurization, all the germs of a pathogenic nature (typhoid bacilli, cholera spirilli, diphtheria and more especially tubercle bacilli) would be destroyed. And it has been shown that the pathogenic germs of most of the known diseases would be destroyed by pasteurization. Lazarus, Bitter, Yersin, Van Geuns, distinctly proved various parts of the above proposition. Here their work stops. None of these investigators claimed that the process of pasteurization would or could be applied to the destruction of all the bacteria in the milk, nor did they attempt to apply the process of pasteurization to milk intended for infant feeding, as Freeman has done. Flügge, the teacher of two of the most successful of the above authors (Bitter and Lazarus), distinctly warns the profession against the dangers of pasteurized milk as an article of food for the infant. In other words, it is of greater importance to the infant to be guarded against the constant occurrence of milk bacteria in his food than against the occasional accidental occurrence of germs of diphtheria, typhoid fever, scarlet fever, cholera, and tuberculosis. The great mass of summer diarrhœas, the fatal gastro-intestinal disorders of infancy and early childhood, and some of the most troublesome diarrhœas of the winter months are now generally conceded to be due to bacteria and toxins in the milk food of the infant. These bacteria and toxins are not in any way destroyed or inhibited in growth by the process of pasteurization.

In the most recent work upon pasteurization, N. L. Russel claims to have succeeded in isolating fifteen different species of bacteria from pasteurized milk. The unpasteurized milk utilized by Russel for his investigations was obtained from the dairy from six to eighteen hours after milking, and contained from 25,300 to 32,800,000 of bacteria to the cubic centimetre. When pasteurized, this milk at times did not contain any bacteria; at others 57,000 bacteria to the cubic centimetre. It will thus be seen at the outset that an element of great uncertainty surrounds the process of pasteurization. Of seven samples of cream pasteurized, two were sterile, two contained 50,000 bacteria to the cubic centimetre, and this was milk and cream subjected to pasteurization six hours after milking. As a rule, Russel found that the older the milk the more bacteria it contained after pasteurization. But some of the specimens obtained from the dairy six hours after milking, and pasteurized in the laboratory, were not free from large numbers of germs. What are these germs, and how do they get into the milk? The dust in the dairy is loaded with germs of the hay and potato bacilli. Then the floor of the stalls contains food and excrementitious substances. The udder of the animal also is a great source of introduction of bacteria into the milk.

It has been demonstrated by Schultz that, even if the hands of the milkman, the stalls, and the udders of the animals are scrupulously cleaned, germs will find their way into the milk, coming from the udder of the animal directly into a sterile milking-pail. Only the milk thus obtained toward the last third of the milking-period is found to be sterile. This is found to be caused by the fact that the milk ducts of the animal's udder are at all times the harborers of germs either of disease or of decomposition: dirt from without is then introduced by the animal into its own milk ducts, and it is only after the milk has washed the ducts out thoroughly that the milk comes sterile into the milking-pail. This being so beyond the shadow of question, it can well be understood by all that germs will always exist in milk obtained even from model dairies. There will always be, even under the best hygienic public conditions, an element of the Utopian in expecting that the general public will in the near future obtain the milk from dairies equal to what are known as model dairies in the matter of cleanliness. Therefore the milk given to the vast number of our infants in large cities will be milk which, even if free from bacteria of disease like tuberculosis, diphtheria, typhoid fever, and scarlet fever, will still have a supply of bacteria indigenous to the milk, which must always be reckoned with.

These are the bacteria to be considered as etiological factors in the causation of gastro-intestinal disorders of infancy and childhood. The most deleterious of these germs are not affected by pasteurization as at present carried out. Most of the germs which thus exist in the milk, which are harmful to infants and children and which are not affected by pasteurization, divide themselves into—

(*a*) The lactic-acid-forming group.
(*b*) The butyric-acid-forming group.
(*c*) The peptonizing group of bacteria.

The first group is very active in causing gastro-intestinal disturbance, known since the publication of the learned expositions of V. Vaughan on the subject as milk poisoning. The process of sterilization at 90°–95° C. (Flügge) completely destroys these bacteria.

From milk obtained quite fresh from the dairy and pasteurized, Russel showed that, though some if not many forms were affected by pasteurization, at least three separate varieties of acid-forming bacteria could

[1] Read before the pædiatric section of the New York Academy of Medicine, December 9, 1897.

be isolated. As to the last two forms of bacteria, the peptonizing and butyric-acid forms, they are not completely destroyed by any process of sterilization at or below 100° C., but in another place I will show how their deleterious action can be minimized by certain procedures advanced by Flügge.

Not only does pasteurization leave a vast mass of bacteria in the milk, but it is the principal purpose of this paper to bring to light a certain class of cases which can be distinctly labelled as cases of milk poisoning caused by the administration of pasteurized milk to infants and children.

In the perfection of our methods of infant feeding here in America we have made the greatest strides in the art of grossly preparing the food for infant use. We can now, thanks to the energy of Professor Rotch, of Boston, give milk of any strength, accurately put together, to infants. But this is not all that is necessary. We may have the exact percentages, but if the food is not kept pure, or moderately so, and free from acids and toxins, we shall see it disagreeing with the patient.

Milk Poisoning.—I wish to define a distinct set of symptoms, which may be of an insidious nature in some cases, or marked and very troublesome in others. I have adopted Dr. Vaughan's term, "milk-poisoning," as best adapted to picture the symptomatology of the cases which are the subject of this paper. Infants or children who have taken a pasteurized milk will in many cases as a first suspicious symptom have frequent movements in the twenty-four hours. Children who have had only one movement, or a constipated movement, will suddenly have five, six, or seven loose movements. At first the movements will have a yellow, curdled, lumpy appearance and a distinct acid odor; or they will have an admixture of green and an intensely disagreeable odor. Such an infant is restless, has colicky pains, and a slight rise or no rise of temperature.

In other cases, a baby taking pasteurized milk will to all appearances be in good health and spirits, its appetite will be good, and the alvine discharges will have a normal appearance, three or four a day, when suddenly the baby will have a large number of greenish, ill-smelling movements of a very acid character, and then after a dose of oil will relapse to a normal state.

In other cases the children will have a number—one, two, or three normal movements a day; following such movements will be a large semifluid or soft movement of an extremely acid character and a distinctly penetrating sour odor. After such a movement the patient feels very weak.

Extremely interesting are the cases in which the movements are simply increased in number for that patient. They are normal in color and odor, but more fluid than they should be, and the patient does not seem to increase in weight; there may or may not be a slight temperature rise toward evening.

I had such a child under observation for fully a month, and always felt that it was the subject of poisoning and that the milk should be changed, which eventually was done.

Lastly, there are infants and children who take pasteurized milk well enough for a short time, then suddenly develop a sharp attack of gastro-enteritis which endangers their existence.

In the above I have kept before my eyes only those cases which have come under my observation. In one case the milk was prepared by the best and most widely used laboratory for feeding infants in private practice. The other cases were innumerable cases in which was given pasteurized milk from a well-known leading charity, or pasteurized milk from the laboratory connected with my service at the Good Samaritan Dispensary. In the latter cases the Freeman pasteurizer was used, the milk rapidly cooled, and then kept on ice, and the patients were warned to keep it on ice at home.

Subacute Milk Poisoning Caused by Pasteurized Milk, November, 1896.—A boy, five years of age, weighing forty-one pounds, only child of healthy parents, brought up in infancy on sterilized milk. The child was well up to about a year ago, when, it may be mentioned, the sterilization of the milk in his food was omitted. He then suffered occasionally from a diarrhœa: the diarrhœa consisted of five or six profuse movements, which would weaken the boy. After dieting in various ways the patient recovered. The boy remained well during the past summer in the mountains, but at intervals suffered from a slight looseness of the bowels. He gained in weight. During the past five weeks he began to have two or more diarrhœal movements daily. Diet during this time contained among other things, as a principal or exclusive element, pasteurized milk. No fever curve.

Status: A well-nourished boy; tongue clean; no pyrexia even in the evening; the skin elsewhere showed a very few varicella spots of quite recent maturation; no enlarged spleen or mesenteric glands or lymph nodes. The patient once a day would have a very large normal movement, and at night a profuse watery movement of yellow color: this had a very sour odor, which penetrated the room. After such a movement the patient was weak, though he insisted that he should play around the house. No pyrexia. At this time the boy was, and had been for a period of two weeks, on an exclusively milk diet. The family being well-to-do, the milk was obtained and modified at the best laboratory in town, on the Rotch plan. The ingredients of the milk were constantly changed by the attending physician, who argued that there was a neurotic intestinal diarrhœa. A consultation with a noted pædiatrist before I was called in led to the supposition that there was an irritant of some kind in the gut, and high injections were advised. The milk during all this time was pasteurized, and was the exclusive diet. After a close study of the case, having in my mind placed it with others of the same kind I had seen before, I pronounced it one of milk poisoning, pure and simple, in a very susceptible subject. I observed the lad closely for two days and convinced myself that the history given me by the parents was correct. The patient was kept for weeks on the milk which had been his food. He was not allowed even a crust of bread; he had been having bread dipped in meat juice once or twice a day. His temperature was normal. There were one or two large formed movements daily; toward evening the boy would have a profuse movement, partly solid, partly fluid: and of an intensely sour and penetrating odor. The pasteurized milk of the laboratory was stopped and the boy placed upon milk sterilized at 100° C. for forty minutes, with five grains of tannigen, *t.i.d.* The improvement was immediate and progressive. The movements became brown, of normal odor and consistence. The boy gained in strength, and gradually after a week other articles of diet were added to the milk, until a full, properly mixed diet was reached. After a year we find the boy still perfectly well, with the exception of an attack of vomiting and diarrhœa this summer, of a few days' standing. During this time the sterilizer had been broken, the milk was not sterilized, and the boy's illness can fairly be traced to this fact. To-day he is well, and a finely nourished lad.

Epicritical.—Here is a case which is typical of many I have seen, both in private and clinical practice. A subacute diarrhœa of the above character; the physician places the patient on exclusively milk diet, only to aggravate matters. The stools are of an

extremely acid character, even irritating the parts about the anus. No pyrexia but a gradual increasing loss of strength. The milk being pasteurized, immediate improvement on the substitution of sterilized milk. This is only, as I say, one case among many, and it is chosen because the surroundings and milk were all the best that money could procure.

In my clinical work I have made several unsuccessful attempts to substitute milk pasteurized at 75° to 80° C. for the sterilized product. The milk used at my laboratory is delivered by one of the best dairies in town, at a very early hour in the morning. It is then modified according to the Soxhlet formula and sterilized, or the pure milk is sterilized whole for some children.

In pasteurizing the milk, I at first made use of my steam sterilizers, noting the temperature with thermometers, and then, after the milk was kept at 75°–80° C. for forty minutes, it was rapidly cooled and then kept on ice or in ice water until used. When the milk was given away, the people were supplied with orders for ice with which to keep it cold. With the greatest exercise of care, complaints were made that the milk curdled, or that the infants suffered from one of the forms of insidious subacute diarrhœa pictured above. It was then decided this year to use the Freeman pasteurizer, to pasteurize each portion separately, and only one portion at a time, and to keep only one baby under observation at a time.

From those who reported faithfully I learned that the milk which was modified and to which sugar of milk was added kept better than the milk which was pasteurized whole. Some of the parents reported in the summer months that the milk, in spite of its having been kept on ice, turned solid in the bottles. Of course there is with this poor and unlearned class always an element of carelessness, but the fact reported goes to show that milk has a bacterial element which is not affected by pasteurization, which will cause curdling and which will become troublesome at the slightest opportunity.

Clinical Cases.—Case I.—Infant, male, eighteen months old. Had been suffering from simple enteric catarrh. The diarrhœa was first controlled and then the infant was given pasteurized milk, thirty ounces daily. The infant continued to have loose movements at intervals for a month. Once diarrhœa was very serious. The child continued pale and did not increase in weight. Put on sterilized milk.

Case II.—Female infant, four weeks old, partly breast fed. Had now one normal yellow movement daily. Put on pasteurized milk with the breast. The movements immediately became more numerous, five or six daily; sour in odor. After a few days changed to sterilized milk. Baby did well after this.

Case III.—Female infant, seven months old; congenital syphilis. Had been doing well on sterilized milk; put upon pasteurized milk. Had several diarrhœal movements which were not controlled by sterilized milk. All milk stopped; recovery; and baby put on sterilized milk.

Case IV.—Female infant, one year old; had been taking sterilized milk for some time; bowels normal. Put on pasteurized milk. After three days the stools became numerous, six a day, unformed and cheesy; was compelled to go back to the sterilized milk.

Case V.—Female infant, one year old; had been in good general condition; had rachitis. Had been taking pasteurized milk for five days; some days the baby had two or three normal formed movements; other days had diarrhœa. Milk changed.

Case VI.—Infant, five months old; had been taking sterilized milk, and had had five or six movements daily. It was put upon pasteurized milk; the character of the movements, which had been diarrhœal, continued much the same; pasteurized milk discontinued after five days. In this case the pasteurized milk was used because the baby refused the sterilized milk; no better success with pasteurized.

Case VII.—Female infant, six months of age; had taken sterilized milk for a month; had had two normal movements daily, and was in good health. Put upon pasteurized milk. At first it seemed to agree with the infant; then after a few days the mother reported a sharp diarrhœal attack. This was during the coolest July 26th known for years. Pasteurized milk stopped, baby put on sterilized milk; continued well.

Case VIII.—Female infant, nine months old: suffered from a subacute enteric catarrh. Had been under pasteurized-milk treatment for some days without improvement. Diarrhœa alternated with formed movements. Mother complained that milk turned solid over night. Weather warm, milk kept on ice.

Looking over the above cases, we must conclude that there was some irritant substance in the milk. The first case cited is very characteristic. There was in this case no question as to the presence of such disease as typhoid, all this being ruled out. In all these cases bacterial proliferation must be fixed upon as an etiological factor. I mentioned that Russel showed the presence of three varieties of acidifying bacteria in pasteurized milk. Dr. Lewi, working in my laboratory, showed that if milk was pasteurized with the Freeman apparatus and kept at a mean temperature of 28° C. acidity began to develop in five or six hours, and reached its height in twenty-four hours; sometimes in twelve hours at a lower temperature, 23° C. She concluded that when not kept on ice on a warm summer day pasteurized milk has a fairly stationary acidity ten or twelve hours after pasteurization, and twenty hours after pasteurization milk is curdled. The invariable marked acid odor of the stools in many of the above cases points to an acid-forming element as a leading factor in the causation of the diarrhœa.

If milk is sterilized at 90° or 92° C., a temperature first advocated by me and shown later by Flügge to destroy all acid-forming bacteria, we find that without ice the acidity of such milk remains stationary for from three days to three weeks in the warmest weather, and that when it does coagulate it does so with an alkaline reaction due to the peptonization of the milk by the peptonizing bacteria. (Milk sterilized as above shows no change except that of peptonization, even four weeks after sterilization.) In simpler words, the first set of bacteria mentioned in the first part of this paper, the bacterium-lactis class, is rendered inert, and if unprotected with cold the milk suffers only from the peptonizing group.

Flügge showed how the action of even this group may be temporarily rendered inert by cold. But, say the advocates of pasteurized milk, milk pasteurized must be kept on ice. It is argued that in this way the changes noted above are delayed or prevented, but, even granted this is so, the bacteria remain unharmed to cause trouble in the infant stomach and gut.

Both Soxhlet and Plaut (Dr. Lewi) showed that raw milk could be kept on ice unchanged—temperature, 15° C.—for twenty hours; yet no one could think of giving such milk to infants. Flügge says that as far as pasteurized milk is concerned it should be treated for infant use the same as raw milk. What is the extent to which, therefore, our knowledge goes in regard to milk for infant feeding? Milk should be heated at least to a temperature of 90°, 92°, or 100° C., the latter being a preferable temperature, for ten minutes. It should be rapidly cooled and kept cool below 20° C., until ready for use (Flügge). In this way the second set of bacteria, the peptonizing bacteria, is kept inert.

The argument which was first raised against sterilization by Leeds and Davis, that the high heat lessened the digestibility of the milk by coagulating the albumins and changing them, has not been verified after years of work on this very theme.

P. Salomin found that the lactalbumins are separated, beginning at a temperature of 60° C., and completely coagulated at from 72° to 80° C.; so that as far as the lactalbumins are concerned pasteurization has no advantages over sterilization. The gross albuminous precipitates increase up to 100° C. of sterilization, but even here Salomin found that the precipitation of albumins at from 95° to 100° C. amounted only to 0.175 mgm. of albumin for every 100 c.c., a very slight amount, varying with the acidity of the milk and the amount of fat. It has also been stated that the digestibility of the albuminoids in the milk is lessened by the process of sterilization. This has not been borne out by actual study on the waste albumins contained in the faeces of these infants (Bendix and Koplik).

In my own work on the subject it was distinctly shown that, so far as a study of waste products could teach us, there was little difference in the digestibility of raw, pasteurized, or sterilized milk, continuously prepared or modified in the same way, when administered to the same infant. As to the taste of pasteurized milk, this varies, and all observers seem agreed that, as a rule, milk heated at or above 70° C. loses its raw flavor. Pasteurized milk is an uncertain and in some cases a very dangerous food for infants. Sterilization in the household must be carried on in a closed steam sterilizer where the temperature reaches 100° C., or quite close to this point. The temperature should be maintained for a distinct length of time, and after this the milk should be cooled by first placing the bottles in running water, and then on ice or in a refrigerator below 20° C., until given to the infant.

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Therapeutic Indications of Heat.—Dr. Bosanyi (*Pester medicinisch-chirurgische Presse*, October 24, 1897) has commenced a study of this subject. He says that hot baths have been used with success in puerperal eclampsia, and hot douches and applications have been found of value in certain diseases of women. He refers to the treatment of anæmia by diaphoresis and bleeding, which he appears to look upon as a possible substitute for the iron treatment. In the acute infectious diseases, such as diphtheria, influenza, the hot baths or the local application of heat has proved to be of service. Epidemic cerebro-spinal meningitis has been treated with remarkable success by baths at 36° to 46° C. In certain skin diseases, mostly chronic, the hot bath is a valuable remedy. In some circulatory disturbances with dropsy, diaphoretic baths are of value. The use of heat as a therapeutic agent has undoubtedly its limits, and under some circumstances is contraindicated. He thinks that chronic diseases are those most liable to be benefited by this treatment.

Progress of Medical Science.

An Apt Saying.—It had been aptly said that aneurisms of the ascending aorta were those of physical signs, and those of the transverse arch those of symptoms.—Harold Parsons.

Bronchitis and Pneumonia following the administration of ether were often due to the carelessness of attendants in not keeping the patient warm after coming from the warm operating-room to a ward where the temperature was ten or fifteen degrees lower. Sometimes there was pulmonary infection from the inhaler.—H. C. Scadding, before the Toronto Medical Society, November 8, 1897.

An Indication of Fœtal Death is acetone in the urine, reported by Knapp, of Prague. To ascertain the presence of acetone, Jaksch's method is used, which consists of adding to the urine nitroprusside of sodium, and then either caustic soda or potash to alkaline reaction. Acetic acid is then dropped into the fluid until the characteristic purple or violet color develops. Or acetone may be demonstrated by the fuchsin test of Chautard. A solution of fuchsin, 1 to 2,000, is decolorized by sulphuric acid. To make the test, half an ounce of urine is poured into the test tube and a few drops of the fuchsin solution are added. If acetone is present, the color of the urine becomes violet or purple, the depth depending upon the quantity of acetone.

Abscess of the Pelvis.—Dr. F. J. Shepherd exhibited the pelvis of a male before the Montreal Medico-Chirurgical Society, which met on April 23, 1897. One-half of this specimen was dry, the other moist. There were sinuses in the lumbar, sacro-iliac, and gluteal regions, and in the thigh and groin of both sides. The pelvis and sacral regions were filled with pus. On examining the specimen it was well shown how the disease was bilateral and what a small amount of original disease there was. The original disease was altogether confined to the intervertebral substance, between the fourth and fifth lumbar vertebræ, and an abscess cavity was found here which had spread laterally down each psoas muscle, and also down the sacrum into the pelvis. There was no spinal deformity whatever. The dry specimen showed new bone throughout about the lower lumbar vertebræ and the sacrum, but no sacro-iliac disease. The moist preparation well demonstrated psoas, presacral, and lumbar abscesses—all proceeding from the original disease between the fourth and fifth lumbar vertebræ. Dr. Shepherd said this case explained one of the puzzles met with in the surgical wards, when sacro-iliac disease was suspected and abscesses were found on both sides. In the present case the disease could be searched for only in front.

Results of Thyroid Feeding in Insanity.—Dr. Cross (*Edinburgh Medical Journal*, November, 1897) reports the results in twenty patients, suffering from melancholia agitata, melancholia, senile dementia, chronic mania, mental enfeeblement, and dementia, and concludes that all the cases gave a greater or less reaction to the thyroid, viz.: slight rise of temperature, slightly increased respirations, and marked increase of pulse rate, with weakness of heart beat. In all cases the pulse was the first to show any change, and was most affected by the drug. The reaction in all cases became more pronounced toward the end of the treatment, passed off gradually when the drug was discontinued, but was quite noticeable for a week at least. The reaction, too, varied in intensity in different subjects, but not in sufficient degree to admit of

any possible deductions. An interesting feature was that none of the males became excited while taking the drug, although two showed such marked improvement. The author finally makes a plea for a thorough trial of the thyroid in apparently hopeless cases of insanity.

Tuberculin.—Tuberculin is a great help in dermatology, both as a diagnostic and as a therapeutic means. In lupus erythematosus it acts remarkably well as a systemic treatment, but, of course, the locality must be treated with external applications. In a large number of instances I never had any bad effects; and the condemning of tuberculin for fear of spreading tuberculosis is absolutely absurd. The old tuberculin has given more regular reaction, both general and local, than the new tuberculin; and thus far I have found in dermatological work that the old is preferable to the new tuberculin. In cases in which no other remedy has any beneficial influence, and the tuberculin causes the disappearance of the eruption, the healing of the ulcers, and improvement of the general condition, this remedy has to be acknowledged as a great remedy. If relapses occur after ceasing the use of tuberculin, the remedy must not be blamed. It must be used for a long time, in small doses at long intervals, until recovery is assured.—Dr. A. Ravogli, Mississippi Valley Medical Association, October, 1897.

Hæmoptysis Caused by a Wood Louse.—Dr. Paschayan (*La Médecine Moderne*, August 25, 1897) reports a case of a man, thirty years old, who consulted him on July 20th. There had been hæmoptysis with a dry cough. Examination of the lungs, heart, and other organs gave no sign which explained the hæmoptysis. The general condition was perfect, except for a very slight fever. Examination of the throat revealed a small point on the left posterior pillar of the palate from which the blood was flowing. The point was cauterized with perchloride of iron. The next day the patient complained of dryness of the pharynx. There was neither hemorrhage nor fever. A gargle of chlorate of potassium and resorcin was prescribed. The morning of the following day the capillary hemorrhage was repeated, the thermometer showed a higher temperature, and the dryness of the throat was slightly diminished. The gargle was repeated and sixty centigrams of sulphate of quinine was given. The next morning there was a new hemorrhage. With the bleeding the patient noticed a hard foreign body which fell into the spittoon. Examination showed the foreign body to be a wood louse. The bleeding point was again cauterized, the pharyngitis disappeared, and there was no further trouble.

Recent Progress in Ophthalmology.—In the *Boston Medical and Surgical Journal* of January 6th, is published an account by Coppez (taken from *Rev. Gén.*, October, 1896) of a previously healthy young dairymaid contracting tuberculous iritis through bacilli from the udder of a diseased cow having been introduced at the base of the distal phalanx of the ring finger. The course was characterized by inflammatory nodules, limited to the skin and subcutaneous tissue, which broke down and finally healed by an adherent scar. There were sixty or seventy of them in all, which were mostly curetted and cauterized. A careful examination did not reveal any signs of visceral tuberculosis. An iritis with ultimate destruction of the eye appeared early in the disease, and enucleation was done about six months after the first appearance. Nothing abnormal was noticed in the posterior part of the globe, the choroid being scarcely hyperæmic. The iris was the primary seat of the lesion and was invaded in its totality, while only a few and unimportant nodules were noticed in the ciliary processes. Pus from one of the abscesses produced in rabbits a smart iritis and panophthalmitis, and after glandular involvement the animals died in the course of a few months cachectic. In sections the typical bacilli were found occupying their usual relations in the giant cells. The author considers this unmistakable relation between cause and effect to be worthy of record, on account of the great difference of opinion of those who have studied the origin of ocular tuberculosis.

Congenital Absence of Penis.—Dr. Robert T. Harris has, in the *Philadelphia Medical Journal* of January 8th, an article on the congenital absence of the penis, the urethra making its exit into or below the rectum, and emptying the bladder by or exterior to the anus. In this article six authentic cases are cited, illustrating this abnormal condition. Dr. Harris remarks that "as far as can be ascertained there is one male infant born with this abnormity in about thirty million. In the last fifty years England has reported one case; France, one; Germany, one; Austria, one; and the United States of America, two. No comprehensive treatise on teratology or embryology mentions it, nor is it referred to in Ballantyne on 'Diseases and Deformities of the Fœtus.' Jacobson, on the 'Diseases of the Male Organs of Generation,' 1893, pages 482, 609, refers to three of the cases mentioned. Gould and Pyle, on the 'Anomalies and Curiosities of Medicine,' 1897, page 314, report the same three cases. White and Martin, in their 'Genito-Urinary Surgery,' 1897, give one case, while no one seems to have noticed two of the cases to which reference is made."

Surgical Treatment of Acute Rheumatic Arthritis.—In an article by Dr. John O'Conor, in the *Medical Press and Circular*, November 10, 1897, the author relates his personal experience in what may be considered a rather heroic treatment of acute rheumatism, gonorrhœal arthritis, and non-specific rheumatic arthritis. He states that the only successful treatment for a gonorrhœal or a pyæmic joint is immediate opening and irrigation and drainage, and in support of his belief cites five instances in which this method has been followed by recovery, including one of acute epiphysitis with pyæmia. The incision must be large enough to admit the index finger, since lymph coagula are retained in the recesses of the joint which nothing short of digital manipulation suffices to detach. If this plastic material is left behind, the operation would be robbed of its value. For irrigation he employs biniodide of mercury, 1 to 5,000. After drying with gauze, drainage is provided for. The indolent treatment of this affection by blistering and external applications can result only in stiffening of the joint, fibrous ankylosis, either partial or complete, as laid down in most recent text-books. Treves is quoted to the effect that "there is no remedy yet known which can be relied upon." The author suggests the term acute infective arthritis as a substitute for acute rheumatism, which has little etiological or pathological significance. The prefixes gonorrhœal, pyæmic, tuberculous, syphilitic, etc., may be retained, in order to differentiate. The infected joint serves as an incubator in which the poison is elaborated and poured into the circulation. He suggests that recourse be had to surgery, and relates an instance in which success followed the opening of an arthritic joint. In conclusion, he says that when we meet with a collection of staphylococci we rush to operate; but when we encounter a collection of gonococci or rheumatococci we nostrumize, because we entertain some fears of merely opening and draining the non-purulent joint.

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THE TRANSMISSION OF SYPHILIS.

THE question of the transmission of syphilis is again provoking much discussion. The point at issue is in regard to the possibility of the disease being transmitted beyond the second generation, and the arguments for and against are many but inconclusive. Transmission to the third generation is interpreted in different ways by various modern writers. Some describe the taint when found in the grandchild as transmission to the second generation; the majority of English-speaking authorities, however, term the disease when twice transmitted transmission to the third generation. This description would appear to be the more correct, as when the disease has been twice transmitted it has existed in three generations.

The opinions held as to syphilis in general and hereditary syphilis in particular diverge to a large and amusing extent. The reports of the numerous researches made and the views of those engaged in elucidating the matter are so conflicting that it is impossible to arrive at a clear conclusion. One well-known English provincial physician has gone so far as gravely to express his belief that the danger attending an attack of syphilis has been altogether exaggerated, and that the disease is no more to be dreaded and no more difficult to cure than an ordinary cold. In regard to the transmission from parent to child, he contends that this is the rarest of all events. On the other hand, there are those who go to the other extreme, and lay to the charge of syphilis almost every known disease. The truth probably lies in the happy medium, and, while it is obviously absurd to designate syphilis as a trifling complaint, yet it is nearly as unwise to endeavor to make it the scapegoat for every disease. That syphilis in civilized countries is not the virulent and destructive disease it was in past days is a notorious fact, but that it can be transmitted is equally as well known. The point in dispute is not in respect to the possibility of its transmission, but as to the number of generations through which the taint may be handed down. Dr. George Ogilvie has recently published a paper reprinted from the *British Journal of Dermatology*, which contains many important facts in relation to this subject. After stating as his opinion that the diagnosis of hereditary syphilis can be made from the patient alone, in infancy as well as in adult life, and after showing that it must be granted once for all that absolutely to exclude acquired syphilis is impossible, he proceeds with these remarks: "On another point, strange as it may sound, it is desirable to come to an agreement, viz., as to what is to be considered hereditary syphilis. That syphilis of the parents, apart from being actually transmitted to the child, may produce in the latter certain pathological states, such as general debility, slow and imperfect development, some backward condition, liability to other diseases, etc., has not escaped the attention of earlier observers. 'Parasyphilis,' as an hereditary condition, is only a new name for an old fact, which, although occasionally doubted or even denied, has on the whole been long recognized. But recently, under the vague term of parasyphilis, all sorts of diseases have been added to the domain of syphilis, the syphilitic origin of which is more than doubtful. Whether in the production of such malformations as clubfoot, harelip, congenital amputation, etc., hereditary syphilis plays any part at all, is a question on which a good deal of difference of opinion seems to exist. Those who express themselves in favor of such a connection do so from an impression formed as a result of their personal experience, rather than from a series of well-authenticated cases sufficiently large to establish a clinical fact. Under no circumstances, therefore, can the diagnosis of hereditary syphilis be based upon symptoms of this kind alone, and even when they appear together with unmistakable signs of heredo-syphilis their connection one with the other must remain doubtful."

Many examples of cases of hereditary syphilis collected from all parts of Europe are then given, which, although as evidence they are by no means unanswerable, still present some arguments in favor of transmission to the third generation.

An interesting feature of the observations of Dr. E. von Düring, of Constantinople, who was last year sent on a special commission into the interior of Asia Minor, is that syphilis was not introduced into these parts until about sixty or seventy years ago, so that the living generation would be the third or fourth since the first appearance of the disease.

Another instructive point brought to light in the present discussion on hereditary syphilis is the growing disbelief in Colles' law. The Frenchmen, Fournier and Diday, affirm emphatically that "if a woman bear a syphilitic infant she must of necessity have had the complaint herself." Mr. Jonathan Hutchinson maintains that exception to Colles' law means reinfection. Dr. George Ogilvie is not in agreement with this view, and considers that it has not been proved. Nevertheless, a belief in Colles' law is still more or less an article of faith with the medical profession in England. Dr. Ogilvie is a disbeliever in the theory advanced by many writers, by whom syphilis is credited with exercising a favorable and far-reaching influence by conferring immunity upon generations of descendants without actual transmission of the disease. In relation to this matter he quotes Professor Neumann, of Vienna, who says: "Having made investigations about syphilis in different countries, I am not

able to say that I have noticed any perceptible difference in the disease in the various civilized countries." Reference is also made to the investigations recently undertaken in India, in the following words: "Our last experience in India is not such as to strengthen confidence in this theory of national immunization. The havoc which syphilis has made there, among a certain class of the population for generations impregnated with the poison, is as bad as or even worse than that caused on virgin soil." From the committee's report it is clear that the malignant and destructive cases were not isolated ones, but were very numerous, and the results so pitiable that "death alone can solve the difficulty."

The case for the transmission of syphilis to the third generation must be regarded as on the whole not proven; the clinical facts adduced in support of the theory do not rest upon a sufficiently solid basis, and have for the most part but an anecdotal value. While it cannot be denied that the "dystrophic" influence of syphilis may make itself felt in the third generation, yet until more convincing proof is brought forward to this effect the majority of medical men will remain sceptical. This state of affairs must continue so long as the general practitioner exhibits his present condition of indifference on the subject.

QUARANTINE POLITICS AT MOBILE.

It seems that the gentlemen who were invited to Mobile from the south Atlantic and Gulf States to discuss matters relating to topics kindred to yellow-fever epidemics and internal and maritime sanitation were served with a dish of States'-rights politics for about two-thirds of the time, and that the elaborate programme, covering thirty-seven papers on various subjects, did not cut any figure in the business of the convention. Those who were allowed by the executive committee to read papers proved to be gentlemen whose views on States' rights and domination of the federal government, etc., were bitterly expressed, and the whole tone of their papers was an attack on national quarantine and in favor of local control. It has been charged in some of the papers in the South —notably the *Atlanta Constitution*—that it would be a convention engineered by a self-constituted executive committee, which was endeavoring to secure only such delegates as were opposed to a national system of quarantine. We commend to the students of political management the system devised by the leading spirits of this convention. An executive committee, elected by i self, installed a permanent chairman of the convention without asking the members to approve its choice; this chairman named the committee on resolutions, among whose members appeared delegates f.om five Northern States not originally having membership in the convention—and of these, two, strangely enough, had been prominent advocates of a certain public-health bill. What such a committee would do ne d not be detailed. That it did not do all the managers hoped was due to the good sense of a minority, who found they had gotten into a quarantine caucus under the impression that it was a sanitary convention. The following resolutions were passed:

"*Resolved:* 1. That it is the sense of this convention that Congress be requested to provide for a department of public health as soon as practicable.

"2. That it is the sense of this convention that Congress should enact laws to provide for an efficient maritime quarantine, to be uniform and impartial in its application to the different commercial ports of this country, so as to give no one or more of them undue commercial advantage over the others, and to be enforced by the several State and municipal quarantine or health boards, if they will undertake to do so, leaving also to the States the power to prescribe and enforce additional reasonable safeguards of the health of the communities, provided that such State action shall not unreasonably obstruct commerce.

"3. That Congress should aid the several States in establishing and maintaining uniform, reasonable, and efficient quarantine laws for affecting but not regulating interstate commerce, leaving to each State adequate power to protect, as it shall deem best, the lives and health of its people.

"4. That Congress should leave exclusively to the States the regulation of their purely internal commerce and the provision of such quarantine or sanitary laws as they may deem advisable to that end.

"5. That in the framing of quarantine laws and regulations, and in their enforcement, Congress should avail itself of the learning, experience, and ability of the medical profession in the fullest measure possible, and especially by way of an advisory council."

As near as we can make out, this leaves the question about where it was before the convention met. We had hoped to be able to record some beneficial results to the great questions of public health which we were interested to know were to be under discussion by gentlemen thoroughly competent to throw light upon them. We hope they will be given a chance for inspection in the printed proceedings of the convention, if the managers intend to make a published report. That much certainly is due the public, which encouraged its deliberations and whose sympathies were engaged in its behalf.

What Hospital Patients Cost in England.—An English weekly journal says: "The average cost of patients at the various London hospitals differs enormously. Taking the amount at so much a day, according to the number of in-patients treated, the figure ranges from about $2.50 at the Chelsea Hospital for Women to less than 50 cents at the Western Ophthalmic, and 50 cents at the National Orthopædic and the Central London Ophthalmic. Among the expensive institutions are the British Lying-in Hospital, $2; Royal Hospital for Diseases of the Chest, $2; Metropolitan, $1.80; Royal Eye, $1.75; Cancer and Samaritan, free for women and children, $1.70. On the other hand, among the cheapest hospitals are the West London, 55 cents; East London, children, 65 cents; Italian, 70 cents; and the Great Northern Central, 72 cents.

News of the Week.

Catheterization of the Male Ureters.—Some two weeks ago Dr. Howard Kelly, of Baltimore, gave an interesting demonstration of his method of catheterizing the male ureters, in Dr. Abbe's clinic at St. Luke's Hospital in this city. The patient was a man with supposed renal calculus. He was etherized and the straight endoscope was inserted into the bladder while he was in the dorsal decubitus. Then he was raised to the knee-chest position, and it was found to be thoroughly practicable to inspect all parts of the bladder illuminated by light thrown from an electric head illuminator. The ureteral orifice was readily demonstrated to several of those present, and then the long flexible catheter with its stylet was instantly passed in and onward nearly to the kidney. The endoscope being withdrawn and the patient returned to bed, the urine began to flow in a few minutes, and after two test tubes full were obtained the catheter was withdrawn. Had it not been for the time occupied in demonstration, the entire procedure would not have consumed more than four or five minutes. The value of the knee-chest position is that what urine remains in the bladder falls down toward the internal meatus and leaves an unobstructed field for study. Dr. Kelly demonstrated also that when the prostate is enlarged and that portion of the canal is tortuous, the straight endoscope can hardly be passed beyond the prostate, so that this method of ureteral catheterization is not feasible in all subjects. The operator said that this was the last demonstration he expected to make of this method, since it was outside his especial field, and he left it therefore to be developed by the general or genito-urinary surgeon.

Cure of Tuberculosis.—Among the few scientific essays handed in in competition for the Audiffred prize this year, at the French Academy, was one from Hirschfelder, of San Francisco, on his oxytuberculin, and another from two Mexican physicians on the effects of rarefied air. Neither was considered worthy because of insufficient animal experiments, and the prize was not awarded.

Hotel Accommodations at Denver.—The hotel proprietors in Denver, with the usual shortsightedness of people of that class, are purposing to make it as uncomfortable as possible for those in attendance at the meeting of the American Medical Association in June, in order that the meeting may be made as profitable as possible to themselves. The manager of one of the leading hotels in that city has already refused to make any reservations unless two persons will consent to occupy a single room. How many he expects to put into a double room we have not yet ascertained.

A Safety Club.—Dr. A. W. Nelson, of New London, Conn., has invented a policeman's club, coated with semivulcanized rubber, which, he claims, is sufficiently yielding to prevent a blow with the club from fracturing the skull, while still being sufficiently convincing to the unruly arrestee.

A Threatened Calamity.—Our agitated contemporary, *The Post-Graduate*, remarks, anent the dispensary bill before the State legislature: "We shall not give up the regulation of our affairs to a State board of charities, unless the legislature and the courts say we must do so. If they do, we shall seriously consider the subject of placing the Post-Graduate Medical School and Hospital in a city a little more jealous for its medical supremacy than is New York."

Obituary Notes.—Dr. Thomas H. Atkinson, one of the city physicians in Jersey City, died on February 4th, of typhoid fever. He was a graduate of the College of Physicians and Surgeons in this city. He was twenty-five years of age.—Dr. Arnold Stub died last week at his home in Brooklyn. He was born in Elbing, Prussia, in 1832, and came to America when twenty-four years old. He served throughout the civil war, having been appointed assistant surgeon of the nineteenth regiment, New York State volunteers, in 1862. He was afterward promoted to the rank of surgeon, and later was appointed by General Hancock medical purveyor of the middle military division. He returned to Brooklyn and resumed his practice at the end of the war. He leaves a widow and three daughters.—Dr. George C. Briggs, of Burlington, Vt., died February 11th, aged sixty-eight years. He was formerly professor of materia medica in the University of Vermont. In 1872 he represented the town of Franklin in the State legislature. He was a graduate of the University of Michigan in 1853.—Dr. Oscar A. Menocal died on February 9th, in Brooklyn, of tuberculosis. He was twenty-eight years old. He was graduated from Columbian University, at Washington, D. C., and practised medicine for five years in that city. His final illness dated from last August.—Dr. J. S. Isham, of Cleveland, Ohio, died in that city on February 10th, at the age of fifty years. He was a graduate of the Bellevue Hospital Medical College in the class of 1874. He leaves a widow and one son.—Dr. John Cronyn died on February 11th at his home in Buffalo. Dr. Cronyn was born, December 22, 1825, in Black Rock, a suburb of Cork, Ireland. He came to this country in 1837, and in 1852 obtained his degree of M.D. from the University of Toronto. He moved to Buffalo in 1859. He was an ex-president of the New York State Medical Society.—Dr. Robert A. Wheaton, of St. Paul, died suddenly in that city on February 13th, at the age of thirty-five years. He was born at Northfield, Mass., and was graduated from Harvard Medical School. He was professor of minor surgery at the University of Minnesota.—Dr. Lewis R. Hurlbutt died at his home in Stamford, Conn., on February 14th, of pneumonia. He was seventy-eight years old.—Dr. Bickham, of New Orleans, died there on February 14th, aged sixty-nine. He was a native of Covington, La. He began the practice of medicine in Texas, but later went to New Orleans, where he became successively house surgeon of the Charity Hospital, demonstrator in anatomy of the Medical College, vice-president of the Charity Hospital, a member of the board of health, of the board of administrators of Tulane University, and also a member of the legislature. He was one of the board of yellow-fever experts in the late epidemic.

The Hospital Saturday and Sunday Association.—In consequence of a sleet storm, the attendance at church on Hospital Sunday was very small, with the natural result of a relatively small collection for the hospitals, the falling off in many instances being more than one-half as compared with former years. But for the untoward weather, the executive committee believes the church collections would have been the largest in the history of the association, since in a few instances when the collection was deferred to the following Sunday there was an increase in the offering over that of any previous year. The committee has therefore issued a special appeal to the public for additional contribution , offering "as a return for the favor . . . that an application for free hospital service in behalf of an employee or other sick person, made to the general agent of the association, will receive prompt attention."

The Late Dr. Thomas Hanlon Atkinson.—At a special meeting of the Practitioners' Club of Jersey City, held February 6, 1898, a committee was appointed to take action upon the death of our deceased brother, Dr. Thomas Hanlon Atkinson, and will offer the following report at the next regular meeting of the society:

"While as mortal men we can but rest content to live this life on earth as best we may, waiting for the summons to bow in obedience to the command of His eternal will, we still cherish the hope and are led to think that youth may always live the life of threescore years and ten: but when the earlier call is sounded and the time has come for us to end this strife on earth, we must cheerfully obey and willingly onward march to that eternal life 'which has been prepared for those that love Him.'

"Dr. Thomas Hanlon Atkinson has been taken from us in the prime of his life, when all was bright before him and the ardor of youth was stamped upon his brow.

"We had learned to love and respect our departed brother, and our associations with him were always pleasant and full of interest.

"We mourn the loss which we have sustained, and cruel is the blow which has taken from us for the first time a member of our society.

"While others may hope to take his place, still will we hold in reverence the one who has gone before us, resting content with the knowledge that he has claimed eternal life and reached the goal for which we can but strive to take.

"*Be it Resolved*, That we spread in full this tribute of respect upon our minutes, and a copy be forwarded to the Jersey City press, the medical press, and to the family of the deceased."

[Signed] G. K. Dickinson, M.D., J. M. Rector, M.D., F. F. Bowyer, M.D., *Committee.*

At a special meeting of the committee on necrology, of the District Medical Society, County of Hudson, State of New Jersey, held February 6, 1898, the following resolutions were unanimously adopted, and will be reported at the next regular meeting of the society:

"*Whereas*, Death has removed from our midst our beloved colleague, Dr. Thomas Hanlon Atkinson, a man who has merited the respect of his associates and the confidence of a large circle of friends and patrons in Jersey City; be it therefore

"*Resolved*, That in the loss of our late member, Dr. Thomas Hanlon Atkinson, the society mourns one of its most genial fellows, and the medical fraternity loses one whose future gave great promise;

"*Resolved*, That we hereby extend to the family of our lamented brother our heartfelt sympathy;

"*Resolved*, That these resolutions be spread in full upon our minutes, that they be published in the *Jersey City Evening Journal*, the Medical Record, the *New York Medical Journal*, the *Medical News*, and that a copy be sent to the family of Dr. Thomas Hanlon Atkinson."

[Signed] J. M. Rector, M.D., President; Henry Spence, M.D., Secretary; H. H. Brinkerhoff, M.D., Treasurer; J. A. Exton, M.D., Reporter, *Committee.*

Dr. John Gilbert Truax died February 16th, at his home at 117 East 127th street. He was born at Durhamville, Oneida County, N. Y., in 1848. After being educated at the University of Michigan he was graduated from the Rush Medical College in Chicago in 1871. From the time of his graduation until 1876 he was physician at the Kloman mine at Marquette, Mich. After coming to this city he became associated with the Harlem Hospital.

The Central Park Ambulance Service was abolished on February 1st, but so much inconvenience and delay has resulted from this that President Clausen, of the park board, has requested President York, of the police board, to have it restored.

Influenza in London.—The death rate in London rose last week to 21.5, the increase being due chiefly, it is thought, to the prevalence of influenza.

Respiratory Heart Movements.—A special cable dispatch to *The Sun* from Paris announces gravely that Professor Bouchard has discovered a new movement of the heart by means of the Roentgen rays. It is a rhythmic dilatation during respiration and is not connected with the ordinary movements of the heart.

Disease in Berlin.—An epidemic of some disease resembling in its chief symptoms trichinosis, but which is pronounced not to be trichinosis, is prevailing in Berlin.

Asking Much of Congress.—A resolution adopted by the quarantine convention in Mobile on February 11th declares that "it is the sense of this convention that Congress be requested to provide for a department of public health as soon as practicable; that Congress should enact laws to provide for an efficient maritime quarantine, to be uniform and impartial in its application to the different commercial ports of this country; that Congress should aid the several States in establishing and maintaining quarantine laws; that Congress should leave exclusively to the States the regulation of their purely internal commerce and the provision of such quarantine and sanitary laws and regulations as they may deem advisable to that end."

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Thirty-Sixth Regular Meeting, Held on Friday, January 7, 1898.

DR. W. GILMAN THOMPSON, PRESIDENT, IN THE CHAIR.

A Case of Spurious Appendicitis.—The patient, presented by DR. JOSEPH D. BRYANT, was a man, aged forty-seven years, who was admitted to Bellevue Hospital on December 17, 1897. He was an architect by profession, and at times indulged in alcoholic stimulants to an inordinate degree. At the time of his admission to the hospital he was supposed to be suffering from appendicitis. An examination showed that his pulse and temperature were normal, but he complained of extreme sensitiveness in the right iliac region. There were two scars in this region, and on close questioning the patient admitted that in July, 1895, he was operated on for appendicitis and the appendix removed. Nine months later he again developed symptoms of appendicitis, and another surgeon opened the abdominal cavity and removed, as the patient was informed, "a piece of diseased tissue." Dr. Bryant said that this patient illustrated the uncertainties of appendicitis. When the man recently presented himself at the hospital, he was just recovering from an alcoholic debauch, and his only symptom of appendicitis was the extreme hyperæsthesia of the abdomen in the right iliac region. The speaker said it occurred to him that the alcohol might have stimulated the symptoms which induced the surgeons to operate in the two previous instances.

DR. GEORGE L. PEABODY said that in these days of frequent operations for appendicitis the probability was that a frank confession on the part of some operators would lead to the discovery of quite a number of cases similar to the one described by Dr. Bryant. The speaker said he at present had under his care a woman with typhoid fever, who early in the course of her disease was operated on by a well-known surgeon, under the impression that she had appendicitis. The case proved to be one of typhoid fever, from which she was now convalescing. Her treatment, however, was much interfered with by her abdominal wound, which was of course unhealed when antipyretic treatment became necessary. She could not be bathed in a tub in the usual way; baths were administered in bed instead, with the usual frequency but with much less obvious benefit.

DR. A. A. SMITH said he also knew of an instance in which a typhoid-fever patient was operated on, under the impression that the case was one of appendicitis. This patient also recovered, but in spite of this fact, the speaker said, he thought Dr. Peabody would agree with him that an operation for supposed appendicitis was not a necessary or even a desirable adjunct in the treatment of typhoid fever.

DR. BEVERLEY ROBINSON said he knew of an instance in which about a year after removal of the appendix there was a recurrence of symptoms similar to those of the original attack. The patient was not operated on again and no abscess was made out, but the speaker thought it possible that in such a case the symptoms might be due to a localized peritonitis occurring after the removal of the appendix.

Operation for the Relief of Prolapse of the Rectum.—DR. JOSEPH D. BRYANT presented a man who had first come under his observation in 1893. The patient at that time was suffering from a marked prolapse of the rectum, for the relief of which he had been unsuccessfully operated on a number of times. At the time of the man's admission his condition was such that a radical operation was not warranted. About six months later an artificial anus was made in the region of the sigmoid flexure, with the view of side-tracking a certain amount of the fæcal discharge, and later, if necessary, excising the rectum. After this the man got along so well that for over two years he was not anxious to have anything more done. The infliction increasing, he was operated on again, October, 1896. The abdominal cavity was opened anteriorly, and the prolapsed gut drawn upward and sutured to the peritoneum and abdominal wall. The man made a good recovery, and since then there had been no recurrence. A very small opening still persisted at the site of the artificial anus made in 1893; this did not cause the patient any trouble excepting when he suffered from diarrhœa.

DR. WILLIAM T. BULL said he was very much interested in listening to the report of Dr. Bryant's operation for the relief of prolapse of the rectum, but he did not quite understand whether Dr. Bryant regarded it as a success or not. By the method described one might succeed in pulling up all the coats excepting the mucous membrane, and he gathered from Dr. Bryant's description of his case that there was still a prolapse of the mucous membrane. The only operation in these cases with which he had had any experience was the method of excision of the prolapsed portion or amputation of the rectum. This he had done in two cases, with results which were entirely satisfactory during the period the patients were under his observation—about one year after each operation. There was no relapse.

DR. BRYANT said that Dr. Bull was correct in his statement that, while the muscular coat of the bowel was drawn up very readily, there still remained some relaxation of the mucous coat. To this the speaker said he had intended to apply longitudinal cauterization, to remove it with clamp and cautery. This operation for prolapse of the rectum, Dr. Bryant said, was not a new one. It had been performed by various operators in twenty-nine cases, but, in view of the fact that it was first done in 1889, it could not now be said what the final outcome of this operative procedure would be. Of the twenty-nine cases on record there had been no return of the prolapse in twenty-two; in three there had been a partial return, and in four no benefit was secured by the operation. No death had occurred from the operation, and the patients had recovered promptly.

Suggestions as to Prophylaxis, Contagion, and Treatment of Pneumonia.—DR. BEVERLEY ROBINSON contributed this paper (see page 253).

DR. WALTER B. JAMES said he had never seen a case of acute lobar pneumonia which justified the assumption that it was the result of infection from another case.

DR. G. L. PEABODY said he could not agree with the statement made by the reader of the paper that it was possible to produce an aseptic atmosphere in the sick-room by the vaporization of creosote. Whether inhalations of creosote or any other agent in the form of vapor could materially affect the mucous surface of the respiratory tract was quite another question, but the speaker thought that any vapor which would prove fatal to the germs of pneumonia would at the same time be dangerous to human life. It was now a well-known fact that pneumonia might be, and often was, the result of a variety of micro-organisms—a mixed infection—and for that reason it was far beyond our power to combat the disease with any specific antitoxin, such as was employed in diphtheria. The speaker said that in his hands the antitoxin treatment

of pneumonia had not produced very brilliant success. About two years ago he bled a patient who had defervesced from lobar pneumonia, but still showed the physical signs of the disease. About twenty ounces of blood was taken, and its serum injected in divided doses into three patients suffering from pneumonia, the treatment covering a period of a week or ten days. In one of the cases the crisis appeared to be hastened and the patient made a good recovery; the second case was not at all influenced by the treatment and the patient died after a rather severe attack of pneumonia; the third patient ultimately recovered after an average duration of symptoms. Dr. Peabody said that last April he had treated eight cases of lobar pneumonia with subcutaneous injections of antistreptococcus serum, and in those cases the results were usually good. At the same time the epidemic was a mild one, and he did not ascribe the results to this method of treatment. The speaker said he had come to the conclusion that an intelligent symptomatic treatment was the best one to employ in pneumonia, according to our present possibilities. The pain should be relieved by morphine or hot applications; the cough, if it was distressing, by inhalations of chloroform or one of the various cough mixtures, and, if the symptoms demanded it, we had in the cold bath a remedy which was distinctly valuable. In all cases, especially those of the alcoholic variety, in which the patients were delirious and had a high temperature, no matter how great the prostration, the cold bath with friction as in typhoid fever, and repeated as often as necessary, up to once in three hours as a maximum of frequency, was the most important addition to our therapeusis in recent years. It was usually followed by a restful sleep, which often lasted for several hours. Dr. Peabody said he had never seen pneumonia spread from patient to patient, or to the nurse, or to any other member of the family. He did not wish to say that such infection did not occur, however, and its possibility should not be overlooked, although the necessity for isolation was not to be compared with that required when we had to deal with a case of scarlet fever or any of the other well-known infectious diseases. In conclusion, Dr. Peabody said he thought alcohol was the best heart stimulant in pneumonia. His results with digitalis and strophanthus in this disease had not been very good.

Dr. Andrew H. Smith said he had seen only one case of pneumonia in which he had reason to believe that the disease was the result of direct infection; that was the case of a hospital nurse, who, while attending very assiduously to a pneumonia patient, contracted the disease and died. The speaker said that, according to the recent observations of certain authorities, the original theory that in order to communicate either tuberculosis or pneumonia the sputa must be in a dry condition was questioned; since it was asserted that a person suffering from one of these diseases might by coughing exhale into the atmosphere a spray which would contain the micro-organisms of the disease, and that these might float in the air for several hours and exist as a distinct source of danger to the well. Dr. Smith said he agreed with Dr. Peabody that at present the symptomatic treatment of pneumonia was the most satisfactory one. He believed, however, that the time would come when pneumonia would be treated to a considerable extent by inhalations, especially if they could be resorted to early, before the alveoli were completely occluded. It was a well-known fact that there was no necessary relation between the amount of lung involvement and the danger in which the patient was placed; the latter depended chiefly upon the virulence of the systemic infection; yet there was a certain proportion of cases in which the lung conditions played a very important part, and death occurred as the result of overstraining and exhausting the right heart. The latter were usually alcoholic cases in which the vascular system was impaired. Dr. Smith said that one writer had reported excellent results from the persistent use of chloroform inhalations. If these reports were to be credited, it was probable that the beneficial effects of the treatment were due not simply to the soothing effects of the drug on the nervous system, but to its germicidal action as well. This action might not be sufficiently pronounced to destroy the life of the germ, but might be sufficiently so to inhibit its growth. According to Sternberg, so weak a dilution of turpentine as 1 to 75,000 would inhibit the growth of certain germs, such as Friedländer's pneumococcus. Pneumonia was essentially a process of germ culture. We had in the lungs the exceptional condition of air spaces which were in very close relation with an unlimited quantity of blood supplied through the functional circulation, and at the same time the structure of the lung was maintained by an entirely different circulation—that is, from the bronchial vessels. In a typical case of croupous pneumonia we had an infinite number of culture tubes or tiny test tubes which contained a culture medium supplied by the functional circulation and in which a rapid production of germs went on; this process did not necessarily involve to any great extent the actual structure of the lung. A proof of this was the rapidity with which the process in the lung subsided, leaving the lung structure just as it was before. There was no destruction of lung tissue as in gangrene, in which the process probably actually involved the nutritive circulation. In closing, Dr. Smith expressed his belief that if turpentine or creosote could be introduced into the lung in considerable quantities in a case of pneumonia, it would at least lessen the activity of the process by which these germs were multipled and by which the formation of the toxins was carried forward.

Dr. F. P. Kinnicutt said that in the majority of cases of pneumonia many of the symptoms, and certainly the fatal issue, were attributable to the general toxæmia rather than to mechanical interference with respiration or circulation. This was strikingly shown in the rapid fall of temperature and pulse in defervescence, the physical conditions in the lung remaining unchanged. As regarded treatment, Dr. Kinnicutt said that the results of the symptomatic treatment of pneumonia certainly had not been encouraging. It had not succeeded in reducing the mortality to less than thirty per cent. in the great hospitals. In view of such figures, it must seem that all means directed to other than a simply symptomatic treatment should be carefully considered. A specific treatment with antitoxins was perhaps not a therapeusis of the future. That different varieties of pathogenic micro-organisms were capable of producing a true lobar pneumonia was believed by many at the present time. In streptococcus pneumonia the antistreptococcus serum might be used, and indeed its use apparently had been attended with benefit. In cases in which the toxic symptoms were marked, with high temperature, delirium, etc., the cold-water treatment in many instances in his personal experience had proved very efficient. He believed that its good effect was something more than the reduction of temperature attainable by its employment, that it probably acted as a potent stimulus to the nervous system. Inhalations of creosote, he thought, might be of value in ameliorating some of the symptoms of the disease.

Dr. A. A. Smith said he thought the question of the communicability of pneumonia was still unproven. He recalled several instances in which the disease was apparently communicated from one to another; one instance in which four members of the same family developed the disease, one after another. The speaker

said he accounted for this by the fact that the members of that family were greatly interested in each other, and the worry and anxiety attending the care and nursing, the inability to take food, and the want of rest had diminished the resisting-power in each case. In another instance a mother, nursing a child suffering from pneumonia, had developed the disease. The worry and anxiety had in the same way lessened the resisting-power. All practitioners had seen in the large hospitals pneumonia patients occupying beds directly next to patients confined by illnesses of one kind and another, and yet how rare it was to see cases of pneumonia develop in hospitals, as the result of such apparent exposure. The strongest argument in favor of its communicability was to be found in the reports of large numbers of cases occurring, one after another, in institutions where many persons are confined in close quarters, as in prisons and other like places.

Dr. Smith said he was optimistic enough to believe and hope that we might some day treat pneumonia by means of an antitoxin with satisfactory results. He was in accord with what had been said regarding the value of the cold bathing in serious cases of pneumonia. He did not favor the plunge bath, but rather the modified bath, sponging, "bed bath," local applications of cold. Within the past two or three years he had used with very satisfactory results cold compresses applied to a portion of the body, preferably to the thorax, as being more convenient. He used this kind of pack at a temperature of 70° or 65° F., depending on the severity of the case and the effects produced, changing the pack every hour during the day and every two or three hours during the night. He did not believe it produced any effect on the local process, but it gave great comfort, quieting the nervous manifestations, producing sleep, improving the pulse, and lowering temperature. It seemed to him that any treatment which made the patient more comfortable must influence favorably the progress of the disease.

Dr. Robinson, in closing the discussion, said he did not agree with those who spoke in favor of the cold baths in pneumonia. He did not think they were indicated in this disease, and even in typhoid fever he thought the value of this therapeutic measure had been overestimated. In pneumonia, particularly in the early stage, as well as in other forms of bronchial inflammation, inhalations of creosote proved very beneficial. The speaker said he had given this remedy repeated trials in pneumonia and felt convinced of its utility. As regarded the treatment of a failing heart in pneumonia, Dr. Robinson said that in some instances not much could be done for it. He had often employed alcohol, strychnine, and digitalis in such cases, without much apparent benefit.

THE NEW YORK MEDICO-SURGICAL SOCIETY.

Stated Meeting, February 7, 1898.

John Blake White, M.D., President.

The General Diagnosis and Treatment of Acute Intestinal Obstruction.—Dr. Frederick Kammerer read a paper with this title. He said that it was well to differentiate between cases which are acute anatomically and clinically and those in which an acute attack was engrafted upon a chronic condition. Habitual constipation alternating with diarrhœa might have been, for a long time, the only indication of a gradual narrowing of the bowel. Suddenly complete obstruction became established. Such cases often presented the same clinical appearance as those of acute obstruction. He had met with five cases of this kind, in all of which the large intestine had been the seat of disease. In four of them constricting cancer was the cause, and in one the trouble arose from adhesions to the gall bladder. In only one had he been able to make the diagnosis before operation, but in all there were signs pointing to obstruction rather than to strangulation. A high degree of stenosis might exist for a long time without giving rise to well-defined symptoms of obstruction. This was more especially true of the small intestine, because of the greater fluidity of the contents of this portion of the bowel. The explanation of this absence of symptoms seemed to be in the compensatory hypertrophy of the muscular coat above the seat of stenosis. It was only when this hypertrophy became insufficient, or the stenosed opening became blocked with food, that the patient was made aware of the existence of the obstruction by the development of colic.

Important Diagnostic Signs. — The speaker laid great emphasis upon the presence of visible intestinal peristalsis as a diagnostic sign of great importance, and reported several cases illustrating its value. Some authors, he said, believed that this sign was rarely met with, but, according to his experience, it was present at some moment in all acute cases, and could be detected if sufficient attention was given to its discovery. Another important sign was localized meteorism. The gases formed in the occluded bowel were not absorbed and removed, and hence the loop became distended before the other loops of intestine more distant from the seat of the stenosis. This sign was especially valuable, because it often enabled the surgeon to locate the obstruction. Localization of pain in the small intestine, as had been well shown by Treves, could not be considered of much importance, though undoubtedly the pain was more intense when the small intestine was involved than when the large bowel was the seat of stenosis. In every case of acute intestinal obstruction that he had met with, the condition of collapse had been well marked, and had been more pronounced in obstruction of the small than in obstruction of the large intestine. In volvulus of the sigmoid flexure the collapse was usually of the severest type, and the rapidity with which it often set in seemed to confirm the view that it was largely due to nerve reflex.

As to the treatment, laparotomy was generally indicated. The location of the incision was of much importance. When the seat of obstruction could be determined with considerable accuracy, the incision should be made in the median line, or at the outer border of either rectus, depending upon which approached most nearly to the supposed seat of the trouble. The operator should be very cautious about exerting even gentle traction on the coils of intestine. For this reason he did not agree with those who always favored making the median incision. Of course, if there was doubt regarding the situation of the lesion, an incision should be made in the median line, from the symphysis to the umbilicus. His rule was to pass his hand first into the cæcal region, and then toward the sigmoid flexure in a gentle search for the point of occlusion. Intra-abdominal search could be accomplished, however, only at the cost of much handling of the intestine and loss of time. He had not derived much benefit from puncture of the bowel and evacuation of gas, because it was a tedious process, and difficulty was often experienced in replacing the bowel. An artificial anus in the small intestine should be rarely established—only when the condition of the patient was such as to render any other procedure hopeless. It was true that certain forms of obstruction, such as intussusception and acute closure of a chronic stenosis, might be relieved without surgical

interference, and that in very exceptional cases volvulus might be recovered from spontaneously. The best medical treatment seemed to be the administration of opium and lavage of the stomach. In particularly acute cases, if the lesion could be localized within the first day or two, an attempt might be made to relieve the obstruction by the measures just mentioned; if, however, there was much doubt, no time should be lost in resorting to operation. Dr. Kammerer thought that the best results would be obtained if all cases of intestinal obstruction were operated upon as soon as the diagnosis had been made, although he would admit that this would be very unscientific.

Inflammatory and Non-Inflammatory Obstruction.—Dr. Lewis A. Stimson said that he had been very much interested in the remarks made about visible intestinal peristalsis, because he had not noted it in the cases that had come under his observation. This might be because he had not looked for it specially, but he could hardly believe it would be observed in very obese subjects. Then again, however constant it might be in chronic obstruction of the intestine, it did not seem to him to furnish a proper guide to the nature of the obstruction. It was necessary, in other words, to know something more than the mere fact that obstruction existed. Mechanical obstructions might be either inflammatory or non-inflammatory. It was of the utmost importance, for both the physician and the surgeon, that the cases should be properly separated into broad classes. We should divide them into mechanical and functional. In cases of mechanical obstruction—*i.e.*, those in which the lumen was occluded by some growth or by some pressure from without—we must determine whether that obstruction was due to a cause which also produced an inflammatory condition, or not. Inflammation might be present, and this depended very largely upon the time at which the case was first seen—in other words, the inflammation might be incidental or essential. For example, a simple band running along a loop of intestine might cause obstruction, but no inflammation, mechanical violence, or peritonitis, and this condition might continue for a week without the slightest sign of peritonitis. If it was high up in the intestine there might not even be any abdominal distention. On the other hand, if a knuckle of gut was caught so that its mesentery was pinched, then there would be all of the symptoms of a strangulated hernia. In the first case palliative measures were appropriate; the second demanded prompt operative interference. But it was difficult to distinguish between these cases, because the surgeon did not usually see the patient until laxatives and enemata had been given or lavage of the stomach had been practised. The abdomen had already become greatly distended, so that the examination had no practical value, and the surgeon's only reliance was upon the history. The age of the patient gave a clew to the nature of the strangulation, for, if the patient was over fifty years of age, in nine cases out of ten the obstruction would be found to be due to a malignant growth of the large intestine. To be sure, there might be a volvulus, but this was a very rare condition—he had seen only two cases of volvulus in twenty years. In cases of cancer of the intestine he had found one symptom very constant—*i.e.*, a slight, dull pain at some one point in the intestine for weeks or months before the acute symptoms developed. It was very rare to find these neoplasms in young people. Two cases were cited in which the presence of supposedly malignant neoplasms had been proved by inspection, yet the patients regained perfect health and the tumors spontaneously disappeared. He was inclined to think these growths in young people were syphilitic.

Collapse.—That collapse was not dependent upon the mere obstruction of the intestine was shown by the fact that stenosis of the bowel might exist for a long time without collapse, but if in addition there was strangulation collapse almost immediately developed. In non-inflammatory obstruction the urgent indications might be met by establishing an outlet for the fæces.

A Ghastly Record.—The record of laparotomy for intestinal obstruction was a ghastly one. In cases of strangulation death was certain, and the surgeon must decide whether or not he was willing to hasten the fatal termination by operating. Some years ago Nélaton had laid down the rule that in the majority of cases it was safer and better to make an incision in the right iliac region and incise the presenting intestine. This procedure would very commonly meet the urgent indications, and not subject the patient to great risk. It could be done quickly, and even without a general anæsthetic.

Peristalsis may be Visible in Obese Individuals.—Dr. A. G. Gerster said that he had not infrequently observed the characteristic peristaltic motion of the intestine which was acutely occluded, and especially in cases of chronic obstruction in which there was a gradual narrowing of the lumen, as from cancer. He had observed this even in very obese individuals. If the peristalsis could not be seen, still it could often be felt. Early opening of the intestine on the proximal side in these cases usually gave very good results. They were not very urgent, and the surgeon would often have four or five days in which to decide regarding the treatment. Dr. Gerster described a desperate case of carcinomatous obstruction of the bowel, in which the distention of the bowel had been so extreme that it had not been feasible to stitch the bowel to the abdominal wall, as in the ordinary operation for colotomy. He had, therefore, surrounded the presenting portion of intestine with iodoform gauze, and had freely incised it. This protection of the general peritoneal cavity had proved entirely sufficient, and the patient had made a good recovery from the operation. It was very important to observe the distinction made by Dr. Stimson between non-inflammatory and inflammatory obstruction. In the former case the symptoms were rarely very acute; in the latter, when the circulation in the wall of the bowel was interfered with, there would be early, frequent, and severe vomiting.

Nélaton's Procedure Recommended.—In those cases in which palpation and the history did not furnish sufficient data for a diagnosis, he also favored Nélaton's plan of making an incision in the right iliac region, and incising the bowel which there presented. If the surgeon was associated early with a physician in the treatment of cases of intestinal obstruction, comparatively few would be allowed to reach the hopeless stage before an operation would be undertaken.

Obstacles in the Way of the Surgeon.—Dr. Parker Syms said that the chief difficulty the surgeon had to contend with in these cases was the lack of personal knowledge of the conditions present in the early part of the onset. The history was often very misleading—as, for example, in the chronic cases, in which it usually dated only from the onset of the acute symptoms. In cases of inflammatory obstruction it seemed to him that Nélaton's plan would not be sufficient, for, while it relieved distention and some of the acute symptoms, it certainly in many instances would not admit of treatment of the inflamed and probably gangrenous gut. He had met with three cases of complete obstruction from bands, all of which had been relieved by operation. In patients in whom an ordinary laparotomy would probably prove speedily fatal by reason of the bad condition of the patient, Nélaton's operation would be perfectly proper as a palliative measure. The success obtained in the treatment of cases of intestinal obstruction depended, in a very large measure, upon the general practitioner, as he

was the one who usually saw these cases at the beginning.

A Story with a Moral.—Dr. Frederick Holme Wiggin said that the great mortality following operations for intestinal obstruction was due, in his opinion, to the delay in operating. The usual history was that the attending physician had purged the patient freely with salines, and had lost very valuable time before calling in a surgeon. He referred to a case in which the patient had refused operation and the friends had besought him to give morphine. He had given one dose, but, finding no amelioration of the symptoms, he had positively refused to continue its administration. Finally consent was obtained to an operation, and when it was performed it was evident, from the beginning gangrene of the parts, that had he yielded to their entreaties and continued the morphine, death would have been the result. It should be remembered that occlusion of the large intestine might exist for ten days or two weeks without any marked symptoms except vomiting. In chronic cases there was often a history of a blow or some injury which would aid one in locating the seat of the trouble. If there was a history of obstipation, and rectal examination and rectal enemata gave a negative result, there was reason for believing that the case was one of intestinal obstruction. The general practitioner often made the diagnosis of intestinal obstruction, but delayed sending for a surgeon until he had determined the particular cause of the obstruction.

Guided by the Pulse Rate to the Diagnosis.—Dr. A. Palmer Dudley said he did not believe that rectal enemata were of any value in making the diagnosis, and, more than that, he was of the opinion that they were very misleading. He was guided almost entirely by the pulse. In intestinal obstruction the pulse rate could not be brought down and kept down to a moderate figure, no matter what the form of the obstruction. A rapid pulse, with considerable thirst and vomiting and localized tenderness, were the main points on which he relied for establishing the diagnosis. He was not afraid of cases of intestinal obstruction, provided he saw them at an early stage and the patient had not previously been subjected to surgical operation. In three cases in which there had been operation previously, death occurred, not from obstruction, but from shock.

Dr. Kammerer, in closing, said that it had been his lot to see a number of cases of cancer of the bowel, occurring in young subjects. Vomiting and collapse did not come on early in cases of simple obstruction of the bowel, but they did appear later on, as a result of the constriction of the peritoneal surfaces. He could not agree with Dr. Dudley regarding the bad prognosis in post-surgical obstruction; on the contrary, his experience had been that the prognosis was better than in other cases.

Does the Theory that Typhoid Fever Can be Aborted Conflict with any Established Law of Pathology or with Any Known Scientific Fact?—Dr. John E. Woodbridge, of Cleveland, Ohio, read a paper with this title. He first quoted freely from medical literature, to show that many authorities were utterly sceptical as to the ability of the physician to cure typhoid fever or to abridge its duration. Thus, Osler says: "No known drug shortens by a day the course of the fever. We are still without an agent which can counteract the agents developing in the course of acute febrile diseases." Yet it seemed to him absurd to claim that, because no one had ever cured typhoid fever, it could never be cured. The abortive treatment, he claimed, was both rational and scientific. Ague was a specific disease, yet it could be aborted by quinine. He had been much gratified at the number of physicians who had reported favorably on his method. So far as he knew, there had been only fourteen dissenting opinions among those who had spoken from experience. He challenged the naming of one law of science which was violated in this treatment.

The Toxæmia and Not the Typhoid Ulcer Constitutes the Essence of the Disease.—One prominent argument against the possibility of aborting typhoid fever was that the characteristic feature of this disease was an ulceration of certain intestinal glands, and that, as these ulcerations took four weeks to heal, it was impossible to terminate the disease process in a shorter period. There was a fallacy, however, in this reasoning, for such an ulcer on the surface of the body, if kept aseptic, would heal in three or four days instead of weeks, and would not cause a perceptible acceleration of the pulse or respiration, or cause headache or delirium, or elevate the body temperature more than one-fifth of a degree. These other symptoms were due to the toxæmia, and it had been repeatedly demonstrated that these symptoms could be aborted while the ulcerations of Peyer's patches were far from having healed; their improvement or disappearance simply meant that the toxæmia, which was the disease, had been successfully controlled. Dr. Woodbridge said that, while he availed himself whenever possible of the aid furnished by the laboratory, those engaged solely in laboratory research were apt to be unsafe guides, intolerable masters, and dangerous leaders.

Sceptical about Aborting Disease.—Dr. William Henry Porter said that primarily the term "abortion" seemed to him a bad one, and applicable chiefly to the abrupt cutting off of intra-uterine life. The application of the term to the modification of disease seemed to him unfortunate and confusing; it would be better to speak of the prevention of disease and the shortening of its duration. Although a firm believer in the action of drugs, he was equally positive that we did not cure any disease, though we might assist nature in curing a condition which we termed "disease." He could not conceive of the possibility of the "abortion" or instantaneous arrest of such a complex condition as was found in typhoid fever. In the first place, the individual was rendered susceptible to the introduction of the germ and the toxin, and after a period of incubation the system became filled with the germs and their toxins, and, in time, the whole system assumed a pathological state. He could not conceive of a physician being able to "abort" such a condition. No doubt we could help nature in eliminating these toxins, and in this way do much to shorten the disease and diminish its intensity.

Does Typhoid Abort Itself?—Dr. M. Manges said that the reader of the paper, by his many quotations, had left some doubt as to his exact position regarding certain important points—such, for example, as the specific nature of Eberth's bacillus. If the Widal reaction was reliable, we must accept the specificity of Eberth's bacillus. He could quote more than five thousand cases, in which ninety-eight per cent. of the cases of typhoid fever had been diagnosticated by the Widal reaction. It was entirely misleading to go back to the early part of the century, or earlier, for justification of arguments, because typhus fever and typhoid fever were not properly distinguished at that time. The mere shortening of the duration of the disease was not what he understood by the term "abortion." To his mind, the real question for discussion was: "Can typhoid fever be aborted, or does it, at times, abort itself?" Every one who had seen much of typhoid fever knew that it aborted itself frequently. If we only knew the *modus operandi* of this process we could then speak intelligently of the "abortion" of typhoid fever.

Many Opportunities for Erroneous Diagnosis.—Experienced physicians were often in grave doubt

about the diagnosis of typhoid fever, even with all the advantages offered by the laboratories of the present day; yet Dr. Woodbridge insisted that we should not wait to make the diagnosis, but should proceed at once to the treatment. In the Mount Sinai Hospital, of the cases presenting the usual clinical features of typhoid fever, eighteen per cent. did not respond to the recognized reactions of this disease. It was easy to see, therefore, that there were many chances for error in collecting statistics.

Intestinal Antisepsis a Myth.—The Eberth bacillus might be in the blood, in all the organs, and in the secretions, and, if we were to abort the disease, where could we do it? According to numerous experiments, the aborting could not take place in the blood or in the various organs. The only place in which it seemed possible for it to occur was in the intestine. From a careful study of this part of the subject, he had come to the conclusion that it was absolutely impossible, in the normal individual, to disinfect the intestine even moderately. If there was any disease in which intestinal antisepsis was notoriously uncertain it was cholera, and yet cholera was essentially a disease of the intestinal tract. He did not doubt the sincerity of the position so vigorously defended by the reader of the paper, yet he could not accept it, and time alone must prove its correctness or falsity.

Shortens but Does Not Abort Typhoid Fever.—Dr. A. R. Robinson said that the term "abortion" seemed to him sufficiently accurate, if by that was intended the cutting short of the duration of the disease. Typhoid fever belonged to a class of diseases—such as scarlet fever, measles, and syphilis—in which immunity was conferred for a certain length of time. Unfortunately, even at the present time, we did not know what was meant by "immunity." The varying duration of individual cases of these diseases was probably due to the varying rapidity with which immunity was conferred upon the individual. It was well known that a woman receiving syphilitic infection through the child *in utero* recovered very quickly from the disease—in other words, she had received but a small quantity of the toxin and had been quickly rendered immune. Hence, in a general way, any method of treatment which would inhibit the life action of organisms, or reduce the amount of toxins or ptomains, should shorten the duration of the disease. The improvement in the symptoms in the cases related by Dr. Woodbridge was no proof that the specific bacilli had been destroyed; it showed only that the toxins were removed. The same was observed in syphilis after active mercurial treatment, but it by no means meant that the disease had been aborted.

Typhoid Fever Begins as a Local Sepsis.—Dr. A. Palmer Dudley said that he believed that typhoid fever was a septic fever, with a local manifestation, just as in diphtheria and in uterine sepsis. He believed it was, in the beginning, a local sepsis, originating from some point in the gut, and that the general process was secondary, just as in diphtheria. This view, of course, compelled him to believe that the treatment was essentially local—in other words, intestinal. He had had a fairly large experience with typhoid fever, and had not yet lost a single case. In a case just now convalescent, he could positively assert that he cut short the disease fully two weeks by intestinal washing and the free internal use of antiseptics. This treatment had quickly controlled the fever and caused a prompt subsidence of the other symptoms, just as was observed when, by local means, the septic process in a uterus was controlled. In order still further to inhibit germ life, it was his custom in cases of typhoid fever to keep an ice coil constantly on the abdomen, and as cold as the patient could tolerate.

Dr. Manges remarked that typhoid fever was known to exist without any intestinal lesions whatever; hence the disease was a systemic one, with, at times, a local manifestation in the bowel.

The Treatment Stimulates the Normal Antitoxins.—Dr. John Blake White said that when he had first heard of the Woodbridge treatment he had been sceptical, but had nevertheless investigated it carefully and impartially. The result of this study was that he had become thoroughly satisfied that the antiseptic treatment of typhoid fever was the true method. He exhibited several charts of recent cases in support of his position. No method of treatment, he said, would be thoroughly satisfactory if one delayed instituting it until the diagnosis had been established beyond a shadow of a doubt. These remedies stimulate the normal secretions of the intestinal tract, and these secretions act as antitoxins; hence the treatment was thoroughly rational and scientific. It was impossible for any one to say that it was or was not necessary thoroughly to antisepticize the intestine. In many cases of worms in children he had succeeded in expelling the worms by very small doses of camphor; hence one should not speak too absolutely regarding the dosage of antiseptics intended to exert their action in the bowel.

Dr. Woodbridge, in closing, said that he had been surprised at the apparent unanimity of opinion here regarding the ability of the physician to cure typhoid fever. As to the use of the term "abortion," Dr. Frank P. Foster claimed, in his dictionary, that this use of the term, as synonymous with "abbreviation," was sanctioned by good authority and was a correct and accurate use of the word. If typhoid fever was subjected to this method of treatment as early as the sixth or seventh day, it would be found almost invariably that the disease would be so mild that the patient would be walking around the house with an excellent crop of rose spots on the body. It had frequently happened to him that he had succeeded in aborting the disease, and a few days later there had been a relapse with high temperature and perhaps severe or fatal intestinal hemorrhage. He believed that antiseptics acted not only in the intestinal canal, but also in the circulation. He believed that guaiacol, at least, was capable of doing so, and in this way counteracting the toxins of the disease. The fact that Eberth's bacillus found its way through the blood and all the tissues of the body did not prove that the disease was incurable, any more than in the case of the malarial plasmodium.

THE NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 12, 1898.

Warren Coleman, M.D., Vice-President, in the Chair.

Two Cases of Abscess of the Liver.—Dr. Harlow Brooks presented a specimen from a case of abscess of the liver. It was removed from a woman, fifty-six years of age, a cook by occupation. She was admitted to Bellevue Hospital on July 15, 1897. She was of intemperate habits, but had had good health previously. Three weeks before admission she became overheated, and then began to have nausea and vomiting and pain in the abdomen. This was followed by a series of chills, with elevation of temperature. Examination showed the patient to be poorly nourished. Over both lungs posteriorly breathing was high pitched, probably because of the thin chest wall. The liver was slightly enlarged, and its free border was firm and sharp. The spleen appeared to be normal. The temperature range was somewhat like that of typhoid fever, but the Widal reaction gave a negative

result. There was some leucocytosis present. The patient died after having been in hospital about one month. No diagnosis had been made. On autopsy the lungs were found to be emphysematous, and there were several cicatrices in the apices, evidently tuberculous. The inferior surface of the right lobe of the liver was firmly adherent to the subjacent tissues, and on separation of the adhesions a large quantity of greenish-yellow pus escaped from the lower surface of the liver. The right lobe of the liver was found to be completely riddled with large abscesses, which were limited by firm walls of dense connective tissue. The cavities were lined with granulations, apparently not tuberculous. The lower wall was formed by dense peritoneal adhesions. A pin, encased in calcareous matter, was dislodged from the wall of the main abscess cavity. It was a pin of ordinary length and appearance, except that owing to the calcareous deposit it measured three millimetres in diameter. The liver, after removal, weighed two pounds and ten ounces. The gall bladder was small and contained a small quantity of light yellow mucoid secretion. The lesser curvature of the stomach was involved in the adhesions already referred to. Ten centimetres from the œsophageal opening the mucous membrane presented an old circular cicatrix, fifteen millimetres in diameter, surrounded by a ring of indurated tissue. There was no evidence of recent inflammation. The base of the cicatrix was very thin, and it was evident that at one time there had been perforation of all the coats of the stomach. This ulceration was directly below the centre of that portion of the liver containing the abscess cavity. In other respects the autopsy was negative. This was the only case he had been able to find, in which a pin had been found in the liver of a human being. He had found three cases in which foreign substances had been known to enter the liver of lower animals through the stomach, giving rise to liver abscess.

The second case was that of an Italian mechanic, thirty-seven years of age. He had had no previous illness, and denied syphilis. Three months previously he began to cough, lose flesh, and have night sweats, and this had been followed by emaciation and rapidly failing strength. He had also had pain in the right side of the chest for some time past. The expectoration was muco-purulent, and was said to have been bloody at first. Examination showed him to be poorly nourished and slightly anæmic. Over the lower half of the left side of the chest posteriorly there were marked dulness and diminished vocal fremitus. There was also dulness over the right apex, and the breathing and voice were slightly bronchial. The apex beat of the heart was normal, and the pulse was soft and regular. There was a systolic murmur over the aortic area, transmitted down the sternum. The liver and spleen were apparently normal. On introducing a needle in the eighth intercostal space on the right side posteriorly, two drachms of thick purulent fluid were removed, and then a clinical diagnosis was made of empyema. The bacteriological examination showed this fluid to be sterile and to be free from tubercle bacilli. On December 10th an incision was made in the eighth intercostal space, under cocaine anæsthesia, but on introduction of a trocar into the pleural cavity no fluid was withdrawn. The lung retracted immediately when the chest was opened. On December 13th pus was drawn from the chest, but was found to be sterile. The man was then etherized and the wound was enlarged to three or four inches in length. A portion of the eighth rib was also removed, but no pus was found. A drainage tube was inserted. On December 14th the dressings were saturated with sero-sanguineous fluid, but no pus was present. The body temperature was 103° F., and the man complained of pain. Examination of the blood showed sixty per cent. of hæmoglobin. Three days later the patient felt more comfortable and the temperature was only 100° or 101° F. A long, sterile, rubber catheter was introduced deeply into the pleural cavity, but no adhesions were found. Two drachms of slightly turbid serum followed the withdrawal of the catheter. A week later it was noted that the discharge was distinctly purulent, and on introduction of the catheter six or eight drachms of pus were evacuated. The patient died that evening. The autopsy showed an abscess cavity, six centimetres in diameter, located over the right middle lobe and surrounded by uninvolved pleura. Posterior to this was another area in which the pleural sac was covered by a purulent effusion to the depth of two or three millimetres. The cavity contained about thirty cubic centimetres of purulent fluid. The capillaries of the left pleura were injected, but there was no septic infection. The condition of the pericardial sac was negative, except that it contained fifteen cubic centimetres of clear fluid. The right ventricle contained a small quantity of ante-mortem clot. The aortic and mitral segments were slightly thickened; the valves of the right heart were normal; the coronary arteries showed a few sclerotic patches. The heart weighed nine ounces. The tissue of the right lung was collapsed, firm, and congested, and the top of the lower lobe was the seat of a broncho-pneumonia. The left lung was much congested. The branches of the pulmonary artery were distended with post-mortem clot. The surgical incision entered the right pleural cavity. The liver was large, and its capsule was smooth. The left lobe was divided so as to form a supernumerary lobe. The lower portion of the right lobe was the seat of a large abscess. This abscess cavity was lined with a thick pyogenic membrane, and contained thick odorless pus, of a light chocolate color. There was no evidence of perforation or of remaining liver tissue. The gall bladder contained fifteen cubic centimetres of dark green mucilaginous bile. There were no peritoneal adhesions. The mucous membrane of the stomach was slightly congested. There was evidence of a small ulcer, one centimetre in diameter, situated on the posterior inferior aspect, near the pylorus. It was completely healed over, and apparently had never perforated below the submucosa. No lesion of the external wall could be found, and the ulcer probably bore no relation to the liver abscess. In other respects the autopsy was practically negative. The microscopical examination of the abscess wall showed old interstitial connective tissue, covered with granulations which were not tuberculous in character. Dr. Brooks thought it probable that at the time of the former ulceration an embolus had been swept into the portal vein, and had lodged in that portion of the liver in which the abscess was found.

Dr. W. G. Le Boutillier said, regarding the second case, that he felt somewhat differently now about the diagnosis than at the time the case occurred. It would seem at first to be rather easy to differentiate suppurations of the pleura from those of the liver, especially with the aid of bacteriology; nevertheless it was impossible in certain cases. Abscesses of the liver had been known to be sterile, or to contain pyogenic germs and even the pneumococcus. If the typhoid bacillus or the colon bacillus was found in the pleural cavity, one would at once recognize that the empyema was not an ordinary one. In recent discussions regarding the treatment of empyema, a distinction had been made abroad which did not appear to have been made in this country—namely, that an empyema caused by the pneumococcus might be treated by aspiration with a good probability of recovery without further interference, while other empyemata required free incision.

Dr. George P. Biggs asked Dr. Brooks whether

lesions of the alimentary canal, particularly of the colon, had been excluded.

Dr. Brooks replied that this had been done, not only by gross but by microscopical examination. A careful search had also been made for the colon amœba, but with negative result. In the walls of the abscess there had been a few micrococci and some bacilli, apparently colon bacilli. It should be understood that the pus from the abscess cavity was itself sterile. An amœbic abscess, he thought, could be positively excluded in this case.

Cirrhosis of the Liver in a Child.—Dr. Rowland G. Freeman presented the following report: A Syrian boy, ten years old, had been admitted to St. Mary's Hospital on September 10th and had died on December 18th. There was a history of measles and whooping-cough some time before. Ten months previously there had been some illness, with fever and pain, but no further details could be obtained. One month before admission the child had developed œdema of the feet and dyspnœa, and the urine had become scanty. There had been no chills. On admission he was jaundiced; the tongue was heavily coated and moist; the urine had a specific gravity of 1.022 and was free from albumin and casts. There were marked enlargement of the abdomen, dulness on percussion, and an impulse. The liver was enlarged to three inches below the free border of the ribs. It was firm to the touch, and its upper border was at the fifth space. The spleen was markedly enlarged. The examination of the heart and lungs was negative. On September 17th he passed some tapeworm. On October 14th the urine contained a trace of albumin, and he then developed considerable ascites. Early in November a gallon of clear fluid was evacuated, and he was tapped repeatedly after that. Examination of the blood on November 19th showed sixty per cent. of hæmoglobin and slight leucocytosis. He was finally transferred to the surgical ward, and died a few days later. The autopsy was made nine hours after death. The body was greatly emaciated. The abdomen contained ten ounces of slightly turbid fluid. There was general peritonitis, with fibrinous exudate and many loose adhesions. The lungs showed chronic congestion. One bronchial lymph node, half an inch in diameter, was found to be cheesy and tuberculous. This was the only evidence of tuberculosis in the body. The anterior mediastinal lymph nodes were enlarged, but showed nothing except cellular hyperplasia. The liver was large, bound down by adhesions, and pushed upward by the distention of the intestine. It was pale and very hard, and its cut surface was of a light color. The fibrous tissue about the vessels was very distinct. There were purple areas, about the size of a pin's head, on the cut surface. The spleen showed perisplenitis. It extended to the nipple line and to the free border of the ribs. The organ was pale and rather hard. The capsules of the kidneys were adherent, and the markings were indistinct. The suprarenals were normal. The pancreas was hard. In the colon, about twelve inches above the anus, was a polypoid growth. On microscopical examination of the liver there was evidence of marked cirrhosis, with hypertrophy of the bile ducts, and very considerable increase in the interlobular connective tissue. The pancreas showed the so-called lymphoid nodules. The kidneys showed parenchymatous nephritis. The polypoid growth in the colon contained tubules lined with cylindrical epithelium.

Dr. Freeman said that cirrhosis of the liver was rare in childhood, and still rarer in infancy. It occurred mostly between the ages of nine and fifteen years. A case had been described by Oliver in an infant, three months old, and Northrup had reported in 1883 a case in a child, four and a half months old. Of one hundred and thirty cases collected by Hatfield, thirty-two were alcoholic. In the present case there was no history of alcoholism or of syphilis. In sixty-five cases collected by Howard, fifteen per cent. were alcoholic, in eleven per cent. there was a history of syphilis, and in eleven per cent. a history of tuberculosis. In some of the cases there had been preceding eruptive fevers, and in a few instances it had been thought that malaria was an etiological factor. Sections of the liver from Dr. Freeman's case were exhibited under the microscope, and also a section of the pancreas showing the lymphoid nodules.

Dr. E. Hodenpyl said that he had seen several sections from this case of cirrhosis of the liver. It seemed to him there was in the liver a very marked reproduction of the bile ducts, or rather a marked new formation of the bile ducts, and that the production of fibrous tissue was relatively enormous for the liver of such a young child. In addition to the ordinary lesions of cirrhosis there were certainly present very well-marked hyperplastic lymph nodules, not only in the liver, but also in the pancreas. In the latter they were rather numerous and quite distinct. From the history he was of the opinion that there might have been an acute infectious disease as the starting-point; probably the cirrhosis was only one of the expressions of an acute infection. These nodules had been found repeatedly in many of the acute infectious diseases, notably typhoid fever. Possibly the cirrhotic process, instead of being a chronic interstitial hepatitis, was really a replacement fibrosis, due to auto-intoxication with necrosis of the cells and their replacement by new fibrous tissue.

Dr. James Ewing said that he did not see the evidence on which was based the opinion that these small round cells were lymph nodules; they looked to him more like the ordinary mononuclear cells associated with chronic inflammation.

Dr. Hodenpyl said that the nodules to which he had special reference were sharply circumscribed, and were best seen in the pancreas. They were composed strictly of mononuclear cells, and were certainly not leucocytes. Between the cells was a fine, delicate reticulum. This was an organized tissue, in that it contained blood-vessels which traversed these small nodules.

Dr. Freeman thought the nodules in the pancreas answered fairly well to the ordinary description of the muco-lymphoid nodules occurring in typhoid fever, and sometimes in the liver.

Dr. Ewing believed that these lymph nodules were found most abundantly in the capsule of the liver, and that they were also sometimes seen in abundance throughout the section of the lobe in the livers of infants. He did not know that they were recognized as accompanying the lesions of such a cirrhosis as was present in this case.

Dr. George Biggs asked if there was any evidence to show that these lymph nodules, occurring in infectious diseases, and particularly in typhoid fever, persisted for a long time, and if they had anything to do with the development of cirrhosis.

Dr. Hodenpyl said he did not think any one knew how long they persisted. As a matter of fact, these nodules were in the capsule of Glisson.

A Case Showing the Bothriocephalus Latus.—Dr. James Ewing reported a case of bothriocephalus latus, and exhibited the worm. The specimen had been taken from a Finlander, who had been in this country for eighteen years continuously. In his childhood he had been accustomed, with the rest of his people to eat freely of raw fish. The man had evidently harbored the parasites for at least eighteen years. About the time of leaving Finland he had passed certain worms, said to be the ordinary tapeworms. There had

been no further symptoms until a month or two ago, when he had passed a considerable mass of these worms. Another interesting feature was that he had harbored four of the worms, for, although no heads had been found, there must have been four worms present, as there were four portions—two to three feet long—in which a neck of very small dimensions was discovered. A third point of interest was the fact that in spite of these four worms he had enjoyed good health, with the exception of occasional abdominal pain. He was entirely without anæmia or any other constitutional disturbance. The worms themselves were of interest in that it was believed that this worm was rare in this country. Very few such cases had been reported. Dr. Ewing said that about one month ago he had examined a collection of three hundred specimens of so-called tapeworm, used by a quack for advertising purposes. Out of this large number, all but three were the ordinary tænia; two seemed to show the broad, thick segments of tænia solium, and one was unquestionably the bothriocephalus latus. The speaker said that each segment of the tænia, or ordinary tapeworm, was two centimetres long and from one to one and one-half centimetres broad—very much longer than that of the tænia solium. The latter measured one to two centimetres in breadth, and not much more than one centimetre in length. The segment of the bothriocephalus was about four or five times as broad as it was long. Another point of distinction was the presence of the pigmented uterus. The eggs of this specimen were very abundant, and had a characteristic form. They showed a rather delicate, deeply outlined membrane, and large globules of protoplasm of immature embryo, thus differing entirely from the eggs of the tænia solium and of the ordinary tapeworm.

Oxyuris Vermicularis.—Dr. H. Heiman said that in order to bring out the points of difference between these various parasites he would place under the microscope a specimen very frequently found in children—the oxyuris vermicularis. The specimen was interesting because the entire worm was present. Eggs, almost by the thousands, were to be seen in the interior of the worm and outside of it. It was differentiated readily by the small size of the eggs and their peculiar capsule.

Dr. Le Boutillier asked if the diagnosis of oxyuris vermicularis could be made constantly by microscopical examination of the fæces—in other words, were the eggs constantly present in the fæces, or must one look for the worm itself?

Dr. Heiman replied that the diagnosis could be made by simply finding the eggs in the fæces. It was known that the worm could be recognized easily by the presence of the ova in the fæces, as they were entirely different from the eggs of the other common parasites inhabiting the alimentary canal.

Heart Muscle of Horse and Diphtheria Antitoxin; Method of Staining.—Dr. George P. Biggs presented a microscopical preparation of heart muscle, removed from a horse that had been used for the production of diphtheria antitoxin. The specimen had been hardened and stained by Markey's method, and showed the extreme fatty degeneration in a remarkably clear way. The method consisted in hardening in Müller's fluid for about one week; then in two parts of Müller's fluid and one part of osmic acid for another week. The specimen was then gradually dehydrated with increasing strengths of alcohol, embedded, and cut into sections. No further staining was needed, although a carmine stain might be employed. The osmic-acid staining of the fat globules was very well shown in the specimen presented, and it made a permanent one for purposes of demonstration. The specimen was mounted in balsam. In the specimen exhibited the degree of fatty degeneration was extreme. In the case of this horse the injections of diphtheria toxin had been pushed rather rapidly, and death had resulted in ten days from sudden heart failure.

Dr. George C. Freeborn said that, according to his experience, all osmic-acid preparations mounted in balsam faded after a time. Glycerin was the best permanent mounting for all osmic-acid preparations.

Dr. Biggs said that the specimen had been mounted only about six weeks, but had apparently not yet undergone any change.

Dr. Ira Van Gieson said that the application of this method of staining seemed to him of great importance. The ordinary method of immersing in fresh osmic acid prevented any great penetration. Moreover, the whole procedure of Markey was very convenient. Hamilton, in a recent number of *Brain*, had reported that this reaction could be obtained by taking specimens of the nervous system, carrying them through alcohol, and soaking them in Müller's fluid in which a brain had been immersed for some time. The fluid evidently extracted something from the brain necessary to produce this reaction. This modification of the process was very convenient, as by the other process the specimens were apt to become brittle. The whole reaction was very complicated. It did not seem to be the same sort of reaction that was observed with fresh fat when put in osmic-acid solution alone.

Dr. H. Brooks remarked that he had some specimens of fatty kidney, stained eight years ago with osmic acid and mounted in balsam, which were apparently as clear and bright now as when originally made.

Sarcoma of the Eye in a Child.—Dr. W. B. Noyes presented a microscopical specimen of a small round-cell sarcoma growing from the hyaline membrane lining the posterior surface of the crystalline lens. It had been taken from the eye of a child. There was also a secondary deposit around the margin of the choroid coat of the eye.

The society then went into executive session.

Clinical Department.

A CASE OF HÆMATOMA.

By J. H. McCutchan, M.D.,

Evansville, Ind.

E. C——, aged twenty-five, good physical condition, no syphilitic history, family history good, complained of bleeding at the mouth, loss of appetite, headache, and constipation. On examination of the mouth the gums were found to be covered by numerous, well-defined hemorrhagic tumors, varying in size from a pinhead to one-eighth of an inch in diameter; on further examination these hemorrhagic tumors were found to extend back over the palate and pharynx. The rest of the body was well nourished and normal in appearance; no other abnormality could be discovered at that time. The tumors were cauterized and the patient was put upon tonics, astringent preparations, and iodides. Under this treatment he seemed to recover—the bleeding stopped, the tumors disappeared, and the headache ceased. After a week's respite, however, these abnormal conditions returned in intensified form, the tumors appearing not only on the gums, palate, and pharynx, but also on the trunk, arms, and hands. Treatment availed nothing. At the end of two weeks the patient had an attack of hemiplegia involving the entire left half of the body. Speech was unimpaired and the mental faculties were retained, but there was entire loss of motion, together with partial loss of sensibility. The patient was placed upon large doses of the iodides, which seemed to have a very happy effect, but only

temporarily, as he lapsed into a comatose condition, and died two weeks after the paralytic attack.

The post-mortem examination revealed an extensive hæmatoma involving the whole motor area of the right cerebral hemisphere, the brain substance in close proximity being broken down and degenerated, while over the entire brain surface were scattered small hemorrhagic tumors corresponding in size to those found on the gums, palate, and pharynx.

A LEMON GROVE IN THE INTESTINE.

By RUFUS D. MASON, M.D.,

MISSOURI VALLEY, IOWA.

I WISH to report briefly the following case, which it seems is unique and worthy of record, as I can find nothing of the kind reported in the medical literature at my command.

I was called to see a boy, aged six years, who presented all the symptoms of appendicitis. The abdomen was tympanitic and there was very great tenderness in the region of the ileo-cæcal valve: temperature, 102° F.; bowels constipated. I gave him one grain of calomel every hour for six hours, followed by a small dose of Epsom salts. This operated freely, and, as I had instructed the parents to watch the movements to see if we could get any idea of what had brought on the attack, they found several lemon seeds. The child now fell into a low typhoid condition. The pain in the side still continued, but it was not so severe: there was only moderate tympanites: the temperature varied from 99° to 101° F., the tongue was coated, and the teeth were covered with sordes. The bowels were still constipated, so in about three days I again gave calomel, with the result of bringing away several more lemon seeds that had sprouted. Some of them had sprouts fully one-eighth of an inch long. I now kept the bowels loose, and he passed several more seeds in the same condition. His typhoid symptoms now slowly left him, and in about ten days from the beginning of the attack he was out of bed, but for some time complained of soreness in his side.

These seeds had been somewhere in the alimentary tract for at least two weeks, as he had drank no lemonade or had any means of getting the seeds later than two weeks prior to taking to his bed. I have taken out of the nose and ears of children beans and corn that had sprouted, but never before knew of anything passing through the entire intestinal tract and making an effort to grow during the journey.

CONGENITAL AMAZIA.

By ERWIN W. SCHNELLER, M.D.,

COLUMBUS, OHIO.

IN a recent issue of the MEDICAL RECORD appeared an article on "Bilateral Congenital Amazia," truly a *rara avis*, more so than the unilateral abnormality, which is of extreme rarity. However, the fact that the subject had two large normal mammillæ, with the surrounding pigmented areolæ, throws a shadow of doubt upon the possibility that this was a typical case of amastia, but rather points toward the probability that it was simply one of micromazia. Why should nature construct nipples when there are no underlying mammary glands from which the lactiferous ducts should emanate? Have any attempts ever been made to nurse the infants from these normal nipples?

I desire here to report a case of unilateral congenital amastia, which came under my observation several weeks ago. The data, taken at the time of examination, are briefly as follows:

Freddie E——, born August 29, 1894, a blue-eyed blond, is the eleventh child out of an even dozen. He presents the general appearance of a rachitic—viz., prominent parietal bosses, unclosed anterior fontanelle, chicken breast with typical rachitic rosary, pot belly, puny undeveloped legs, etc. This boy, born at six and one-half months, never nursed at the breast, never walked until three months ago, and did not begin to talk until one month later. There is no trace whatever of a mammilla on the right side of his chest, nor the slightest evidence of a mammary gland, though this is well marked on the left: this naturally causes the ribs to stand out very prominently, simulating an absence of the pectoral muscles. Froriep described a case which presented an absence of the greater part of the pectoralis major and a deficiency of the third and fourth ribs at the sternal end; such is not the condition found in my case. It is claimed by Foerster, of Würzburg, that in cases of amazia there is a concomitant lack of development of the remaining sexual organs; Scanzoni reported a case presenting absence of the ovary on the corresponding side. In my case the right testicle was found high up in the canal, simulating a monorchid.

443 SOUTH HIGH STREET.

INCISED WOUND OF THE AXILLARY ARTERY.

By FREDERICK HENRY CLEAVES, M.D.,

CONCORD, MASS.

THE rarity of this accident warrants a report of the following case:

F. T——, aged twenty-six, single, farmer, while sitting was accidentally wounded with a long, narrow, carving knife, wielded by a companion. On my arrival half an hour later I found the patient faint and unable to speak. Friends averred that he had lost at least two quarts of blood. Examination showed an incised wound one inch long, about three inches below the acromion process and through the middle portion of the deltoid muscle. I washed out the wound and tested with a probe, which passed one inch. No hemorrhage occurring, I sewed the wound.

February 13th, the arm felt well, but was seen to be puffed up about the wound, from which on pressure were exuded large clots. The wound was opened, washed, and dressed loosely with gauze.

18th, A.M., arm felt well and wound seemed almost healed. P.M., arm had ached for several hours. About fifteen minutes before I saw the patient hemorrhage occurred, which was controlled by pressure. On examination the hemorrhage was renewed, blood pouring out in a large and steady stream, pressure alone controlling it. The probe passed in two inches toward the axilla. The arm and shoulder were swollen and aching badly. I washed out the wound with hot bichloride and packed with absorbent cotton, gauze having failed to check the hemorrhage.

19th, much pain all night, despite hypodermics of morphine. Temperature, 100° F.; pulse, 100. The presence of concealed pus was feared. The arm was softer, but the upper part was quite yellow. There was no pus and very little blood was present. The wound looked healthy. When it was opened the shape of the knife blade was seen parallel to and passing through the gaping fibres of the deltoid. The probe passed three and one-fourth inches toward the axilla. A second attempt to pass the probe failed, and no opening was seen in the muscle.

20th, the axilla was hard and very tender. The whole space pulsated forcibly, and there was strong pulsation behind the axilla through the latissimus dorsi. A thrill was felt in the axillary artery below the hard swelling. The arm was one and one-half

times the natural size. Temperature, 101° F.; pulse, 86.

I now had a consultation with Dr. E. R. Cutler, of Waltham, who advised removal to Waltham Hospital for operation, where the patient was operated upon by Dr. H. A. Wood. The wound was enlarged for examination; arterial blood welled up very freely. The wound was plugged with gauze and the axillary artery was cut down upon. Hemorrhage, which was very profuse, was controlled by pressure and later by a temporary ligature. On isolating the axillary artery it was found that the knife had passed between it and a small branch—probably the posterior circumflex—very near its origin, cutting through about one-third the circumference of each vessel. Ligatures were applied to the axillary above and below the wound, including the injured branch between them, and the incisions were closed, except the opening for drainage in the original wound. The arm was, of course, cold, pulseless, and purple. It was thought improbable that a sufficient blood supply could reach it through the few small vessels above the point of ligature. The arm was then enveloped in cotton and constant heat was applied.

Next day the color was somewhat improved. Tactile sense was present, except at the back of the hand. The circulation slowly improved and motion gradually returned. Temperature, 100–103° F. during the week following the operation.

After about five weeks of very slow gain an abscess developed on the outer side of the forearm near the elbow, while the whole arm became œdematous and helpless. Pus was evacuated and a probe was passed directly down upon the ulna. The abscess healed, however, in a few days, and under constant use of passive motion and massage the œdema and disability gradually disappeared, so that on November 1st the patient was using the arm and hand without difficulty, except that he could not oppose the thumb and forefinger strongly. The color is rather leaden, and it is with some difficulty that the hand is kept warm.

A STRANGE MENTAL PHENOMENON.

By JACOB F. BUCHER, M.D.,
New Lyme Institute.

That part of the nervous system which lies within the cranium is called the brain. So important does nature consider this organ that she places it within a strong osseous box and carefully wraps it in three membranes, and to complete the protection covers that portion of the skull directly over it with an abundant growth of hair. Observing the brain closely, we see that it consists of four parts—the cerebrum, the cerebellum, the pons Varolii, and the medulla oblongata. Space will allow us to give only a suggestive description of their functions.

The cerebrum has a variety of areas, each designed to control some part of the body or to be the seat of some particular faculty. For instance, we locate the mind in the front part, and believe that all such mental phenomena as memory, will, hope, and fear originate here, while the central portion controls muscular action and governs the various muscles of the body. We are even able to locate definitely areas that control the leg, arm, and other parts. The back part of the cerebrum has to do with vision, and the parts below this preside over smell, taste, and hearing.

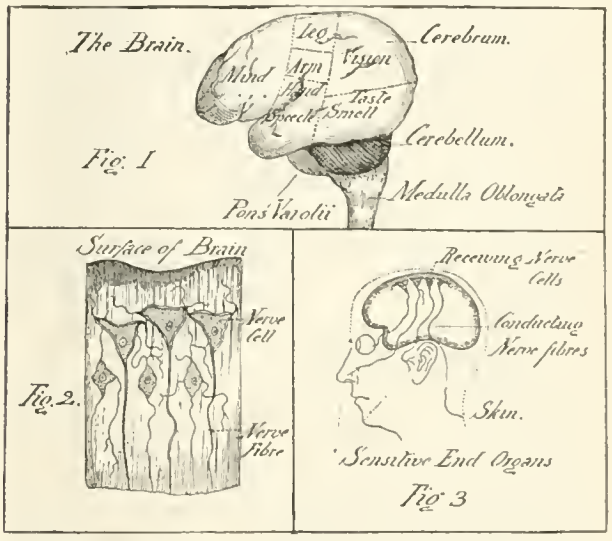
The cerebellum is largely concerned in co-ordination. By this we mean the process through which a number of muscles act in concert so as to bring about a desired movement. This portion of the brain enables us to preserve our equilibrium when walking or standing. When the cerebellum is removed from an animal, its movements become irregular and jerky and are not under control.

The pons Varolii probably has no special function. It serves to connect the other portions of the brain with each other, and is largely made up of nerve fibres. It is a large nerve cable, and is found at the base of the brain.

The medulla oblongata is frequently spoken of as the vital knot, because it contains the centres which control the heart and the organs of respiration. Besides these, it also contains many others, such as the vomiting, swallowing, and heat centres.

If a section of the brain from the front part of the cerebrum be studied under the microscope, there will be revealed two kinds of elements. One is of a cellular type, existing on the surface of the brain, and is termed the gray matter. The other is of a fibrous character radiating toward the interior, and is spoken of as the white matter. A general study of the cerebrum will reveal a similar structure throughout.

The cells making up the gray matter of the area which is the seat of the mind are large corpuscles



having distinct nuclei. They are of special interest to the physiologist, because he believes them to be the physical basis of memory. It is probable that each new impression that comes to the mind appropriates to itself a separate cell. No doubt these cells on the surface of the brain serve as pigeonholes, in which we place the records of words, faces, scenes, and all those impressions that come to us from the cradle to the grave. Perhaps some may wonder if we have enough of these little cells. We have at least a billion of them, and nature can make more if we need them. Most of us find the task sufficient completely to fill what we already have.

Not all the cells making up the mind area have to do with the memory. Many of them doubtless serve as the seat of consciousness or that peculiar mental process through which we know that we have being, or, to express it more tersely, that we are.

Memory, then, is simply a giving up of acquired impressions by certain cells to those cells in which consciousness resides. But what shall influence the memory cells to give up their impressions? This may be answered by saying that it is due to radiation. And here we must explain this term, in order that all may fully understand what we shall say farther on.

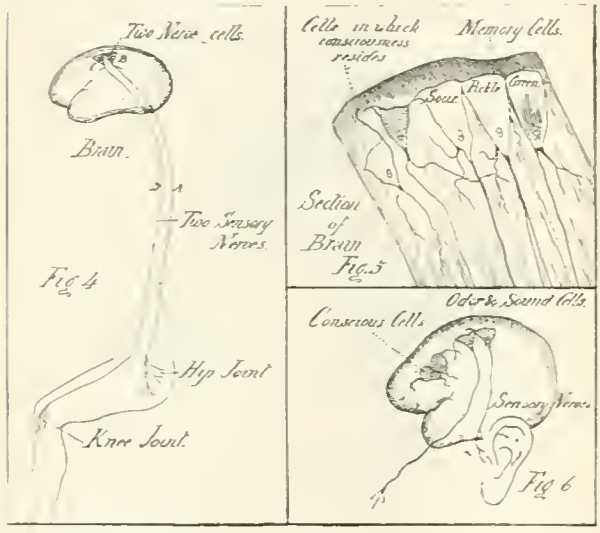
Before a mental impression can be made, there must exist a nerve cell, such as is found in the gray matter of the brain, which serves to receive the impression; a conducting nerve fibre to convey the impression received from the skin or special organ of sense to this cell; and, lastly, a sensitive surface, as the skin, and special organs, as the eye or ear, which are capa-

ble of being influenced by the forces of heat, light, and sound. In fact, every new impression that the brain receives comes through just such a channel (see Fig. 3).

As the same impression comes again and again to us, it is probable that each time it pursues the same course to reach the brain and is added to the previously acquired knowledge in some cell. And just as the impression in a certain cell is strengthened more and more by repetition, just in so great a degree is it able to give out its impression, producing exact memory.

Now it is true that oftentimes two cells which are storehouses for two unlike impressions lie side by side in the gray matter of the brain. Frequently when one of the cells receives an impression, instead of storing it without further activity, it actually agitates the adjacent cell and causes it to give up its old impression to the conscious centre, and the mind suddenly recalls something totally unexpected.

Fig. 4 is a diagram representing the sensory apparatus of the hip and knee. In certain cases of hip-



joint inflammation, the sufferer is entirely unconscious of trouble in the hip and complains altogether of pain in the knee. No amount of persuasion will convince the invalid in the beginning of his trouble that the knee is not diseased.

The explanation of the seeming transference is this. The impression which gives rise to the pain in cell *B* travels up the nerve *A* from the diseased hip-joint. The cell *B*, in storing up the impression, unduly agitates the cell *C*, which usually receives the impressions from the knee through fibre *D*, and the mind becomes conscious of the knee and its former painful impressions. We call this agitating of one cell by its neighbor radiation.

All memories are recalled by this process probably. Associated ideas recall the thing itself. To make this clearer to the reader, let me suppose that we hear the word pickle for the first time and then are led to taste a real pickle. In the gray matter of the brain (see Fig. 5) this change has occurred: A single cell has appropriated the word pickle. Clustering around this cell are other cells which have retained the impression of its form, color, odor, and taste.

If now at any time in the future after tasting of something sour you should think of the word pickle and then a vision of its form should float before your mind, you may feel sure that a process of radiation has occurred. Every one has something flash before the mind—some face, a verse, a word, not thought of for years—and has been puzzled to know how it recalled itself. In every instance careful analysis will show that it was hearing some sound, seeing some object associated originally with the recalled thing, that is the source of memory. We all know how the worn book recalls the old school faces, the smell of hay the old homestead, the little gown the baby faces. All these bring about memories through radiation. It is doubtful if we ever forget anything. The real reason why we cannot recall some things is because recollection requires radiation, and should the latter be absent the former is impossible, even if the cell were laden with memories. Radiation is the key which unlocks the mental granary, the storehouse of events.

It should be borne in mind that slight radiation stimulates memory, while if it be excessive the mind may actually experience the real impression. Recently a friend suffering from sore throat wrapped his neck in a flannel saturated with kerosene, and then went to bed. In about five minutes he seemed to hear mosquitoes humming. Thinking it a whistle of some kind, he gave it no particular attention till it persisted. Arising from bed, he found to his astonishment that the noise ceased. On going to bed the second time, the singing of the mosquitoes again became audible. A second time he arose, and as before all was quiet. This time he went to bed convinced that it was some sensory illusion. The chorus of mosquitoes started in as soon as he became quiet. For the first time he noticed the strong odor of lamp oil. Had that anything to do with these noises? That question suggested something. While he was a student at Baltimore in the fall of 1892, mosquitoes were very numerous. So annoying did they become that, no other available method being at hand, he bathed his face and hands thoroughly in kerosene. This acted like a charm, though they still persisted in buzzing around his head.

The smell of kerosene and the singing of mosquitoes consequently were strongly associated, or, to express it otherwise, two cells lying side by side must have appropriated these two impressions (see Fig. 6).

The explanation of the above circumstance is this. The smell of the oil stimulated the oil cell which had the former impression of kerosene. It being strongly stimulated, radiation occurred and the cell lying beside it gave up its old impression of mosquito voices to the conscious centre. In this instance radiation was so strong that the mind heard the real sound. This peculiar phenomenon occurred after a fatiguing day's work. Most of us experience similar things, but to a lesser degree. Usually the nervous system has been overtaxed by want of sleep, depraved nutrition, or excessive mental work. In the writer's own experience, under some conditions the eating of oyster crackers gives a strong impression of oysters—as if they were being eaten too. So oftentimes with cheese the real taste of apple pie seems to be experienced. The explanation is that they have been eaten together ever since childhood, and therefore are strongly associated.

Doubtless many delusions have their origin in excessive radiation. How often we hear it said that this or that person imagined something that no one seems to see any visible reason for. The pains and despondent spells at times experienced by all of us may be a group of mental phenomena depending largely upon radiation. We should not be too hasty in declaring imagination to be without physical cause. In our dreams we feel, see, and hear things. How do we know when awake that we are not dreaming?

Syphilis as a Cause of Abortion.—When a woman marries a syphilitic and becomes pregnant, and submits to mercurial treatment, there is more chance that gestation will terminate at term in the birth of a healthy child.—Oumet.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL REFORM—RECTAL SURGERY ILLUSTRATED BY THE LATE MR. GOWLLAND—FRESH SCANDALS—LORD WOLSELEY'S BOAST—UNIVERSITY—INFLUENZA.

LONDON, January 28, 1898.

THE Hospital Reform Association has completed its first year's work—and very hard work it has been for the honorary secretary, Mr. Garrett Horder, who has made many journeys to attend meetings and organize the profession in a number of large towns. The first annual meeting was held last week, when Mr. Horder read a paper showing the objects of the new and vigorous organization he has successfully established. As you seem to suffer from abuses of the same kind as we do, you will be interested in the work of this association. The restriction of the out-patient department is one of the first objects. On this point most reformers are agreed, but the question how to accomplish this is apt to bring out divergent views. Mr. Horder proposes *inter alia* to restrict the number of new cases admitted in the day, to bring about a more satisfactory understanding between the staff and other practitioners, and to abolish subscribers' letters. As to the last point managers of hospitals hesitate, because in many cases their rules have established a right to these letters and subscribers might resent the proposal to take it away. It is tolerably certain that some who never use the letters to which they are entitled would object, while others who have large demands upon them for this kind of assistance might go so far as to withdraw their subscriptions. I know of cases in which the subscription has been given solely with a view to obtain this *quid pro quo*. What would be the net result of abolition is therefore not easy to foresee, and most committees decline to make the experiment.

As to the limitation of the number of new cases it has been tried in several institutions with varying results. No one can doubt that there is a limit to the ability of the doctor to give his best work, and yet he ought to be at his best all through his clinic. Rejecting the twenty-sixth applicant because twenty-five have been attended to seems rather a clumsy expedient and suggestive of a lottery. The twenty-sixth might be the most important of all, so that a selection must be made by a skilled person. In large hospitals this is easy enough, but in smaller ones it might be difficult. Great importance is attached by the association to the recommendation of an outside doctor, and certainly any applicant bringing such a recommendation ought to receive attention. I believe that in practice this is done. A member of a hospital staff often receives a request from a professional man to see a case, and it may be said is always glad to do so. Such cases are usually interesting. But if patients were always required to bring such a letter, a sort of routine might become established and defeat its own purpose. Besides, general practitioners would not care to spend a considerable time in certifying the fitness of cases for charitable relief—they already sacrifice a great deal for the poor—and there is no reason why they should have this duty imposed upon them, as it would almost inevitably lead to some of their less prosperous clients asking for a "ticket" for which they could afford to pay a small fee. These questions deserve to be well threshed out and the Hospital Reform Association is doing this. I am sorry to hear that its first year's work has landed it in a debt of about £50, and hope that reformers will come forward to relieve it of this incubus.

Those who knew the late Mr. Peter Gowlland, or who saw much of his hospital work, could not fail to be impressed with his great skill as an artist. It was his custom for many years to make drawings in color of his cases, and as his specialty was rectal surgery, the great value of his accumulated illustrations will be readily appreciated. In the early part of his career he was on the surgical staff of the London Hospital and taught anatomy in the school, but these appointments he had to give up in order to meet the demands on his time made by his chosen specialty. It was not every one of his friends who had the opportunity of examining his treasures; for his modesty made much too little of them. I had that privilege, and so strongly urged him to publish his work that I was able to induce him to make a beginning by having some copies made on stone of certain drawings. But he did not complete enough and his delicate taste made it very difficult to satisfy him with lithography. Since his death I have often thought that surely some of those that were copied would yet see the light.

On Monday last Mr. Gowlland's drawings were used as illustrations to a paper which Mr. Bryant read before the Medical Society. Remarking on the too common neglect of practitioners to make a proper examination of cases which patients supposed to be piles, Mr. Bryant urged the necessity of doing so in the interest of both patients and their advisers. He said pruritus was a symptom, not a disease. As to fistula he held it necessary to trace out the indurated lines of the sinuses, all of which should be laid open in operating or failure would probably result. He had twice had to perform lumbar colotomy for recto-vesical fistula. Both operations were successful. He observed that a papilla at either the dorsal or perineal extremity of the anus usually indicated a fissure of the rectum.

Mr. Alfred Cooper strongly indorsed the practice of routine examination recommended in the paper, and mentioned the case of a patient who had been the round of eight doctors. Of these six made no examination and treated him for piles; two examined and diagnosed fissure, but the real cause of suffering was an impacted bone.

Mr. Goodsall remarked that in ninety per cent. of rectal diseases the lesion was situated within two inches of the anus.

Mr. Swinford Edwards could not accept the dictum that pruritus always indicated rectal disease, as most cases yielded to forcible dilatation of the sphincter. He objected to laying open sinuses above the internal sphincter unless they were immediately below the mucous membrane. He had had good results from injecting piles with carbolic acid diluted with four parts of glycerin.

Mr. Battle mentioned a case in which he had taken three sovereigns from a woman's rectum.

Mr. Pearce Gould remarked that on scraping a fistulous track any collateral sinuses are rendered apparent.

Hospital scandals might be thought common if the sensation-loving papers were to be trusted. Two such have been exciting attention. At the Dareuth Imbecile Hospital one of the patients became pregnant and died in childbed, having previously imputed paternity to an employee. Indignation was followed by inquiry, and the authorities blame the medical superintendent for not writing a report as soon as he discovered the patient's condition. Though he did not write a report he communicated verbally to the committee. But a scapegoat is wanted and he is to be dismissed. That is the way to whitewash managers—change the doctors.

The other case is very different—a lady met with an accident in the street and was carried into a hospital. The ankle was said to be broken, but nothing was done for some hours; then she was taken from the receiving-room, where she had been waiting, to a

ward, where the nurse washed her all over, and, though the foot was examined by two or three young gentlemen, nothing was done, and her friends who had been informed came and took her home. Inquiry was made by the managers, and the newspapers were informed that the surgeon did not intend to set the limb until the next day, as it was not in a fit state. Some further information is expected by the public, for the private doctor of the lady has written to the papers to blame the hospital.

Maidstone is not even yet quite quit of typhoid. Since I last reported there have been about a dozen new cases, raising the total of the epidemic to nineteen hundred and ten. The Town Council has taken opinions as to the responsibility of the water company and is advised that the corporation has no ground of action, as the contract (watering streets, etc.) has been fulfilled; but that individuals who have suffered loss may sue. It is probable that a test action will be brought. Other corporations and the country generally will watch the result with as much interest as the water companies.

Lord Wolseley has been boasting that we have two army corps ready to embark in an emergency and take the field. But it is calculated that only half the number of surgeons required could accompany the troops. It is time the war minister sat on the commander-in-chief.

The Duke of Devonshire gave a deputation some encouragement as to the intention of the government with regard to a London university bill.

Influenza is increasing both in London and in the provinces. Seventy-three deaths from it were registered in the week ending the 22d inst.—a higher number than any since March, 1895.

THE MEDICAL-PRACTICE LAW.

To the Editor of the Medical Record.

Sir: Under the present State law, as is very well known, every graduate of a medical college whose diploma has been granted during the last four or five years, before he can enter upon the practice of his profession must appear before a State examining-board and pass another examination for a license. For the privilege of taking this examination he must pay the sum of $25, and if he fails in more than one of the seven subjects he must wait six months before he can try again, when he must pay another $25 fee.

Now, while I am in favor of the establishment and maintenance of a high standard of proficiency on the part of those who would enter upon the practice of medicine, it seems to me that the desired end might as effectually be attained in a way that would be less expensive to the student, and, furthermore, would not subject him to the humiliation of not being allowed to practise after having received his degree from a recognized medical school.

I can see no reason why, if the State desires to establish and maintain a uniform standard, the regents should not furnish the questions which are to be the test for fitness for graduation instead of the student being compelled to submit to an examination by the faculty of his college, for which he must pay a good fee, and, having passed satisfactorily and been graduated, then to be obliged to pay another fee and pass another examination in order that he may get a license to practise.

I know from experience, and from the experience of some of my classmates, that this is a great hardship. Many are barely able financially, by practising the closest economy, to get through the required college course, and I can see no reason why this additional burden should be imposed upon them.

I am not pleading for the requirements as to scholarship, etc., to be lowered, but I do believe that the State board of regents should examine candidates as to their fitness before graduation, so that when the diploma is once granted by a New York State institution, it shall be received in this State as full evidence of its possessor's fitness to enter upon the practice of medicine.

Myron E. Fisher, M.D.

Delevan, N. Y.

THE MIDWIFERY QUESTION.

To the Editor of the Medical Record.

Sir: A paper discussing the evils of unlicensed midwifery, read by Dr. Von Ramdohr at the November meeting of the Society of Medical Jurisprudence, resulted in the appointment by that body of a committee of three physicians and two lawyers to examine the matter and report whether legislation in the premises was desirable. After examination of various statutes at home and abroad, the committee reported the advisability of such legislation, drafted a tentative bill, of which a copy is inclosed, and recommended conference thereon with such bodies as the Academy of Medicine and State and county medical societies; pointing out that the subject had been frequently discussed, especially in the latter organizations, without definite results. Subsequently that committee met in conference committees of the Academy and New York County Medical Society, when it transpired that although the proposed bill seemed adequate, providing any legislation were sought for, yet strong opposition existed to any action in the premises; it was, therefore, agreed to refer the matter back to the societies for instructions to their committees. On January 10th, the Society of Medical Jurisprudence continued its committee with power to confer with those of the Academy and New York County Society, and act in accordance with the express judgment of either, provided that no bill should be indorsed except by the society itself. On January 31st, the matter came up in the County Society, and after full discussion, in which it transpired that all the provisions of the bill were not thoroughly understood by the disputants, resolutions in favor of and against any such legislation were voted down and the matter was referred back to the committee, thus leaving the question in *statu quo*.

It seems desirable, in order that no steps be taken unadvisedly in this matter, that the medical profession generally should be apprised of existing conditions and the provisions of said bill before it takes its final shape and is introduced into the legislature.

In this State no general law regulates the practice of midwifery, *eo nomine*, and physicians differ as to whether such practice is a department of medicine or not. An apparent majority contends that labor is ordinarily a normal physiological state, attendance upon which is not necessarily an act of medical practice.

This view was taken by those officers of the New York County Medical Society charged with its prosecution when the writer first became its counsel, and he was instructed that midwives were not to be prosecuted except when, transgressing their function as attendants upon normal labor, they undertook to treat, prescribe for, or diagnosticate abnormal conditions; and under these instructions a number of midwives were convicted for acts of gynæcological practice, for the purpose of whose prosecution the existing medical law proved amply sufficient.

On the other hand some maintain that all midwifery amounts to practice of medicine; and, if this be so, no legislation is needed in the premises.

Two counties of this State, however, Erie and Ni-

agara, and one city, Rochester, do regulate midwifery under special laws and have examining-boards with power to license. In the old City of New York the health board customarily registered midwives and accepted their certificates for the purposes of vital statistics, and section 1,237 of Greater New York's charter requires "professional midwives to keep a registry of births." As a result of this custom, some physicians, many of them persons of little or no standing, undertook, and probably still undertake, to certify women as competent to practise midwifery; and so-called colleges came into existence which issued diplomas absolutely valueless to confer any legal status upon, but distinctly harmful to their recipients, who, imagining these bits of paper to be licenses, undertook to practise medicine specially. Nearly all the women above referred to as convicted in the County Society's prosecutions held papers of this sort, to which the courts refused to attach any value.

Those who oppose the licensing of midwives contend that it would confer upon them a legal status and make a permanent body of those who, left to themselves, would in process of time die out. Those favoring such licensing declare that, as the practice cannot be abolished, especially in great centres like New York City, its evils should be mitigated by regulation. Both factions agree that under present conditions the mortality of childbirth, both for mother and infant, is exceedingly great, and due largely to the ignorance of midwives and their inattention to proper sanitary measures. The former party desires absolutely to prohibit the practice of midwifery to any but licensed physicians; the latter, while admitting that this end might be desirable, believes that it is unattainable, especially so long as there exists in our cities a large foreign element that prefers, for reasons of pudicity but even more of economy, to have women in travail attended by their own sex. They believe, however, that existing evils can be minimized by proper education and sanitary regulations, and the death rate greatly reduced. The bill of the Society of Medical Jurisprudence is drafted upon the latter theory. In form an amendment to the general health law, the proposed bill devolves upon the regents of the university power to license two classes of midwives to be so designated: first, to embrace all those licensed after examination; the second, all those actually engaged in the practice of midwifery for a fixed period, one or two years, before the passage of the act, and registering within ninety days thereafter; midwives of the first class to be entitled to practise throughout the State, but those of the second only within the county where they have resided for said fixed period. This provision, while recognizing the right to continue an existing business in which a *clientèle* has been built up, would put an end to the further admission of persons not approved by the board of medical examiners. The bill aims to provide an elastic system of examination and sanitary control by lodging a large discretion in the State examining-boards and board of health respectively.

There is prevalent an erroneous idea among physicians that legislators and law officers are responsible for lack of proper regulations and enforcement of medical and health laws. As matter of fact it is safe to say, in the light of experience, that the legislature will enact almost any measure in favor of which physicians agree. The fault of our legislature from a lawyer's standpoint is not its reluctance but its overwillingness to regulate everything, even down to the feeding of sparrows and shaving of men. At the same time any project of medical legislation is apt to provoke such a multitude of objections and criticisms as to make legislators doubt what the consensus of medical opinion really is.

Before this bill or any one to the same purpose is introduced at Albany, it should be, therefore, most carefully considered and supported by such a careful and dispassionate compilation of full and accurate statistics as would carry conviction with it, and not merely by uncollated special instances which afford premises to sustain any contention. And it would be fortunate if a copy of the bill were placed in the hands of physicians generally.

As to the enforcement of law another error prevails, viz., that it is a function of district attorneys or police authorities to ferret out all breaches of statute regulative of morals or employment. Fortunately that function is beyond their physical power and they refrain from any attempt to exercise it, in most cases. The excise law is the chief exception. As to what extent its enforcement has been misused at times, we all have our opinions. It would be most deplorable if those authorities should attempt to enforce of their own initiative the medical, dental, pharmaceutical, veterinary, plumbing, pedicuring, barbering, and other laws too numerous to mention, by which various callings are regulated. Many of these statutes are administered by societies employing agents, pecuniarily responsible for malicious prosecutions, and enabled by judicious supervision to obviate or minimize the possibilities of blackmail. Except for these societies such laws would be rarely enforced. In fact, as it is they are scarcely ever enforced in this State outside of the County of New York, the prosecutions even in Brooklyn being few in comparison, and in rural districts grand juries have been known to indict the informants while letting the offenders informed against go free. Unless the medical societies should supervise the administration of a midwifery law, it is safe to presume that it would rarely be enforced.

W. A. PURRINGTON.

52 WALL STREET, February 1, 1898.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending February 12, 1898:

	Cases.	Deaths.
Tuberculosis	173	123
Typhoid fever	12	4
Scarlet fever	172	17
Measles	305	11
Diphtheria	140	9
Laryngeal diphtheria (croup)	14	6
Chicken-pox	32	0
Cerebro-spinal meningitis	0	1
Pertussis	1	2
Erysipelas	1	0
Parotiditis	2	0

Test for Hæmatoporphyrin in Urine.—To one hundred cubic centimetres of urine add twenty cubic centimetres of a ten-per-cent. sodium-hydrate solution, and water. Wash the filtrate thoroughly with water, add absolute alcohol, then enough hydrochloric acid completely to dissolve the precipitate. Examine the solution with the spectroscope for the (two) characteristic hæmatoporphyrin absorption bands.—A. GARROD, *Centralblatt für innere Medicin*, 1897.

Physicians in Germany.—According to the latest "German Medical Calendar," there are in that country 24,393 physicians, 14,582 of whom are in Prussia, 2,612 in Bavaria, 1,785 in Saxony, 977 in Baden, 826

in Würtemberg, 588 in Hamburg, and the remainder in the smaller provinces. In Berlin there are 2,148; in Munich, 510; in Hamburg (city), 496; in Breslau, 432; in Leipzig, 379; in Dresden, 360; in Köln, 284. Berlin has 12.81 physicians for every 10,000 inhabitants. Germany boasts of 1,238 dentists and 5,254 pharmacists.

"Don't Worry" clubs are springing up all over the land. In opposition to them, the *Atchison Globe* has the following sensible remarks to make: "Don't join a Don't Worry club. Don't try not to worry. While contentment is a pleasing virtue, the people you know who are contented would be better off if they worried more. Absolute contentment and indifference to the possible troubles of to-morrow will land any one in the poorhouse. The cow doesn't worry, neither does the clam; but people are built to worry, and it was intended that they should. On the other hand, if you worry much it will land you in the insane asylum. It is the insane asylum on the one hand and the poor-farm on the other; the point is to worry just enough to keep out of both of them."

"The Ups and Downs" of Ambulance Service in this city, to judge from the almost daily newspaper accounts, almost equal those of the elevator man. One week it is a young surgeon who, on his first attempt to alight gracefully from the hind step, falls and breaks his leg and has to use the vehicle for his own transportation to the hospital. Next one reads of several wrecks in quick succession, due to an attempt to occupy car tracks at the same time that the gripman thinks he requires their services. The car's passengers are never so much agitated as is the man on the stretcher. The doctor, though sometimes hurt, usually continues on duty. The next time, however, in obedience to hospital rules, he refuses a "drunk" or "unsuitable" case, the daily papers pitch into him quite as persistently as they did before his display of heroism. One of the latest experiences recorded is that of the Roosevelt Hospital surgeon, who was driven up and down from street to sidewalk, until forced to assume control of horse as well as patient, and the driver, who has been rendered rather unmanageable by strong drink.

A "Magnetic Healer" begins the announcement of her acquirements and capabilities in the following terms: "In order to prove, and bring the success of the efforts of so many capacities in the new scientific explorerations and medical science the vital and heat magnetism as a remedy to a better observation and cure methode, and to assist, that this should by realized to the welfare of mankind." The magnetism of her words should almost effect a cure of themselves.

Elephantiasis.—In South America and the West Indies I have observed a great many instances of elephantiasis, the lymphangiomatous thickening occurring chiefly in the arms, lips, penis, scrotum, and in the labium in females.—J. M. ROHLER, *Canada Medical Record*, November, 1897.

Maidstone Typhoid Fever.—It is reported, according to a leading English journal, that steps have been taken at Maidstone to promote a combination among those of the inhabitants who have had typhoid in their houses, for the purpose of proceeding against the water company for damages. It has been decided to deliver claims upon the company, to be followed, if necessary, by a test action in the law courts. Many of the leading residents are identified with the movement.

Health Reports.—The following statistics concerning small-pox, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended February 12, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Georgia, Atlanta and surrounding	January 6th to February 10th	27	1
Kentucky, Middlesborough	February 3d	7	

SMALL-POX—FOREIGN.

Bohemia, Prague	January 15th to 22d	11	
Brazil, Pernambuco	December 1st to 25th	..	8
Rio de Janeiro	December 8th to 25th	14	1
Santos	January 1st to 8th	1	1
China, Hong Kong	December 18th to 25th	3	3
Cuba, Cienfuegos	January 23d to 30th	..	3
Sagua la Grande	January 22d to 29th	50	5
England, Liverpool	January 15th to 22d	1	
West Hartlepool	January 8th to 24th	5	
Russia, Odessa	January 15th to 22d	10	1
St. Petersburg	January 8th to 15th	24	7
Warsaw	January 1st to 15th	..	12
Spain, Corunna	January 15th to 22d	..	1
Uruguay, Montevideo	December 25th to January 1st	1	

YELLOW FEVER—FOREIGN.

Brazil, Para	January 8th to 15th	..	11
Rio de Janeiro	December 11th to January 5th	11	4
Cuba, Santiago de Cuba	January 22d to 29th	..	2
Jamaica, Kingston	January 15th to 22d	1	1

PLAGUE—FOREIGN.

China, Hong Kong	December 18th to 25th	2	2

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

SAW PALMETTO. By Dr. E. M. Hale. 12mo, 96 pages. Boericke & Tafel, Philadelphia, Pa. Price, 50 cents, net.

THE WINTER METEOROLOGY OF EGYPT. By Dr. H. E. L. Canney. 8vo, 72 pages. Illustrated. Ballière, Tindall & Cox. London. Price, 3s. 6d.

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TRANSACTIONS OF THE BRITISH ORTHOPÆDIC SOCIETY. Vol. II., 1896. 8vo, 56 pages. John Bane, Sons & Danielsson, Ltd., London.

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BRAITHWAITE'S RETROSPECT OF MEDICINE. Vol. CXVI. July–December, 1897. Edited by Drs. J. Braithwaite and E. F. Trevelyan. 8vo, 440 pages. Simpkin, Marshall, Hamilton, Kent & Co., Ltd., London.

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Original Articles.

TYPHOID FEVER IN THE AGED.*

BY MORRIS MANGES, A.M., M.D.,

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THE current belief in the profession would lead one to assume that typhoid fever is a very rare occurrence in the aged. This opinion is certainly warranted by the statements to be found in the text-books, even those of the most recent date. Thus J. C. Wilson, in his article on "Typhoid Fever" in the recently issued Loomis and Thompson "System of Medicine" (vol. i., page 203), refers to the rarity of the disease after the fortieth year, and says that "he once saw it in the body of a man of fifty-three." Wood and Fitz[1] assert that in the very old the disease is rare; similar statements are made by Pepper,[2] Tyson,[3] Anders,[4] Brouardel,[5] and others. These writers emphasize their statements by citing isolated cases of its occurrence at an advanced age. Thus Brouardel says the disease is rare after forty, but a number of instances may be cited. Trousseau had a case at sixty-one, Wilks at seventy, Lombard at seventy-two, Heulard d'Arcy at eighty-six, Hamernyck at ninety-two, and De Mussey one at one hundred and eight years of age. The impression given by all these writers is that these cases are, after all, very exceptional.

Other writers, however, claim that they are not so rare. Chantemesse[6] maintains this, and refers to a thesis on these cases by Josias.[7] According to Flint,[8] "the susceptibility is small after fifty, and still smaller after sixty. I have, however, met with a considerable number of cases in persons over fifty, and several in persons over sixty." Hutchinson[9] also shows that aged cases are not infrequently seen. Thus, at the London Fever Hospital, eighty-three cases out of fifty-nine hundred and eleven were in persons over fifty, twenty-seven patients were over sixty, and in two the age was seventy-five. "Bartlett long ago contended that the disease was not so rare among persons over forty years of age as was commonly supposed; and that there is really no reason to believe that the susceptibility to the causes of the disease in an unprotected person diminishes with advancing years, the immunity which elderly persons appear to enjoy being probably due to the fact that, as the disease is not uncommon in early life, they are in many instances protected by having passed through an attack." Osler, both in his text-book[10] and in the Johns Hopkins Hospital Reports,[11] gives statistics which show the frequency of these cases. Of the three hundred and eighty-nine cases treated up to May 15, 1895, five were in persons between sixty and seventy (1.3 per cent.).* Dreschfeld[12] had two cases, one in a man of seventy-five, the other in a man eighty-two years old. He states that in epidemics old people are not infrequently affected. Boy-Tessier, of Marseilles, in his recently published monograph on the "Diseases of Old Age,"[13] asserts that enteric fever is frequent in the aged.

The fact that during the present year five cases, all in persons over sixty years of age, have come under my observation, leads me to believe not only that typhoid fever is not an infrequent event among the aged, but that its presence often is overlooked. Two of these cases occurred on my service at the Mount Sinai Hospital, one being in a woman of seventy-two, the other in a man of sixty-three. The third case was in a man of sixty-two years, a patient of Dr. Albert Kohn, of this city. The other two were patients of Dr. J. Rudisch—one, a man of sixty-five, being a private patient; the other, a man sixty-five years old, is at present on his service at the Mount Sinai Hospital. The details of these cases will be considered later; suffice it to say at present that three of them were typical in their course; the other two, however, presented the clinical picture of pneu-

CHART I.—DEATHS FROM TYPHOID FEVER IN NEW YORK CITY BY AGE AND SEX.

FOR TEN YEARS ENDING DECEMBER 31, 1896.

Year.	Total.		Under 1 Year.		1 and under 2.		2 and under 5.		Total under 5.		5 and under 15.		15 and under 25.		25 and under 45.		45 and under 65.		65 and over.	
	Male.	Female.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1887	235	186	1	..	1	2	5	13	7	15	15	26	79	42	101	69	25	25	8	9
1888	235	129	..	1	1	..	9	2	10	3	18	21	80	44	97	43	26	14	4	4
1889	228	169	1	1	1	1	10	4	12	6	22	19	70	54	95	64	25	18	4	8
1890	201	151	1	..	2	2	5	4	8	6	19	21	53	43	87	59	25	19	9	3
1891	221	163	1	1	3	2	9	8	13	11	21	31	75	50	82	48	19	18	11	5
1892	230	170	1	2	4	2	7	2	12	6	25	19	66	59	106	59	16	23	5	4
1893	234	147	1	..	2	2	4	4	7	6	17	13	75	39	103	64	27	22	5	3
1894	194	132	2	1	1	1	2	3	5	5	20	19	49	35	95	51	23	21	2	1
1895	207	115	2	..	3	1	3	3	8	4	16	14	55	36	103	41	19	19	6	1
1896	189	117	2	2	..	..	7	3	9	5	20	22	36	31	98	42	14	16	3	1
Total	2,165	1,479	12	8	18	13	61	46	91	67	193	205	638	433	967	540	219	195	57	39

* Read before the section on general medicine, New York Academy of Medicine, November 13, 1897.

* Since the above was written, an additional case has been reported from Johns Hopkins Hospital by Flexner and Harris (*Johns Hopkins Hospital Bulletin*, December, 1897, p. 259). The patient was sixty-eight years old; he died two days after admission. The symptoms were atypical; his chief complaint was dyspnœa for the preceding two weeks. At the autopsy no intestinal lesions were found, but there was a thrombosis of one of the main branches of the pulmonary artery with consecutive gangrene of the lung and pyopneumothorax. Typhoid bacilli were found in cultures which were made from many of the viscera.

monia. Attention has also been called to the fact that these senile cases are often marked by an insidious onset, by vagueness of the usual symptoms, and by a marked and increasing asthenia. These features, combined with the current belief that the disease is so exceptional in the aged, render it very possible that it is occasionally mistaken for other conditions. The most striking corroboration of this contention is furnished by the statistics of the New York board of health, which have been most courteously placed at my disposal by Dr. Tracy.

When it is noted that this report includes only the fatal cases, then the actual number of cases of this disease which have occurred among the aged in this city during the past ten years is quite surprising. The percentage, as calculated from the above table of 3,644 deaths, would be 11.3 per cent. for the forty-fifth to sixty-fifth years (414 deaths), and 2.6 per cent. for sixty-five and over (96 deaths). The total percentage of deaths in persons over forty-five years is 14.

To ascertain the actual proportion of cases, I applied to Dr. W. H. Park for the ages in the cases in which the Widal reaction was obtained. Dr. Park has kindly prepared the following table of the one hundred and twenty-five cases in which the patient's age was given:

CHART II.

AGES OF PATIENTS IN WHOM THE WIDAL REACTION WAS FOUND BY THE NEW YORK BOARD OF HEALTH.

Years.	Number of Cases.	Actual Ages.
1 to 4	5	2, 3, 3, 4, 4.
5 to 9	13	
10 to 14	20	
15 to 19	6	
20 to 24	23	
25 to 29	26	
30 to 34	9	
35 to 39	9	
40 to 44	7	
45 to 49	3	45, 47, 47.
50 to 54	1	52.
55 to 59	2	57, 59.
60 to 64	0	
65 to 69	1	65.
70 to 100	0	

Total number of cases under 45, 118; 95 per cent.
Total number of cases over 45, 7; 5 per cent.

NOTE.—Only the one hundred and twenty-five cases are included in which the age could be ascertained.

Symptomatology.—In quite a large number of cases the symptoms differ in no wise from the ordinary course of this disease. In others, however, they are different, following no regular type. The onset is insidious, resembling some simple gastric or intestinal disturbance. The typical headache is often absent; epistaxis is infrequent; the fever is less marked and is very irregular in its course. Subnormal temperatures are not infrequent. The roseola is frequently absent, or, if it is present, is very scanty. The abdominal symptoms are not pronounced; the enlargement of the spleen is either slight or it may be wanting. Boy-Tessier[13] calls attention to the fact that the abdomen may become distended owing to the senile relaxation of the tissues. Severe hemorrhages from the bowels are common. Perforations of the intestines have also been reported. The pulmonary symptoms are always pronounced, the bronchitis is always marked, while congestion, hypostasis, and pneumonia are very common and often lead to faulty diagnoses, as occurred in Cases I. and II., and in a case reported by Osler,[14] as follows:

"George W. K——, aged seventy (hospital No. 1,814), admitted September 22, 1890, complaining of extreme debility. Patient states that he has been a healthy man, but cannot give a satisfactory account of himself. He states that he has not had cough, and that the bowels have been regular; no chills, no vomiting.

"On admission he was much emaciated, looking in a condition of senile debility. The temperature was 97.5 F. at 8 P.M., and did not rise above 97° F. throughout the night. Pulse, 72, regular, compressible; radials sclerotic. Tongue very heavily coated, dry, and almost black. There were numerous cutaneous hemorrhages about the wrists and legs, and large superficial ones on the skin over the manubrium and scattered over the trunk. The chest was somewhat barrel shaped and the lower part of the sternum was much depressed—a modified 'Trichterbrust.' On the first day nothing was noticed on the examination of the lungs. The heart sounds were clear; second aortic accentuated and ringing.

"Note on the abdomen reads: 'Soft, irregularly distended; the intestinal peristalsis can be seen through the thin walls. No tenderness; no growth felt. Percussion limits of the spleen and liver are normal.'

"The patient was thought to have a senile cachexia, and was ordered stimulants, with iron and nourishing food. The urine contained a moderate amount of albumin, with granular and hyaline casts. During the 23d, 24th, and 25th, there was fever, the temperature rising to 101° F. It was usually normal, sometimes subnormal in the morning. There was no diarrhœa. He had no cough, no expectoration. The physical examination was negative. On the 27th he began to have diarrhœa. He was unconscious; tongue very dry; he passed urine and fæces involuntarily. The ecchymoses on the chest were more extensive. To-day it was found that the percussion note at the left base was dull as high as the angle of the scapula. Respiration was tubular, expiration prolonged, and there were a few râles. It was then thought that it was a case of pneumonia in an old, debilitated individual. He became progressively weaker on the 28th, and died on the morning of the 29th. The diagnosis was pneumonia in an old man.

"Autopsy (Dr. Welch). Anatomical diagnosis: Typhoid fever, recent croupous pneumonia of the left lower lobe, enlarged spleen, gall stones.

"Peritoneum smooth; the peritoneal surface of the ileum near the valve was covered with streaks of dark-red hemorrhagic infiltration. The small intestine presented a number of ulcers; the largest were in the lower part of the ileum. They were irregular, nearly always as deep as the transverse muscular coat, and with little or no thickening, and without adherent sloughs. Many had dark-red hemorrhagic floors. One occupied the margin of the ileo-cæcal valve. They extended upward for a distance of fifty centimetres. There were also many small follicular ulcers. The edges of the ulcers were but little undermined. In the cæcum and beginning of the colon were several small ulcers; glands moderately swollen and soft. There was no trace of tubercles over the ulcers, which were undoubtedly typhoid in character.

"The spleen was soft, and weighed two hundred and sixty grams.

"The heart was small; valves presented calcareous plates.

"The lobe of the left lung was in a condition of recent hepatization, the remainder of the lung emphysematous. There was much œdema.

"The kidneys were anæmic and were in a state of cloudy swelling.

"This interesting case of typhoid in an aged man presented no clinical features in any way characteristic. He was admitted in a cachectic condition, with dry, furred tongue, and when the consolidation in the left lower lobe was detected Dr. Lafleur, under whose care he came, thought very naturally that it was an instance of slowly developing pneumonia in an old man—that

the 'typhoid state,' so well marked, was secondary. With this opinion, I, seeing him two days before death, concurred. Unfortunately no details could be obtained as to the length of time the patient had been ill. It is interesting to note the low temperatures. On four or five occasions within the first three days he was in the hospital the temperature was below 98° F., and once was 97.5 F. In the week he was under observation only once did the temperature rise above 102° F. The extensive cutaneous hemorrhages were such as are seen frequently in the protracted cachexia of elderly people."

Boy-Tessier believes that these pulmonary conditions are possibly dependent more upon infarction and atelectasis than upon hepatization. Nephritis is of frequent occurrence. Asthenia is always a marked feature; the patients look very ill—in fact, more so than the symptoms present would seem to warrant. The heart action is always poor, and the pulse very soon shows the struggle under which the heart is laboring. The duration is very irregular, and the convalescence is always protracted. Death often occurs from syncope. Mental symptoms, especially loss of memory, have often been observed during convalescence. Relapses may occur.

The cases which I have to report are as follows:

Case I.—Mrs. M. A. S——, seventy-two years old, was admitted to my service at the Mount Sinai Hospital on January 3, 1897. She had been an inmate of the Chapin Home, where Dr. Mandelbaum had had her under his care and had made the diagnosis of typhoid fever.

Family history negative.

Previous history: Had had some lung trouble thirty-five years ago; has had a cough ever since.

Present history: Some eight weeks previously she had visited some friends in Harlem, who had typhoid fever. She has not been well for six weeks; had a number of severe chills at the beginning of her illness, and had what was called influenza. For the past week she has had severe headaches and fever, anorexia, vomiting, poor sleep; bowels constipated; she has had a number of fainting-spells, the attacks being anginoid in character; has some cough, with expectoration and dyspnœa. No urinary symptoms. She complains mostly of oppression over the thorax, some abdominal distress, and pain on swallowing.

Condition on admission: She is emaciated, anæmic, and looks sick. The tongue is dry, cracked, and heavily coated.

Lungs: Anteriorly, dull note over right side, with crepitant and subcrepitant râles; increased voice and breathing. Posteriorly the same.

Heart: Negative as to murmurs, but action feeble.

Abdomen: Slight general tenderness; a few typical roseolæ over chest and abdomen.

Liver: Negative.

Spleen: Slightly enlarged to percussion, but not palpable.

On admission, at 1 P.M., pulse, 100; respiration, 26; temperature, 102° F. Fluid diet ordered; cold applications to the chest every three hours; strychnine and whiskey.

At 6 P.M., pulse very irregular; temperature, 103° F. At midnight 102.6° F.

January 4th, urine reported acid, amber, turbid; specific gravity, 1.020; trace of albumin, no sugar, few pus cells, urates, granular casts. Pulse between 84 and 90, at times irregular and intermittent. Temperature, 8 A.M., 101.2° F.; 8 P.M., 101.8° F. Four small movements, urine scanty.

January 5th, complains especially of weakness; pulse same, ranging between 84 and 96. Temperature, 8 A.M., 100.4° F.; 8 P.M., 101.2° F. Tincture of digitalis, five minims every six hours. Two stools. Urine same.

January 6th, general condition same until 4 P.M. At 8 A.M., temperature, 102.2° F.; pulse, 124; respiration, 24. At 4 P.M. had a severe chill, lasting fifteen minutes. At 5 P.M. temperature rose to 105° F.; pulse, 114; respiration, 30. Involuntary stool. At 8 P.M., temperature, 103.8° F.; respiration, 24; pulse, 100. Three stools during the night.

January 7th, temperature gradually came down, being 100° F. at 8 A.M.; respiration, 24; pulse, 78. At 8 P.M., temperature, 99° F.; respiration, 24; pulse, 80. One stool.

January 8th, comfortable all day. At 8 A.M., temperature, 97° F.; respiration, 24; pulse, 86. At 8 P.M., temperature, 98.2°; respiration, 24; pulse, 90.

January 9th, in early morning was nauseated and vomited nourishment. Digitalis changed to sparteine, one-half grain every three hours. Nausea stopped. During the day pulse bad. Bowels to-day and yesterday had to be moved by enema. Urine, forty-eight ounces. At 8 A.M., temperature, 100° F.; respiration, 22; pulse, 86. At 8 P.M., temperature, 100° F.; respiration, 24; pulse, 90.

January 10th, nausea has returned, and she still complains of pain in the throat; bowels must still be moved by enema; urine, sixty ounces. At 8 A.M., temperature, 100° F.; respiration, 24; pulse, 76. At 8 P.M., temperature, 100.6° F.; respiration, 24; pulse, 96.

January 11th, passed a good night; general condition same. The patient is apathetic, complains of great weakness, and is quite cyanotic. At 8 A.M., temperature, 100.6° F.; respiration, 24; pulse, 90. At 8 P.M., temperature, 100.8° F.; respiration, 20; pulse, 100. The pulse irregular and intermittent. Bowels still constipated, and respond only slightly to high enemata. Urine, fifty-two ounces; specific gravity, 1.008; contains albumin, granular and epithelial casts, blood, and pus cells.

January 12th, has pain in the right shoulder, and coughs. General condition bad; pulse very poor, rapid, irregular, dicrotic, and intermittent, running as high as 124. At 8 A.M., temperature, 102.2° F.; respiration, 24; pulse, 114. At 8 P.M., temperature, 101.6° F.; respiration, 30; pulse, 120. Urine, thirty-six ounces. Ammonium carbonate, five grains every three hours.

January 13th, very drowsy; pulse imperceptible, respirations very rapid. At 8 A.M., temperature, 100.2° F. At midday pulmonary œdema, and death at 2 P.M. (See Chart III.)

The results of the autopsy, which was performed by Dr. F. S. Mandelbaum two hours after death, were as follows:

Body emaciated; rigor mortis absent.

Lungs: Right—voluminous; no adhesions; lower lobe firm and completely consolidated; crepitation absent; red hepatization. Left—old adhesions at the apex and a few recent ones at the base; the entire lung atrophic; at the apex there was an old healed tuberculosis, with many fine sand-like concretions.

Heart: Small and atrophic. Mitral valves thickened; aortic cusps much thickened and somewhat adherent to the aorta by old endarteritis. Atheroma of the aorta. Coronary arteries patent. Muscle friable.

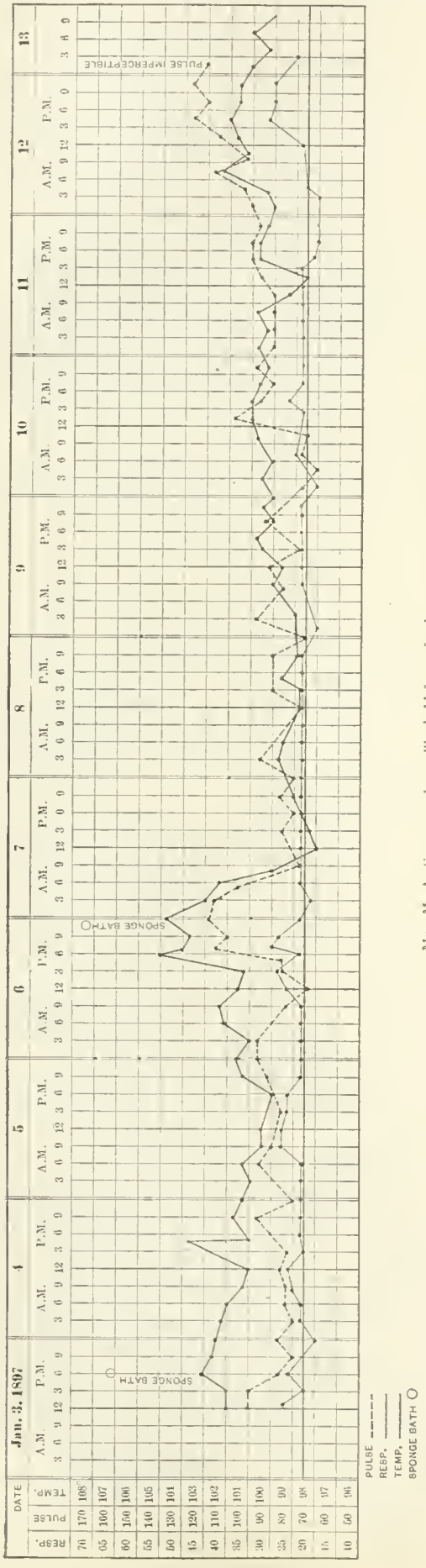
Spleen: Slightly enlarged, dark in color; consistence quite soft. Cultures which were made developed pure growths of typhoid bacilli. The microscope also showed the characteristic clumps of Loeffler.

Liver: Negative. The same was true of the stomach and pancreas.

Intestines: The small intestines were somewhat congested. Enlarged Peyer's patches were found for eighteen inches above the ileo-cæcal valve; the

patches were necrotic, and there was a thinning of the wall of the gut, which was dark and congested. In the cæcum and the colon the mucous membrane was

CHART III.



Mrs. M. A. S——, aged 72. Typhoid fever, fatal.

œdematous and congested. The solitary follicles were enlarged and prominent.

Blood: Cultures taken from the blood of the inferior vena cava grew pure colonies of typhoid bacilli (Dr. Elsberg).

Case II.—J. B——, Russian, sixty-three years old, admitted to my service at Mount Sinai Hospital, January 5, 1897.

Family history, negative.

Previous history, negative.

Present history: For some time (exact date cannot be elicited) has been complaining of severe headache, chills, fever, and sweating. The latter usually occurs in the morning. Insomnia; anorexia; no vomiting. Constipation. Has slight cough; palpitation. Has pain on urination. Complains especially of headache and chills.

On admission, general condition poor; panniculus fair.

Lungs: Anteriorly—dull note in right axillary line; crepitant and subcrepitant râles. Posteriorly—high-pitched note over right apex; dull note over rest of chest. Few subcrepitant râles over both bases; increased voice and breathing over right side.

Heart: Sounds feeble, but no murmurs.

Liver: Enlarged and palpable two finger-breadths below free border of ribs.

Spleen: Negative.

Otherwise abdomen negative. No eruption visible. No œdema. Reflexes normal. Weight, one hundred and twelve pounds.

Urine, acid; urate deposit; specific gravity, 1.015; no albumin or sugar; a few epithelial and pus cells.

On admission, at 2 P.M., temperature, 98.6° F.; respiration, 20; pulse, 80. Ordered calomel, rhubarb, and soda.

January 6th, at 8 A.M., temperature, 99.8° F.; respiration, 20; pulse, 64. At 8 P.M., temperature, 100.2° F.; respiration, 24; pulse, 62. Highest temperature at 4 P.M., when it was 101.2° F.

January 7th, slept fairly well. Enema caused large formed yellow stool. At 8 A.M., temperature, 100° F.; respiration, 24; pulse, 60. At 8 P.M., temperature, 102° F.; respiration, 20; pulse, 72.

January 8th, very restless all night. Temperature rose from 102.8° F. at 2 A.M. to 104° F. at 6 P.M.; dropped to 103.8° F. at 8 P.M. after five grains of phenacetin. At 10 P.M. it rose to 105° F.; at 12 midnight it dropped to 103° F. Respirations varied between 24 and 28: pulse between 64 and 86. Cold compresses over chest. Two stools.

January 9th, temperature at 2 A.M. was 103° F.; then it gradually fell to 100° F. at 8 A.M.; it rose to 102.4° F. at 6 P.M. Respiration between 24 and 32; pulse, 62 to 76.

January 10th, at 2 A.M., temperature was 99.8° F., greatest rise being to 102.6° F. at 8 P.M. Respirations between 24 and 30; pulse between 56 and 76. Examination of blood failed to reveal any plasmodia malariæ or any polynuclear leucocytosis.

January 11th, at 2 A.M., temperature, 102.4° F.; slept very little. Few crepitant râles at left base; bronchial breathing at right base. Complains of weakness. Temperature ranged between 100 and 102.4° F.; respiration averaged 24; pulse between 56 and 64.

January 12th, sleepless night. Area of dulness and bronchial breathing over left scapular region, with crepitant and subcrepitant râles. Fever was 100° F. at 2 A.M.; 104.4° F. at 8 A.M., and gradually fell to 98.6° F. at 6 P.M. Had a chill at 6 A.M. preceding this rise. No antipyretics except cold compresses. Respiration ranged between 20 and 26; pulse, 56 to 98.

January 13th, had fairly good night. Temperature

low till 4 P.M., when it rose to 102.4 F., reaching maximum of 103.4 F. at 8 P.M.; respiration, 24 to 28; pulse, 60 to 88. Enema produced large soft yellow stool.

January 14th, temperature subnormal till 6 A.M., when it was 97.6 F.; then rose at 2 P.M. to 102.4 F., falling to normal at 8 P.M. Respiration, 24 to 28; pulse, 60 to 70. Physical examination showed dull note with increased breathing over left base; also crepitant and subcrepitant râles. Involuntary stool at 5 P.M.

January 15th, temperature rose at 8 A.M., reaching maximum of 103.6 F. at 10 A.M., accompanied by chill lasting fifteen minutes; then gradually reached normal at 4 P.M. Respiration, 24; pulse, 76 to 88.

January 16th, temperature, 99 F. at 6 A.M.; 100.2 F. at noon; 102° F. at 2 P.M.; 105.2 at 5 P.M.; then declined to normal after fifteen grains of quinine. Respiration, 24 to 30; pulse, 84 to 100.

January 17th, subnormal temperature (97.8° F.) at 6 A.M.; began to rise at noon, reaching 101 F. at 6 P.M. Quinine, ten grains, t.i.d. Respiration, 24 to 28; pulse, 80 to 96. Five small loose yellow stools.

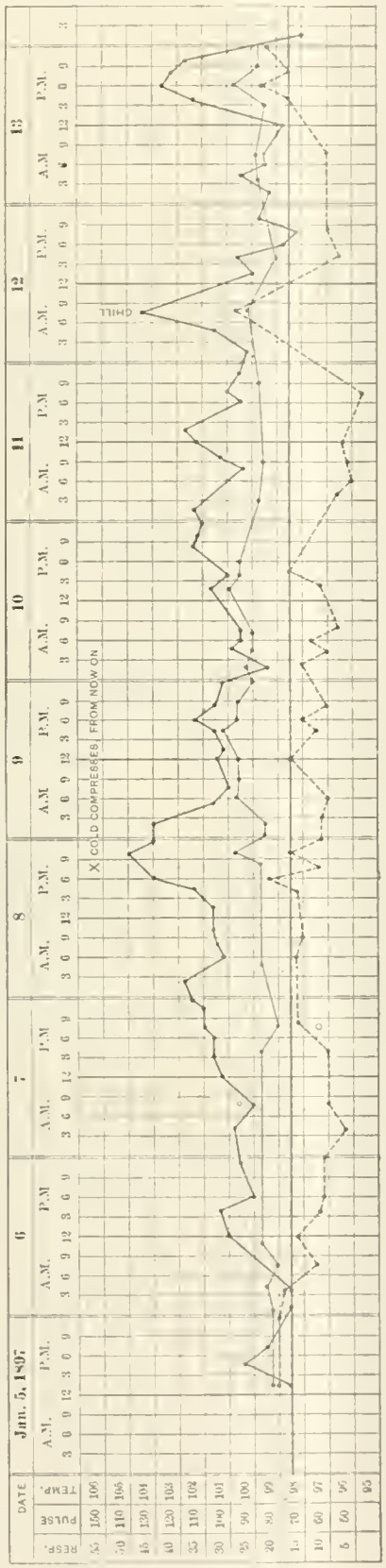
January 18th, temperature rose at 10 A.M. to 102.6 F.; maximum, 103.6 F., at noon. Phenacetin, five grains, reduced it to 100 F. at 4 P.M. Quinine, ten grains, t.i.d. General condition poor; apathetic; refuses medicines. Respiration, 24; pulse, 68 to 80.

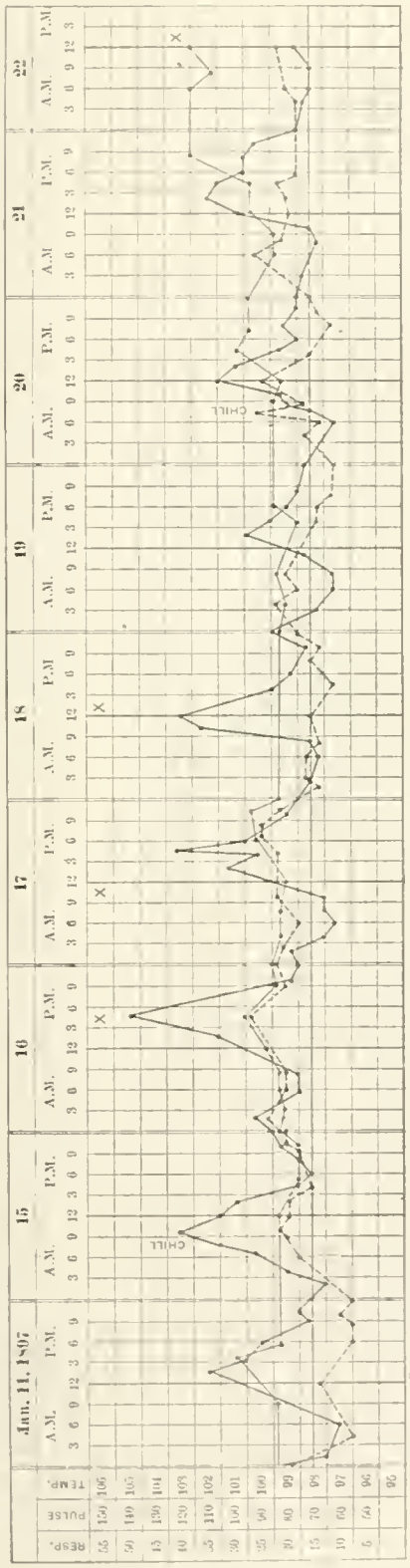
January 19th, temperature subnormal till 2 P.M., when it rose to 101° F., falling to 100 F. at 4 P.M. Respiration, 24; pulse, 68 to 86. Widal test reported as doubtful.

January 20th, restless. Chill at 8 A.M. Physical signs at left base still present. Liver extends to four finger-breadths below free border of ribs; tenderness in right hypochondrium. Temperature normal till noon, when it rose to 102° F., in spite of the quinine, falling steadily thereafter. Respiration, 24 to 32, pulse, 76 to 92.

January 21st, restless; general condition bad; cyanotic, looks septic. Temperature normal till noon, when it rose to 101.2 F., declining after 6 P.M., and reaching 99° F. at midnight. Vomited dark fluid at 6 P.M.; at the same time respiration rose to 40, pulse remaining at 80; temperature, 101° F.

CHART IV.



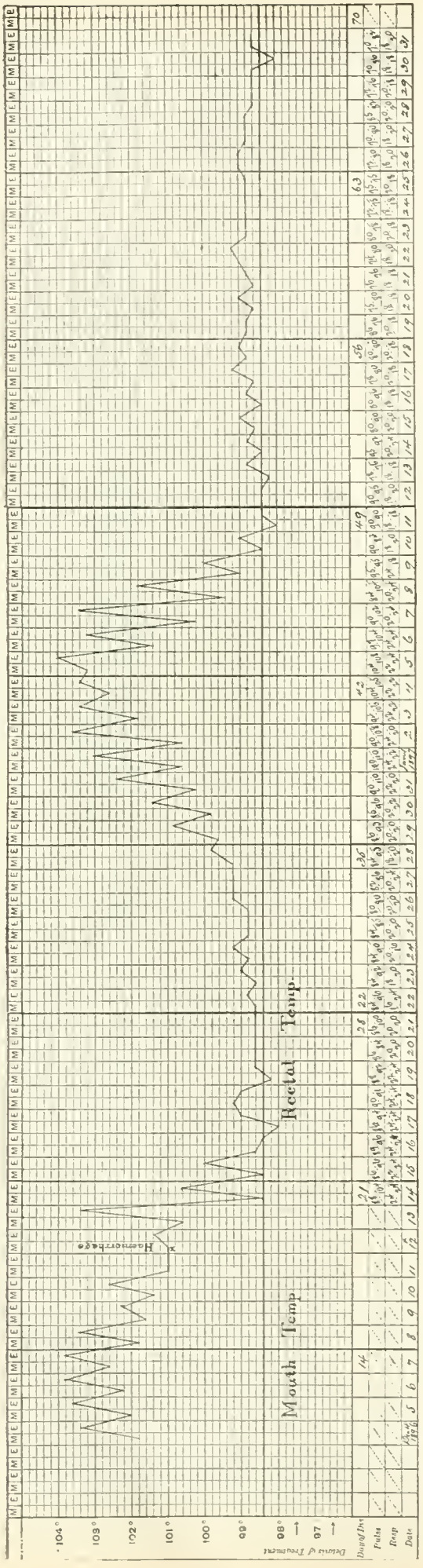


J. B——, aged 63. Typhoid fever, fatal.

January 22d, liver aspirated with negative results. Temperature normal; respiration, 40; pulse, 80 to 86. Stupor; died suddenly at 1 P.M.

No autopsy allowed; spleen aspirated, pure cultures of typhoid bacilli obtained from the blood. (See Chart IV.)

CHART V.



Case III. (Dr. Kohn).—Mr. G——, aged sixty-two.

Previous history: Had typhoid fever when seventeen years old. This attack was said to have been very severe, and lasted six or seven weeks. He had suffered from symptoms of rheumatism for the past fifteen years. He had also had difficulty in urinating for thirty years or more. Myocardial symptoms had been present for six years.

Present attack: When first seen, on the afternoon of December 4, 1896, he said that he had felt very ill for the past week; complained especially of being very weak and feverish; had constant vertigo. Constipation. Temperature, 101.8° F.; pulse, slow, irregular, and weak.

The temperature curve followed the typical course, showing evening rises, which gradually increased, with morning remissions. No typical eruption at any time. Spleen but slightly enlarged. The only symptoms were the general weakness, attacks of vertigo, marked constipation, and frequent attacks of distressing tympanites. He passed large quantities of gas.

On December 12th he had a severe intestinal hemorrhage. Very slight bronchitis. In the third week he developed cystitis, which was afterward found to be due to vesical calculi.

On December 19th the temperature was normal and remained so till the 28th, when he had a typical relapse of three weeks, lasting till January 11th. This curve was also characteristic. (See Chart V.)

Throughout the disease the heart action was slow, weak, and irregular. The only nervous symptom was extreme restlessness.

The convalescence was rapid, so that about a month later litholopaxy was performed under cocaine; this failing to relieve the bladder trouble, suprapubic cystotomy was performed under chloroform one month later. The man has been in good health ever since.

Case IV. (Dr. Rudisch).—Mr. X——, sixty-six years old.

May, 1897, when first seen, he said that for the past few days he had had great general weakness. No cause could at first be found for this, but as time went on he gradually developed the characteristic symptoms of typhoid fever. The attack was in every way typical. The highest temperature was 105° F. At that time he was delirious for three days. Once he had some blood in the stools. He also had a marked bronchitis, so that a pneumonia was at one time suspected. Roseola scanty and vaguely marked. Spleen decidedly enlarged. No diarrhœa. The Widal reaction was present after the seventh day, and persisted for three months. The convalescence was very slow, six months elapsing before his strength fully returned to him. He is now perfectly well.

Case V.—Mr. J. H. C——, aged sixty-five; hotel keeper. Admitted to Mount Sinai Hospital (service of Dr. Rudisch), on October 27, 1897.

Family history, negative.

Previous history, only minor complaints.

Present history is of three and one-half weeks' standing. It began with a loss of interest in everything, inability to be about, and general malaise. He also had great difficulty in breathing. Feeling sure that he had typhoid fever, and knowing that illness would injure his business, he came to this city and had been in bed under medical attendance for one week before entering the hospital. He now complained of headache, slight cough, and great dryness of the mouth. He had had no epistaxis; the bowels had been constipated since the onset. No cardiac or urinary symptoms. Sense of hearing and of smell impaired. Marked anorexia. He said that at the beginning he had severe chill and fever.

Physical condition on admission: General state is

fair; is well nourished; the tongue is glazed, cracked, and coated.

Lungs: Anteriorly and posteriorly the percussion note is rather tympanitic; prolonged expiration.

Heart: The cardiac area is somewhat enlarged. Slight blowing systolic murmur at the apex. Apex beat is imperceptible. Second aortic sound accentuated. The pulse is slow, regular, and slightly dicrotic.

Abdomen is somewhat tympanitic. No eruption.

Liver: Extends from the fifth space to three finger-breadths below the costal border. The region of the gall bladder is very tender to the touch.

Spleen: Enlarged to percussion and palpable.

No œdema of legs.

At 11 A.M., on admission, temperature, 101.2° F.; pulse, 84; respiration, 24. At 11 P.M., temperature, 102.6° F. Urine: specific gravity, 1.022; acid, trace of albumin, trace of indican, positive Ehrlich reaction; few red and white blood cells and urates.

October 28th, temperature ranged between 101° and 102.4° F.; pulse, 84 to 100; respiration, 24. Enema required.

October 29th, temperature, 100° to 101.6° F.: pulse, 72 to 96; respiration, 24. Enema necessary.

October 30th, temperature, 99.8° to 100.6° F. General condition good, but tongue still glazed.

October 31st, temperature, 99.4° to 100.8° F. Widal reaction absent.

November 1st, unchanged; general condition good. Temperature, pulse, and respiration about the same.

November 2d, Widal reaction positive (board of health report).

November 5th, temperature keeps ranging between 99° and 101° F.; pulse about 80; respiration, 24. The tongue becoming moist and clean. Mental condition good.

November 7th, at 11 P.M., temperature rose to 102° F., pulse to 90.

November 8th, temperature gradually fell to 99.8° F. at 2 P.M., and then rose to 101.2° F., remaining at this level till 5 A.M. It gradually fell to 99.2° F. at 5 P.M. (November 9th). Soon after it rose to 101.2° F., and kept between 102° and 99.8° F. General condition excellent.

November 15th, temperature normal, and patient convalescent.

Diagnosis.—In the typical cases which follow the ordinary course, no difficulty is encountered; but in the atypical ones it is often impossible to make it during life. The reason for this may be referred to the great variations in the clinical picture, as shown above. Then, too, cases are undoubtedly not infrequently overlooked because the disease is currently supposed to be such a great rarity in the aged. Our improved methods of bacteriological diagnosis ought to be of great value, especially in these cases.

The conditions which must be differentiated in the diagnosis are senile asthenia, senile pneumonia, gastro-intestinal inflammations and auto-intoxication, nephritis, and cerebral disorders like meningitis and thrombosis.

Prognosis.—This is grave, especially in the atypical cases. However, recovery is by no means rare. The protracted convalescence renders the patients peculiarly liable to death from intercurrent complications. According to Murchinson,[1] the mortality above fifty years is 34.94 per cent. Uhle states that 52.6 per cent. of the cases above forty years are fatal. Of the five cases I have reported, the two atypical ones terminated fatally, the three typical cases ended in recovery (60 per cent.).

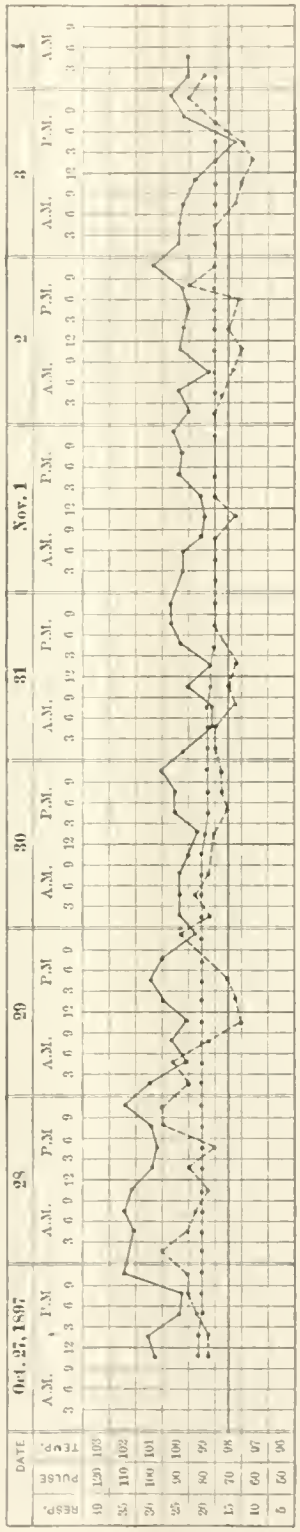
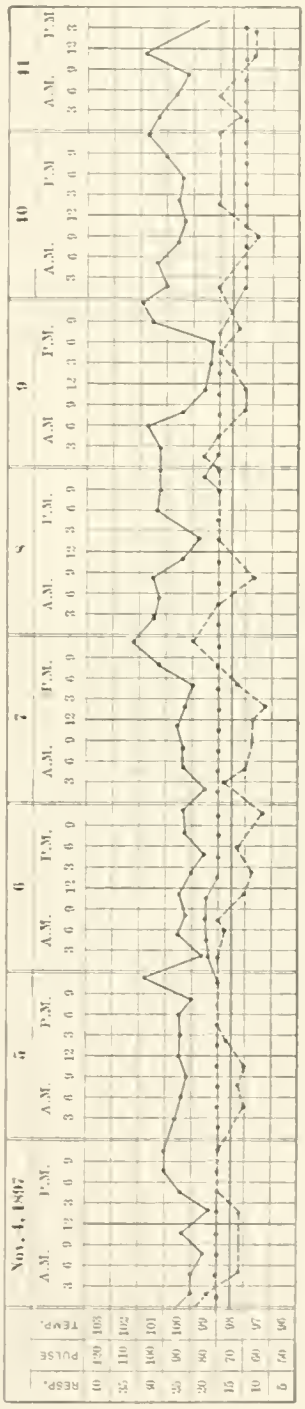


CHART VI.



J. H. C——, aged 65. Typhoid fever, recovery.

Treatment.—The special features of the treatment of the disease in the aged are well stated by Boy-Tessier: "To combat the adynamia with tonic treatment; to guard against pulmonary complications; to watch the heart, especially its right side. Baths are to be avoided on account of the atheromatous condi-

tion of the blood-vessels. Good results may be obtained from systematic cold enemata. Tepid baths are also serviceable. Cardiac tonics, like theobromine, caffeine, and alcohol, are very useful." Otherwise, the indications for treatment are the ordinary ones for the disease as it occurs in younger persons.

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ANÆSTHESIA—"GAS AND ETHER."

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The disagreeable phenomena accompanying the induction of ether anæsthesia by ordinary methods constitute a picture familiar to all who administer this agent. They depend, at the beginning, upon the pungency of the vapor, causing holding of the breath, swallowing-movements, coughing, choking, and suffocative sensations from closure of the glottis, and various emotional disturbances in certain patients. At a later period they are due to its stimulating effect, resulting in excessive activity of the muscular, respiratory, and circulatory systems, disordered cerebration, increased lacrymation and salivation; thus constituting the "stage of excitement." These distressing effects of ether are responsible for most of the opposition which many have to its use and for much of the annoyance and danger attending its administration.

Various means have been employed to obviate or lessen these effects; notably, beginning the administration with chloroform or with mixtures containing chloroform, giving certain drugs, as chloral, alcohol, or morphine before the etherization, the preliminary application of local anæsthetics to the upper air passages, and others. These measures are more or less successful, but are open to certain objections. Beginning the administration with chloroform exposes the patient to much of the danger of that drug, since about one-half of the chloroform deaths have occurred before the anæsthesia has become complete. Mixtures of chloroform and other anæsthetics are much less dangerous and are quite satisfactory. The A.C.E. mixture or the Schleich solutions will be found to serve this purpose well. The administration of chloral or alcohol in sedative doses previous to the etherization is objectionable, for the reason that in such doses both are depressants. Opium before ether undoubtedly renders the anæsthesia quieter at all stages, but the opium effect continuing, as it does, so long after the etherization, is often a disadvantage. The doses of opium commonly exhibited before anæsthesia are larger than are necessary to produce favorable effects; this is due to the fact that its action is greatly intensified in the presence of other narcotics. Instead of one-eighth to one-third grain doses of morphine before ether, doses varying from one-twentieth to one-eighth grain, according to the type and condition of the patient, are satisfactory; furthermore, the larger doses of opium, when given as a routine practice before anæsthesia, are liable, in individuals peculiarly susceptible to its action, to produce serious effects after the anæsthetic has been administered. It is for the same reason unwise to administer usual doses of morphine too soon after the anæsthesia.[1] Opium acts most satisfactorily when given subcutaneously two or three hours before the narcosis; its full effect is thus obtained a considerable time before the anæsthetic is administered, and nervousness and apprehension on the part of the patient are very materially lessened. The application of local anæsthetics to the air passages lessens considerably the irritating effects of ether; otherwise this measure is of questionable utility.

In 1876, Clover in England, demonstrated the fact that a very satisfactory anæsthesia resulted from the successive use of nitrous oxide and ether. Clover perfected an apparatus for the administration of these agents in conjunction with this form of anæsthesia, known as "gas and ether," which has been used to a considerable extent, particularly in England. Nitrous oxide is almost an ideal agent for the production of anæsthesia, though not for its maintenance. It is pleasant to inhale, rapid in its action, free from irritating or stimulating effects, and is the safest anæsthetic known. Used to precede ether, a form of etherization is obtained that is exceedingly satisfactory. The patient, at the beginning, is spared any knowledge of the ether used, none being administered till unconsciousness is present from gas. There are no coughing or choking, no "stage of excitement," and little or no mucus. When the ether is begun it can be pushed to complete anæsthesia within two or three minutes.

Apparatus.—Although the apparatus perfected by Clover and that by Hewitt are best adapted to this particular form of anæsthesia, it can be induced with very simple apparatus, a fact which adds greatly to the practicability of the method. The object of this paper is to call attention to this simple method of giving "gas and ether," to recommend it as a decided improvement over ordinary etherization, and to emphasize several points which are essential to its success. The plan being first to anæsthetize the patient with gas and then change to ether, it is necessary to have a gas and an ether inhaler. The gas inhalers supplied by the dental establishments are satisfactory, especially those having face pieces with inflatable rims. The best ether inhaler to use for this particular purpose is Ormsby's, for with it a very rapid ether anæsthesia can be brought about, and a rapid induction of ether anæsthesia is absolutely necessary to the success of this method of anæsthetizing. This is due to the fact that the gas anæsthesia passes off so quickly[2] that were the ether not pushed very rapidly the patient would come out in some degree, and the transition from gas to ether would be attended by some of the phenomena of incomplete etherization and possibly by some return of consciousness.

A fairly satisfactory substitute for Ormsby's inhaler may be made from the common cone with certain modifications. It should be made large, somewhat smaller at one end, both ends being left open.[3] The edge of the large end should be well padded with cotton in order that it may be closely adapted to the face.

[1] Hewitt ("Anæsthetics") points out this danger, and refers to cases of serious accidents and of deaths from this cause.

[2] One-half to one minute.

[3] Such a cone is represented by covering a long grass cuff with paper and towel.

In the smaller open end should be fixed a good-sized sponge. Over the smaller end of the cone a good-sized bag is now fitted, the common thin rubber ice bag answers the purpose; its opening being stretched over the end of the cone.[1] This practically converts the cone into a "close inhaler." A better substitute for Ormsby's inhaler may be made by utilizing the common metallic cone, which has a compartment screened off for holding the sponge. This should be fitted with a bag and an inflatable rubber face piece, such as is used with Ormsby's inhaler. This face piece may be obtained from any instrument dealer.

Technique.—In administering nitrous oxide, it is essential to a rapid and quiet anæsthesia that air should be totally excluded. All air should therefore be expelled from the bag of the gas apparatus before it is filled from the cylinder. The face piece should be accurately fitted, so as to prevent entrance of air at its edges, before allowing gas to be breathed. The respiration should be deeper and more forcible than normal. In about one minute the signs of complete nitrous-oxide anæsthesia will appear; the most important of these are an irregular, stertorous respiration, twitching movements in the extremities, and moderate cyanosis.

It is not necessary to push the gas after these signs first appear; in fact, it is undesirable to do so, for such a course will result in so stertorous and interrupted a form of respiration as to interfere with the intake of ether vapor. The gas should therefore be stopped and the administration of ether begun. In changing from gas to ether it is necessary that but little air be admitted. The average case should not be allowed more than one inspiration of air at this time. If Ormsby's inhaler is used, its air valve may usually be fully open when the inhaler is applied: but it is to be gradually closed as soon as the respiration tends to become regular and cyanosis begins to lessen. (If a modified cone, without air valve, is used, it need not be adapted to the face so closely at first as will be necessary when stertor and cyanosis lessen. The object to be attained is a gradual subsidence of the nitrous-oxide anæsthesia with a coincident rapid etherization.) The gas apparatus should be taken off during an expiration; air is allowed at the following inspiration; the next expiration should be caught in the ether inhaler and will serve to distend the bag. The change from gas to ether is to be made so quickly that it is necessary to have the ether inhaler charged and ready for use before it is needed. It may be prepared by the anæsthetizer before beginning the administration of gas or by an assistant during that procedure. About one ounce of ether should be poured upon the sponge,[2] and until it is used the inhaler should be placed with its open end uppermost and covered with a towel. This will prevent loss of ether vapor. Before ether is poured upon the sponge it should be wrung out of hot water.

At the first inspiration from the ether inhaler a strong ether vapor is presented to the patient and there will usually be some hesitation in the breathing at this point; in fact, the respiration for the next few seconds is usually rather unsatisfactory, it being spasmodic, jerky, and irregular. Not infrequently the breath is held so long that great cyanosis appears. The spasmodic respiration is that usually seen in complete gas anæsthesia, and it may be expected to subside within a few seconds as a result of the air given at the time of the change to ether. Should it not subside, however, and should the cyanosis increase, it will be necessary to allow another inspiration of air or several inspirations at intervals of a few seconds, till the respiration becomes regular and the cyanosis lessens. It occasionally happens that the stertor is so great that the respiration practically ceases, and it becomes necessary to open the mouth and pull the tongue forward. Instruments for this purpose should invariably be at hand. The holding of the breath after the first inspiration from the ether inhaler is occasionally of such long duration that it is necessary to remove the inhaler and possibly open the mouth; usually, however, a number of inspirations are held a short time, and respiration gradually becomes regular. Under these circumstances the inhaler should be kept closely applied till ether anæsthesia is complete, only enough air being admitted to prevent very marked cyanosis. Moderate cyanosis must be expected till ether anæsthesia is complete, when the admission of air will quickly remove it. Thus, in the first half-minute or more of the ether administration it may be necessary to allow three or four inspirations of air at intervals of five or ten seconds, the guide being the amount of asphyxiation present, as denoted by the cyanosis and stertor. Should these be moderate and decreasing, less air need be given; if marked and increasing, more air must be allowed. In this respect patients will differ greatly, and each must be conducted according to the indications present. Here a little experience and skill will enable the anæsthetizer to bring about a satisfactory transition from gas to ether in the majority of cases. The etherization is now continued as usual.

It is obvious that in the use of a "close" ether inhaler, *i.e.*, one provided with a bag for the re-breathing of air and ether vapor, some provision must be made for allowing fresh air. In Ormsby's apparatus there is an air valve for this purpose, and after the anæsthesia has been carried to a complete degree the valve may be opened half-way or more and kept there throughout. In using an inhaler having a tightly fitting face piece without an air valve, fresh air is to be admitted by removing the inhaler from the face several times a minute, allowing one or two inspirations of pure air at each removal. The amount of air and the frequency with which it is to be given will vary, depending upon the conditions present in each case. In general terms, a frail, weak patient must be allowed a considerable amount of air at short intervals, whereas a powerful, robust individual must have less air at longer intervals. As the anæsthesia proceeds more and more air may be allowed. It is rarely necessary to produce cyanosis by the use of a "close" ether inhaler. In adding ether to these inhalers after the initial dose, one or two drachms at a time will be found sufficient.

This form of "gas and ether" anæsthesia is practically that known in England as the method of Mr. Woodhouse Braine, and its chief recommendation is its simplicity. The advantages of "gas and ether" are obvious. Perhaps the greatest is the comfort to the patient. To be spared that period of etherization which precedes loss of consciousness is indeed a boon, and to be assured of this relieves the patient of much of the dread of the operation. Particularly is this so of patients who have been previously etherized in the usual way and of those who are particularly distressed by the first "whiffs" of ether, as are many nervous or hysterical subjects, those in great fear, those who become nauseated at the first smell of ether, and others. The rapid anæsthesia, absence of stage of excitement, and freedom from mucus are undoubted advantages. The amount of ether required is less than usual, hence recovery is somewhat more rapid

[1] In place of the rubber bag a common paper one may be used, being held in place by a strong rubber band, and this has the advantage that a new bag may be supplied for each patient.

[2] The sponge should be large enough to fit the upper part of the inhaler closely when wet. It should be somewhat coarse in texture to allow air to pass through it readily.

[1] Hewitt "Anæsthetics."

and after-sickness less. A trial of this method of anæsthetization in cases suitable for ether will demonstrate what Dudley Buxton[1] has said of it, *i.e.*, "It is the best method of producing general anæsthesia."

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PARALYSIS: ITS FORMS, PROGNOSIS, AND TREATMENT.[2]

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The question of the form of the paralysis should be the first to be considered in each case presenting itself for examination. The simplest and most practical division or classification is that based on the situation of the lesion or disease causing the paralysis. We may say, then, that there are four forms or types of paralysis based on this theory, *i.e.*, the cerebral, spinal, peripheral nerve, and intramuscular. The special symptoms always present in disease of these divisions of the nervous and muscular systems, especially the distribution of the paralysis and the trophic condition of the muscles affected in each, make the diagnosis usually an easy one.

With these explanatory remarks I will take up the first form of paralysis under our classification, *i.e.*, cerebral paralysis. The usual causes are hemorrhages, meningeal and intracerebral, thrombosis (due to atheroma of the cerebral vessels, usually the result of old age or chronic nephritis, or again to endarteritis syphilitica), embolism, tumors, injuries. One characteristic of the paralysis is the distribution, which in the majority of cases is unilateral, involving the lower half of the face only, with deflection of the tongue to the paralyzed side and paralysis of the upper and lower extremity of the same side. A second marked condition is the absence of any atrophy or wasting of the muscles (except long after from disuse). The muscles retain their tonus and remain firm; there is often rigidity or spasmodic contracture from the beginning, and this condition is always present later in the course of the disease, with exaggeration of the reflexes, *i.e.*, in the lower extremity; there is exaggerated patellar reflex and ankle clonus. Again, there are no changes in electrical reaction. There is always a normal response to both the faradic and galvanic currents.

This condition of paralysis without wasting, with the presence of increased myotatic irritability and normal electrical response, differs from all the other forms of paralysis referred to, and is due to disease of the motor or pyramidal fibres, which pass down from their origin in the cells of the cerebral cortex through the crus, pons, and medulla into the lateral column in the opposite side of the spinal cord. Any lesion of these pyramidal fibres, whether situated in the cortex, subcortical region, internal capsule, crus cerebri, pons, medulla, or lateral tract of the spinal cord, must give and can give only this so-called cerebral type of paralysis, *i.e.*, that form in which the muscles do not atrophy, present no electrical changes in reaction, and are subject to increased myotatic irritability.

We see from the above remarks that disease of the lateral tracts of the spinal cord, as in lateral sclerosis, gives us a cerebral type of paralysis. This is easily understood when we stop to consider that the tract involved in this spinal disease is essentially a cerebral tract of fibres which start from the brain in their course to the cord, receive their origin and nutrition in the cells of the cortex, and serve the muscles only in carrying the impulse or order of action from the brain to them. The muscles depend for their nutrition and growth only on the multipolar cells of the anterior horns of the spinal cord, conveyed to them through the anterior spinal nerves. The form of the paralysis, therefore, is the same wherever the pyramidal tract is diseased; the localization of the lesion depends on symptoms, the result of lesions involving other parts than this tract alone, and serve as landmarks as to the site of the lesion.

The second form to which I would direct your attention is the spinal type, and here I would refer only to disease of the anterior horns, for I have already placed paralysis from disease of the lateral tracts into our cerebral type. The usual causes of disease of the anterior horns of the spinal cord are inflammation, acute and chronic, hemorrhages, new growths, injuries, and compression, as in caries, spinal fracture, dislocation, etc. The special characteristics of this paralysis are atrophy or wasting; loss of tonus of the muscles, and therefore flaccidity; loss of reflexes; loss of response to the faradic current, and the reaction of degeneration to the galvanic current—always in acute disease, and at least decreased response to faradic and galvanic currents in the chronic forms, or a partial reaction of degeneration to galvanism with decrease or loss of faradic response; and, lastly, an absence of sensory disturbance—either anæsthesia or hyperæsthesia.

The most common forms of disease which give these characteristic symptoms are poliomyelitis, acute and chronic, and progressive muscular atrophy of the spinal type. These diseases have their own special etiology and course, which it is not my province at this time to go into, but they all have that character of paralysis, with wasting, electrical changes, and loss of myotatic irritability, which absolutely differentiates them from paralysis of cerebral origin. Again, in the spinal form the distribution of the paralysis—that is, the muscles affected—differs from that of the cerebral type, being usually bilateral, affecting both sides; or, again, involving only an upper or a lower extremity, or an upper extremity of one side with the lower of the opposite side; while, as I have said, in the cerebral form hemiplegia, or paralysis of one side, usually including the lower half of the face, is the common type.

In transverse myelitis we have both the spinal and the cerebral types of paralysis—that is, at the site of the lesion we have the muscles paralyzed, atrophied, flaccid, with loss of reflexes, and the characteristic changes of electrical response—*i.e.*, the spinal type; while below the lesion the paralyzed muscles do not waste, are rigid, have exaggerated reflexes, and present no electrical changes—*i.e.*, the cerebral type.

We will next consider our third form—the peripheral nerve paralyses. The usual causes are inflammation from diathetic blood states—as rheumatism, gout, etc.; or some micro-organism—as in diphtheria, typhoid, malaria, beriberi; or, again, some chemical or metallic poison—as alcohol, arsenic, lead, mercury, etc.; or, lastly, to injury resulting in compression, lacerations, or section of the nerve or nerves. The character of the paralysis is of the spinal type, *i.e.*, wasting, flaccidity, loss of reflexes, and electrical changes, but associated with it we usually have marked sensory symptoms, especially when the disease is acute in its onset. In acute inflammation of the peripheral spinal nerves there is always great pain on pressure along the course of the nerves, and also in the muscles supplied by these nerves. There is also subjective pain of a burning, gnawing character, almost more unendurable than true neuralgia. The most typical example of this is seen in acute alcoholic multiple neuritis. There is almost always also some disturb-

[1] Buxton: "Anæsthetics."

[2] A paper read before the Medical Society of the State of New York, at the ninety-second annual meeting, held in Albany, January 25–27, 1898.

ance of general sensation, showing itself in incomplete anæsthesia, paræsthesia, etc.

In chronic inflammation of the peripheral nerves, as more commonly observed in lead paralysis, the sensory disturbance is much less marked, often insufficient for the patient to observe it subjectively, although on careful examination it may be brought out objectively. When the nerve is destroyed, either by disease or by injury, of course the paralysis is always accompanied by complete loss of sensation of the parts supplied by it. This sensory disturbance is not present either in cerebral or in spinal paralysis, and is thus of great value as a diagnostic differential point, especially between anterior-horn disease in the spinal cord and peripheral-nerve paralysis.

In transverse myelitis, indeed, we have loss of sensation below the lesion in the spinal cord, due to disease of the sensory tract, but this sensory disturbance differs from that of the nerve lesion, in that on pressure there is no pain either in the muscles or in the nerves. This differential point is of the greatest importance often in our diagnosis between acute multiple neuritis and acute transverse myelitis.

The distribution of the paralysis in nerve lesions is also somewhat characteristic. A single nerve may be affected, as the musculo-spiral or facial, from either injury, rheumatism, gout, exposure, etc. Certain poisons, again, as that causing diphtheria, affect especially the throat and eye muscles, together with bilateral involvement of the upper and lower extremities. Again, lead involves the extensors, especially of the forearm and the muscles of the hand, only rarely affecting the lower extremities; while alcohol and arsenic first involve the lower extremities, giving double foot drop, and later as a rule pass to the upper extremities.

Our last form is intramuscular paralysis or so-called muscular dystrophy. This disease is rare as compared with those already referred to. Its cause is obscure, apparently due to some hereditary influence, and has its seat in some embryonal developmental defect. It is observed often in various members of the same family or in collateral branches. Resembling as it does progressive muscular atrophy, it might properly be termed hereditary progressive muscular atrophy with as much appropriateness as we speak of hereditary ataxia. Here the paralysis is of the spinal type, resembling, as we have said, spinal progressive muscular atrophy—*i.e.*, the muscles are wasted, although they may at first appear hypertrophied from fatty infiltration of the muscle fibres and at times actual enlargement of individual muscle fibres; ultimately with time the wasting becomes extreme. There are also flaccidity, loss of reflexes, and electrical changes, characterized by decreased response to faradism and partial reaction of degeneration. Instances of this disease are pseudo-hypotrophic paralysis, Erb's scapulo-humeral type, etc. This form of paralysis is also distinguished by the distribution of the paralysis—in one form affecting especially the legs, in another the upper arms and thighs, or again associating with this the face, giving us then the so-called facio-scapulo-humeral type. Their distribution, their hereditary character, and their occurrence in youth sufficiently diagnosticate them.

Prognosis.—In cerebral paralysis, if the pyramidal tract has been destroyed in any part of its course, recovery is impossible; restoration of nerve fibres in these tracts after their destruction never takes place, as has been proven experimentally and demonstrated by pathology. Paralysis resulting from compression only, as in Pott's disease, etc., even when of long duration, may be entirely recovered from. The prognosis is therefore unfavorable as a rule, as in most cases of cerebral apoplexy the lesion is more or less a destructive one.

Acute spinal paralysis due to affection of the anterior horns is also rarely recovered from. Here again, as also is usually the case, there has been an actual destruction of nerve structure, *i.e.*, the nerve cells, and they can never be restored. As a rule, one or more extremities remain atrophied and paralyzed. Chronic or subacute poliomyelitis is much more likely to be arrested in its course and recovery occur.

Degenerative disease of the anterior horns or progressive muscular atrophy is incurable, although there may be by appropriate treatment much delay in its usual progressive course.

Transverse myelitis, in what may be called favorable cases, is usually recovered from with evidence of a more or less marked condition of spastic paraplegia.

Peripheral nerve paralyses are usually recovered from; the outlook is more favorable than in any of the other forms of paralysis.

Muscular dystrophies are also progressively unfavorable. A few patients have been reported as having recovered, at least partially, under careful massage, electricity, and exercise: but this is certainly the exception.

Treatment.—While on the whole the prognosis is unfavorable as to recovery in these various forms of paralysis, with the exception of peripheral nerve lesions, still much can be done either to alleviate the existing conditions or to stay the progress of the disease. In the cerebral type the rigidity and contractures of the muscles can be lessened by massage and electricity, and the form most favorable is the galvanic current, as often faradism may stimulate or irritate the muscles to increased contraction. Hydrotherapy, especially as carried out in some of the institutions at the various springs—as Virginia Hot Springs, Richfield—is very useful. In poliomyelitis the treatment of the paralyzed muscles should be long persisted in. Even a year after the onset, by manipulation of the individual muscles and electricity applied in the same particular manner, much can be accomplished; also apparatus devised to exercise the various muscles should be employed, or when possible the bicycle should be recommended. Deformities should be guarded against by appropriate apparatus. In the case of a child this should be made as light as possible, so as not to interfere with ordinary exercise. I have often seen appliances so heavy or inconvenient that they retarded rather than aided attempts at locomotion. Patience is required in this disease, and while we cannot usually hope to cure, we can accomplish much in cases of not too severe a type, which, if left to themselves, would rapidly pass into hopeless deformity. Certainly in chronic poliomyelitis the above treatment faithfully followed out is often successful. Even in the degenerative and hereditary forms of paralysis this care is of benefit. In peripheral nerve lesions, as soon as the acute stage is passed, massage and electricity are of great value. I agree with many writers that probably the electricity has little if any influence in removing the disease in the nerve itself, but, as these diseases have a tendency to recovery, we are thus enabled to maintain the muscle in a good state of nutrition and prevent deformities, so that they are ready to respond to the nerve when the inflammatory process has subsided. The benefit of electricity in this disease cannot be denied, according to my experience; therefore, whatever its principle of action may be, it should be employed. I have not spoken of drugs in this connection, as my paper was not intended to take up that division of the subject. However, in all these forms of paralysis, with the exception of the cerebral type, strychnine is certainly of advantage.

The doctor who welcomes the sample man takes his last chance of making a show of business in his office.

WASHING THE BLOOD IN ACUTE URÆMIA.

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Uræmia is a condition dependent upon the retention in the blood of waste products that should be cast out by the kidneys. When the accumulation of these toxic products has been very rapid, the nerve centres are excited into explosions of nervous energy which are clinically manifested by convulsions. No emergency of general practice needs to be more promptly met, and in none has the therapeutical handling hitherto been more unsatisfactory. Failure to relieve acute uræmia has been partly due to the former belief that it was invariably the result of a single cause, whereas it is now known that the poisons producing the condition are many and that these may be produced by widely differing causes. This has been demonstrated by the careful work of Bouchard, and, in our own country, of Christian A. Herter. The object of this brief paper is not to discuss theories, but to point out a measure of value when the condition of acute uræmia confronts us. And here we must discriminate between the acute nephritis with resulting uræmia which occurs as a part of an acute infectious disease and which depends upon the infecting agent, and the acute exacerbation of uræmia occurring in the course of chronic nephritis. These latter cases are frequent in city life and in hospital practice, and to them is especially applicable the procedure herein advocated. The patients may present the usual premonitory symptoms of Bright's disease, or, without warning, convulsions may determine the occasion of the physician's first contact with the case. The convulsions may be followed by coma, or, instead of coma, violent and active delirium may occur between successive attacks of convulsions. Many cases are mistaken for epilepsy, and in all the differentiation requires careful study. This study is important, because the prognosis in acute uræmia depends upon the ease and rapidity with which the toxic principles may be eliminated by the system. In this elimination all the excretory organs must take part, but the amount that can be carried out through the skin and bowels by the action of drugs, hot air, and hot packs is so small as to render dependence on these channels unsafe in the face of impending repetition of convulsions. Chloroform usually controls the convulsions, but is disastrous to the patient. Morphine hypodermatically was warmly commended by the late Dr. Loomis and, under the influence of his teachings, largely used, but it is a treacherous drug in cirrhotic kidneys, and small doses will sometimes have a poisonous effect. Exacerbations of acute uræmia occurring in the course of chronic nephritis often happen when the patient feels unusually well and has indulged freely in flesh meat or alcohol, thus adding an acute toxæmia to the already existing blood deterioration. In these cases, blood letting to the extent of one or two pints followed by the injection of decinormal saline solution directly into the blood current, or into the subcutaneous tissues, or, when sterilization of apparatus cannot be depended upon, into the rectum, will give rapid and striking benefit. In the fourth medical division of Bellevue Hospital and in the Gouverneur Hospital, this is now the routine procedure, and it seems to the writer to be a marked advance over the older methods. It is simple, rational, and efficient, but is not applicable to old exhausted subjects in the terminal stage of chronic nephritis. Recent medical literature bears abundant testimony to its efficacy. Prof. Albert Robin is cited, in the Paris letter to the MEDICAL RECORD, January 15, 1898, page 103, as having treated cases with good results. The Philadelphia *Medical Journal* of January 8, 1898, has an editorial observation on page 57 commending it.

John Van Rensselaer[1] in a paper read before a medical society of Washington, D. C., called attention to the value of venesection and saline infusion in cases treated at the New York House of Relief.

Hughes and Carter,[2] in their Boylston prize essay for 1893, make a study of uræmia and state that free venesection cannot be too highly recommended, as either an abortive or a curative measure in grave uræmia. They further state that even a pronouncedly weak pulse will in no wise forbid its employment, as they have repeatedly seen the pulse strengthen while the blood was flowing. They also urge strongly that the bleeding be supplemented by transfusion of a decinormal saline solution.

J. W. Hoff[3] has had uniformly good results, in fifty years' practice, from venesection in eclampsia, as well as in other diseases.

F. W. Todd[4] commends Hoff's paper, and adds a successful case of puerperal eclampsia in a moribund woman.

C. A. Murray[5] believes that there is no other rational treatment for puerperal eclampsia.

Richardière,[6] in two cases of uræmia, removed blood and introduced double the quantity of Hayem's artificial serum with good results.

A. Albu[7] has very often seen the symptoms of acute uræmia disappear after blood letting, but cautions against its use in old cases of contracted kidneys with coexisting asthenia.

Nothnagel,[8] on the other hand, thinks that little can be accomplished by it except when the arterial pressure is very high.

T. H. Thompson[9] says that, although almost universally mentioned in text-books, blood letting in uræmia is rarely resorted to by the modern practitioner. Thompson cites a case in which he believes that it saved a man's life.

F. O. Yost[10] accords venesection high rank as a means of removing the cause of the attack.

D. L. Beckingsale[11] records the sensible conviction that the progress of medicine does not depend solely on discoveries in bacteriology, toxins, and chemical therapeutics, but also on culling from the experience of the illustrious dead and assimilating all that is worthy and reliable. He hopes that blood letting will reassert its proper position as a remedial agent.

T. K. Clarke[12] does not remember to have lost a case of puerperal eclampsia since he began to treat that condition by venesection.

William M. Holladay[13] says that in that dreadful disease, puerperal eclampsia, blood letting is a remedy by no means to be despised. He has treated eight cases and saved eight mothers and six children.

George C. Laws[14] makes a plea for venesection, which he believes to be the most prompt and efficacious remedy at our command in puerperal and uræmic convulsions. He deplores that therapeutic pessimism which considers it a mark of a weak intellect to believe in anything our forefathers held to be true, before the days when the schizomycetes and microbes began to hold sway.

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Progress of Medical Science.

Treatment of Rectal Carcinoma.—The high position of a tumor is of itself no contraindication for operation (P. Kraske, Volkmann's "Sammlung klinischer Vorträge," May, 1897). If there are firm adhesions, the operation may be difficult or impossible; and if the growth is firmly adherent to the uterus, bladder, or pelvic bones, it should be pronounced impossible. The age, the resisting power of the patient, co-existing diseases, and metastases should be considered when deciding the question of operation. Before operation the bowels should be completely emptied by purgatives and enemata. This is a factor essential for the success of the operation, and to determine this one should resort to abdominal palpation, but more especially to urinary examination. Kast and Baas showed that the presence of ethyl-sulphuric acid in the urine decided this question. If a marked stenosis exists and it is impossible to empty the bowel completely, a preliminary temporary colotomy should be considered; if it should be deemed necessary, it should be done at least one or two weeks in advance. The best site at which to establish this artificial anus is at the transverse colon and not at the sigmoid flexure. The operation for the extirpation of the growth itself depends upon its size, seat, and extent. Growths that occupy the lower segment of the rectum offer but little difficulty in their removal. The incision should be made in thoroughly healthy tissue, allowing a large margin around the tumor, for it is neglect of this precaution that is often responsible for recurrences. If the whole circumference of the rectum is involved, a formal amputation may be required. In those cases in which the tumor reaches to the anterior layer of the peritoneum, anal and perineal and sacral incision is the method recommended. When the growth is highly situated and does not involve the lower end of the rectum, the method which attains a removal of the growth with preservation of function is resection of the rectum by the sacral method. This method includes three steps: (1) the preliminary operation on the sacrum; (2) the resectio recti; (3) the treatment of the peritoneum, the free end of the bowel, and the wound. The writer gives a detailed description of his method of procedure in the removal of the sacrum, which, in the essential points, conforms with his original views. He adopts one modification, which is a curved incision through the soft parts instead of the median incision. He condemns the osteoplastic method, in which the bone and soft parts are included in the flap; in its place Kraske adopts a procedure which is a resection of the left ala of the sacrum and a temporary exarticulation of the coccyx. He next details the resection of the rectum. To close the peritoneal opening he resorts to gauze tampons and not to sutures; the increased amount of time required for the application of sutures he considers a serious objection. In order to preserve the complete functional power of the sphincter the resection of only the malignant segment is preferred. He next considers the treatment of the cut section of the bowel. He believes that every attempt should be made to obtain union by the first intention, and to attain this end the whole circumference of the gut is sutured. In treating the external wound in order to avoid ulceration, he uses tampons of iodoform gauze, carefully introduced, which should be allowed to remain in for at least a week, after which the dressings should be changed more frequently. That the mortality has been higher since the sacral method was introduced the writer attributes to the fact that more difficult cases are now undertaken than heretofore. Comparing the author's series during the first five years, which he considers the experimental period, and those of the later seven years, the mortality has dropped from 34 per cent. to 9.8 per cent. Of the author's eighty operative cases fifteen resulted fatally, a mortality of 18.7 per cent. In eight of these cases of death not one was due to this operation in particular, but death might have followed any operative procedure. This gives seven cases in which death could be attributed to the operation, and reduces the mortality to 8.72 per cent. for the entire period; and for the series of fifty-one operations in the last seven years to 3.9 per cent. The cause of death in four of the above cases was peritonitis, brought on by a premature bowel movement occurring in the course of the first post-operative day. Four cases of mixed infection of bacillus coli communis and streptococcus occurred, three of them terminating fatally. The most frequent complication of this operation was cystitis, attributed to the use of catheters, which are always required. In regard to the permanent results of the operation, the writer traced all but five of his cases. Of these cases twenty-two were fatal from recurrence in from six months to twelve and three-fourths years after operation; sixteen were fatal from intercurrent affections without recurrence or metastasis; fifteen patients lived without recurrence for periods varying from nine months to eight and one-half years.

Hemorrhages in the Newborn.—According to Orlowski (*La Médecine Moderne*, August 25, 1897), hemorrhages in the newborn are more frequent than statistics would lead us to suppose. From November, 1895, to November, 1896, the writer saw thirteen cases of hemorrhage in fifteen hundred and twenty accouchements, or a proportion of one in one hundred and sixteen births. In one-fourth of the cases hæmatemesis and melæna were united; Kling, Silbermann, Lederer, and Dusser have observed the same fact. The melæna alone is not so rare as Grynfelf holds, since he represents the latter to be in the proportion of three to one of hæmatemesis alone. Umbilical hemorrhages are most frequent. These accidents appear ordinarily about the third day after birth; ten out of fifty-one cases noted by Silbermann showed themselves on the eleventh day, but these were cases of infection. Infection and syphilis are the two great causes of these hemorrhages; macroscopical, histological, and bacteriological examinations agree on these points. In the order of frequency the infectious agents encountered are streptococci, staphylococci, and colon bacilli. These micro-organisms cause hemorrhage in robust infants free from hereditary taint, as well as in the debilitated or syphilitic. It remains to be shown that the mother was infected by the same microbe that is found in the blood or organs of the child affected with hemorrhage. Negligence in ligating the cord is often the starting-point of the septicæmia. Hæmophilia is very rare, if one considers only the hereditary origin. The trouble may be caused by these micro-organisms being brought into the placental circulation by a tedious labor, by the passage of a head into a retracted pelvis, by the forceps injuring the vasomotor centres of the stomach, the intestines, and the lungs. The congestion set up by these means becomes a source of hemorrhage in these cases. The prognosis is very grave when the hemorrhage has lasted more than twenty-four hours. When it is accompanied by a serious infectious state, the constitution of the child

is of little account; the case usually ends fatally in spite of everything. The mortality is 85.8 per cent. When the hemorrhage is from the umbilicus, we should begin by loosening the dressings and trying different methods of ligature, but in some cases these all seem to be absolutely useless. In cases of gastro-intestinal hemorrhage the infant should be placed in an incubator with a temperature of 37° C., or in warm cotton. Three times daily it should have mustard baths, followed by friction with alcohol, hot baths, hot-water bags to the abdomen, hot whiskey, and subcutaneous injections of a solution of chloride of sodium, 7 to 100, doses of ten to fifteen grams repeated four or five times daily.

Colpotomy and the Surgical Treatment of Pelvic Peritonitis.—Dr. A. Martin (*Monatsschrift für Geburtshilfe und Gynäkologie*, Bd. vi., Heft 3) discusses the clinical symptoms and the pathological anatomy of pelvic peritonitis, with its associated diseases of the uterus and its appendages. In acute pelvic peritonitis the writer lays great stress on antiphlogistic remedies, particularly rest in bed. In chronic pelvic peritonitis, methods for absorption of the exudate should first be tried; should these fail, then only should operative procedure be thought of. For the worst cases a radical operation is the recognized and proper course of treatment; in the great majority of cases, however, only a conservative operation is necessary. This conservatism lies in the tearing and dividing of adhesions, and in the isolation of the individual pelvic organs; new adhesions are prevented from forming by the fixation of the uterus. Formerly ventral fixation was the only method at our command, and even now this operation is preferable in cases with extensive adhesions and in those in which the adnexa form large and degenerated tumors; in all others, based on an experience of four hundred and seventy-one cases with four deaths, of which two were from pyosalpinx, Dr. Martin recommends anterior colpotomy. The results of the latter operation are very satisfactory. Of the four hundred and seventy-one above-mentioned cases, eighteen became pregnant. In nine births, the delivery was hindered in two cases by the antefixation, yet in both, by the aid of version, the women were delivered of living children.

Hydrophobia and Common Sense.—Dr. George Ardin Stockwell, in a lengthy article on this subject (*Dominion Medical Monthly and Ontario Medical Journal*, December, 1897), concludes with a few simple axioms, which, if heeded, will, he thinks, in the majority of cases allay fear and quell the senseless epidemics of rabiphobia that threaten from time to time. 1. Rabid dogs do not fear but court water. 2. Rabies can never arise spontaneously either in animals or man. The absence of recent wounds upon and the good health of the creature inflicting the bite are alike evidence of the non-specific character of the disease. 3. Wounds inflicted by the teeth of non-carnivorous creatures are never rabic, though a blood poisoning may be induced. Man cannot communicate the disease to other human beings or to animals. 4. The saliva of truly rabid carnivora alone is capable of inducing rabies. 5. Excessive saliva in any creature, more especially dogs, is always induced by any affection of the mouth or throat; is the universal sequel of toothache, of inability to swallow from any cause, of paralysis, of throat abscess. Paralysis independent of rabic condition is a sequel to numerous local brain and nerve maladies; twitching of eyes, of eyelids, of lips, and muscles, lolling tongue, indrawn tail, upward flanks, drooping head, slinking gait—one and all should be included in the same category. 6. Safety lies in preserving the life of the suspected canine and sequestrating for observation; by premature death the only evidence whereby rabies can definitely and with certainty be established is destroyed. Muzzle the creature and examine for recent wounds; if none is exhibited, fear is idle: if it evinces a good appetite and if it partakes of food freely on and after the fourth day, it is not rabid; if it dies without paralysis, it is not rabid; if it succumbs to paralysis, the chances are still a thousand to one its death was due to some natural cause; if it falls into convulsions and froths at the mouth, it is an epileptic and an object of commiseration. Ninety-nine out of every hundred dogs pronounced "mad" are epileptics or choreics, and dogs with "fits" are positively never rabid; if after ten days' confinement the suspected animal evinces a cheerful disposition, there is no danger whatever and it should be released. When death supervenes, critical examination of the body—the brain, viscera, etc.—should be made by a competent pathologist, to determine whether there is a cause for death aside from rabies. 7. Members of the human race, suffering from rabies, do not howl, whine, bark, or exhibit other canine characteristics or peculiarities, any more than do cats, fowls, sheep, cattle, etc.; such phenomena are conclusive evidence the malady is—hysterical. 8. Intolerance of light and air in motion, fear of water and bright substances, and spasm of muscles of the throat and neck, far from constituting specific evidence, are common in diphtheria, croup, goitre, sore throat, lockjaw, pregnancy, hysterics, ear abscess, hay fever, poisoning by certain mineral and vegetable substances; they may arise from the use of narcotics, sedatives, and alcoholics; from cancerous affections, certain maladies of the internal ear, or of the eye as in glaucoma, diseases peculiar to sex, and a multitude of brain and nerve maladies. In no instance would these symptoms excite special comment or alarm were not the dog linked therewith as a factor. 9. Error in judgment is the almost inevitable result of accepting mere negations for their anthesis. Careful examination of the evidence laid down for the distinction of rabies reveals little aside from mere negations. Until death ensues the weight of evidence is always negative; when dissolution follows it is very far from being presumptive of the positive. 10. Since less than three per cent. of infected canines ever contract the malady, the danger to man is several hundred times less than from scarlatina, measles, quinsy, ague, and a host of simple maladies. As Prof. Charles Bell Taylor remarks: "It is less than one in a million—less than being kicked to death by a horse;" to which may be added, it is less than the gallows. Atop of all, it may be said that, after examining as thoroughly as possible the history of every case of rabies reported as occurring in North America during fifty-five years (and they number about one thousand), I have been unable to find even one that was not open to the gravest suspicion as to error.

Animal Disease Communicable to Man.—Dr. Charles Gresswell, in the *Colorado Medical Journal*, December, 1897, concludes an able article on this subject with a brief *résumé* of the results of late researches into this subject: 1. Koch claims to have established the unity of the tubercle bacillus in all animals, including man, but Maffuci claims that a difference exists between that of mammals and that of birds, the latter being less virulent than the former. Kruse gives the histories of four varieties, and Pansini concludes that transition forms exist. Experimental research so far has not established sufficient differentiation of the tubercle bacillus (in spite of its well-known character of being highly specialized toward an intracellular existence as a parasitic organism) to lead to the hope that it cannot take root in all mammals alike under

similar conditions. Other microbes, such as that of Texas fever, are so specialized as to be harmless to other animals than cattle, and it may be that that of tubercle will prove to be of a varying degree of virulence as between animals and man, but at present we must accept the conclusions of Koch. 2. The raw milk of tuberculous cattle, even if the disease is localized and not general, will communicate the disease to all other susceptible mammals. The flesh of tuberculous cattle is contagious when the disease is general, not when localized. The flesh of tuberculous swine is infective generally, on account of the greater liability in the hog to general tuberculosis. The milk and flesh of both are harmless if properly cooked, boiled, or sterilized. 3. Many thousands of illustrations are now on record, proving that the tuberculin test is extremely accurate in diagnosis of even the slightest presence of tuberculosis, and that it is harmless to healthy animals. 4. Although the conditions of susceptibility are hereditary, the young of tuberculous animals are born free from the disease, and can be raised apart from their mothers without necessary contraction of the disease. 5. Susceptibility is much increased by inbreeding or intense breeding from varieties for one result, by close confinement, by impure air, and by any condition or sets of conditions which lower the general vitality of the system. 6. Where conditions exist tending to increased susceptibility, the germ itself increases in its contagious virulence as it spreads from one animal to another of those under such conditions, and this to such an extent that an ordinarily immune animal is likely to succumb when brought into immediate contact with the germ so increased in virulence. 7. The susceptibility of inbred stock can be remedied by suitable outcrossing, and the same is true, but less marked, of intensely bred animals. 8. A system of semiannual tests with tuberculin, isolation of affected animals to be kept for breeding purposes only, condemnation of all showing physical signs of the disease, strict attention to improved sanitary conditions and methods of breeding, has been found effectual in stamping out the disease among cattle. 9. Considering the great susceptibility of so many of the human family by reason of their faulty environments, and in healthy men immediately after recovery from other germ diseases, and in children generally after attacks of the infantile fevers of nutrition, all milk derived from herds which have not been submitted to the tuberculin test should be sterilized or boiled, and all meat from animals with general tuberculosis should be condemned. 10. It is a grave question as to how far the expense of the tuberculin test, and that of the occasional condemnation, should fall upon the dairy owner or upon the public; for it is hardly fair that a higher standard of purity of food products should be expected from the milk vendor than from the butcher who sells ptomains with his meat, from the saloon keeper who sells fusel oil with his whiskey, or from the druggist who vends unknown patent medicines for the cure of unknown diseases—all of whom may be said to be guilty of occasionally poisoning the public as well as is the dairyman who unwittingly sells the seeds of consumption with his milk.

The Diagnosis of Diphtheritic Angina.—Dr. Guillemaut (*La Médecine Moderne*, August 25, 1897) says that the diagnosis of diphtheritic angina based on clinical phenomena still holds its place in practice. He sets forth the actual difficulties of the bacteriological diagnosis of diphtheria. The bacilli of Loeffler, in all forms and of all degrees of virulence, are found in many healthy throats; generally the bacilli are not active, but in certain conditions they may become virulent. Dr. Haushalter said, at the congress of Nancy, that simple anginas with the bacilli of Loeffler do not differ clinically from those without these bacilli; these anginas ought to be regarded as diphtheria. When one finds in membranous diphtheritic anginas only the short bacilli, the pathogenic rôle of which is very doubtful, one ought to hesitate before using the serum; they may indicate only a laryngitis. One cannot base a prognosis on the form and number of bacilli observed on the culture; the clinical signs furnish the best indication, as the procedure necessary to distinguish the true Loeffler from the pseudo-bacillus has not yet been simplified. In many instances the clinical examination alone will suffice as an indication for the serum treatment, and by adopting it at once we gain the twenty-four hours that the bacteriological examination would otherwise consume. There are still too many contradictory opinions relative to the prognostic value of the microbic association in diphtheria for the clinician to be able to draw profitable information from the bacteriological investigations made on this subject.

Spontaneous Rupture of the uterus before term must certainly be very rare, and I find only one instance recorded. A case is recorded in the *British Medical and Surgical Journal*, 1858, p. 847, due to tuberculous degeneration. Some writers declare that it can be caused by carcinoma; several early writers report instances of rupture in the early months of pregnancy, but always in the cornua of the uterus, and such instances are open to the suspicion of extra-uterine pregnancy.—Dr. Harold Metcalf, *Atlantic Medical Weekly*, December 25, 1897.

On the Treatment of Epilepsy.—Dr. Paul Flechsig (*Neurol. Centralblatt*, No. 2, 1897) states that, by his bromide-opium method of treatment, in a series of fifty cases, he has had six excellent results with cessation of attacks for two and one-fourth years. All the patients presented the following: (1) long duration of the disease, some even twenty years; (2) other treatment, and particularly by bromides, has been without avail; (3) all kinds of psychical phenomena were present, such as weak memory, lack of nerve tone, irritability, morbid fear; (4) a "torpid" constitution, generally with anæmia. As a rule, he does not begin with the combined opium and bromides treatment, except in those cases in which the disease has apparently developed through fear, sorrow, etc.; but starts with the ordinary bromide treatment. He uses the opium when bromides do not affect the disease, when bromidism begins, etc. The reasons for the good results of this treatment are as yet not positively known. The writer regards diet, rest in bed, rectal enemata, etc., as important accessories to the treatment. It may be that the opium produces its good effects in overcoming the nervous irritability and the causeless fear of these patients, for most epileptics are psychically perturbed. The patients must be treated as if quite ill, *i.e.*, they must be under the continued observation of the physician and of a reliable nurse.

Bacteria in the Normal Conjunctiva.—In a study of the effects of aseptic and antiseptic irrigations in eye work, Dr. Robert L. Randolph (*Archives of Ophth.*, vol. xxvi., No. 3, 1897) draws the following conclusions: 1. The normal conjunctiva always contains bacteria. Of these the staphylococcus epidermis albus is found with such frequency that it must be regarded as a regular inhabitant of this situation. This coccus and probably other bacteria found in this locality are usually of only slight if any pathogenic power. It should be remembered, though, that bacteria ordinarily non-pathogenic may become harmful under certain favoring conditions, such as the bruising of the tissues by instruments or the irritation resulting from chemical substances. 2. Neither the irrigation with sterilized water nor the instillation of a sublimate so-

lution (1 to 5,000) produces sterility of the conjunctiva, and inasmuch as both measures are futile and possibly harmful they may just as well be abandoned. These methods of sterilizing the conjunctiva are the ones usually employed by ophthalmologists, and hence the choice of them for testing this question. The most important essential of a germicide which is to be used upon the conjunctiva is that it be absolutely free of irritating properties, and, furthermore, it should be demonstrable that this germicide will destroy the germs most commonly met with in the normal conjunctiva. It goes without saying that an antiseptic which has these qualities would be indispensable in all operations on the eye. 3. In operating upon the normal conjunctiva, as in cataract operations, the surgeon in the present state of our disinfecting armamentarium would do well to consider the subject of antisepsis and asepsis chiefly, if not solely, in connection with the hands, instruments, cocaine, and atropine.

Intestinal Features of Typhoid Fever.—In the first number of the *Philadelphia Medical Journal* is an article by Dr. William Osler, on "Some of the Intestinal Features of Typhoid Fever," which is deserving of a careful study. Anything from the pen of Dr. Osler is always worth reading, but at the present time the subject of typhoid fever possesses exceptional interest. This is so not only on account of the devastating epidemics of this disease which have prevailed in England during the last few months, but also because the fact has been increasingly forced upon us that our knowledge in respect to many of its features is defective or wholly erroneous. Regarding typhoid from the bacteriological point of view, although the advance in demonstrating the widespread nature of its infection has been most striking, yet even in this relation there is still much to be learned. It is, however, in the insufficient knowledge of the disease itself that our ignorance is most marked. As Dr. Osler points out, until a comparatively recent period typhoid fever without intestinal lesions was not recognized as such, and he now further states that he has in the past year met with a case in which there was a general infection without involvement of the lymphatic tissues of the intestine. Nevertheless the belief appears to be steadily gaining ground that the intestine is wholly the seat of the disease, and, in consequence, the method of treatment pursued is by means of purgatives and antiseptics. Dr. Osler emphatically dissents from this view; he claims that the disease is of a systemic rather than an enteric nature, and is opposed to the use of purgatives except when absolutely indicated. When such is the case castor oil is recommended, but the use of intestinal antiseptics or salts is never advised.

Removal of the Whole of the Bowel of a Child below the Transverse Colon.—Mr. Frederic Treves, senior surgeon to the London Hospital, has for the first time in the annals of surgery performed this radical operation. The history of the case, as reported in *The Lancet*, is briefly as follows: A little girl, aged five years and nine months, was brought to him on January 5, 1897. She was the daughter of perfectly healthy parents. She was suffering from extreme constipation, which was attended by frequent attacks of intestinal obstruction. The abdomen was of enormous size, and was distended like a balloon. It was everywhere uniformly tympanitic. Through the thin parietes an enormous coil of intestine, evidently the colon, could be seen. Mr. Treves, on January 13, 1897, performed laparotomy. There immediately presented a gigantic coil of the colon, which looked and felt like the adult stomach, and which appeared to fill up the whole of the abdomen. The wall of this intestine was smooth and much thickened by hypertrophy, and the actual diameter of the collapsed loop was eight inches. After passing a gum-elastic tube of large calibre through the anus into the interior of the dilated bowel with unsatisfactory results, an artificial anus was established in the centre of the median wound, and for nine months all motions were passed by this opening. In October, owing to the great difficulty met with in keeping this artificial anus open, Mr. Treves determined to attempt the excision of the colon from the splenic flexure to the anus. The second operation was performed on October 29th. By means of an elliptical incision in the skin, the artificial anus was isolated and removed, and the abdomen entered on each side of the opening. The orifice in the colon was closed by a series of substantial sutures. It was found that the gut, which had at one time been so enormously distended, was now of more moderate dimensions. The dilation of the colon extended up to the splenic flexure. Beyond that point the colon was practically normal, although it had evidently been to some degree distended and still showed some hypertrophy of its walls. The colon on the right side was normal, and the whole of the greater bowel had a very free mesocolon. Having found that the left extremity of the transverse colon could be brought to the anus, the left colic artery was isolated and ligatured, and the bowel, after being clamped, was divided at the splenic flexure. The sigmoid artery was then isolated and the superior hemorrhoidals were isolated and ligatured. The gut, representing the descending colon, the sigmoid flexure, and the upper part of the rectum, was then excised and the bowel was divided low down in the pelvis, below the entrance of the superior hemorrhoidal artery. The child was now placed in the laparotomy position, and, an elliptical incision having been made around the evidently narrowed anus, the anus, together with the lower and remaining portion of the rectum, was removed. The separation of the rectum from the slender vagina was a tedious matter. The middle hemorrhoidal vessels were secured and the lower end of the rectum was removed without difficulty. The transverse colon was then brought down to the anus, where it was secured by a series of close sutures. The gut was conducted into position by four pressure forceps, which were passed into the abdomen through the hole in the perineum. The operation was concluded by closing the wound in the abdomen without drainage. The child made an excellent and speedy recovery. No sedative of any kind was needed, as little pain was complained of. The only complication was represented by some suppuration between the new rectum and the vagina. As soon as the child began to run about, this discharge ceased entirely.

The Serum Diagnosis of Typhoid Fever.—Dr. Fernand Widal (*British Medical Journal*, December 18, 1897) sums up as follows: "From the practical point of view, the reaction can in general be detected in typhoid patients from the first days of the disease onward; it may at times be delayed, but is only exceptionally absent (one case in one hundred and seventy-seven, according to my figures). One can hardly expect more from a method based on a biological reaction always subject to individual and unforeseen variations."

Theories of Post-Mortem Delivery.—Two explanations have been advanced: the first supposes that the pressure produced in the abdomen by the gases evolved in post-mortem decomposition is sufficient to cause the expulsion of the uterine contents, while the second suggests that the necessary force is brought about by the condition of rigor mortis into which the muscular structure of the womb is thrown.—Bleich, *Lancet*, December 18, 1897.

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THE HEALTH-BOARD BILL.

WE have been greatly surprised at some of the objections that have been raised against Senator Brush's bill amending the health-board bill. It has been asserted by opponents of the bill that the amendments to section 1,247 restricted the powers of the board in dealing with contagious diseases. Such was not the fact. The amendment in question gave direct legislative authority requiring that certain diseases should be reported, while section 1,172 permitted the addition of such others as the health board might see fit to designate. If the opponents of this bill had searched the charter a little more carefully, they would have found in chapter 47 that the municipal assembly has power further to regulate health ordinances, and could in its pleasure even add a few more diseases that the physician would be obliged to report. The amendments in the Brush bill, then, in no wise detracted from the power of the health board to exercise increased and direct authority.

We presume that the various medical boards of hospitals which have been "resolving" on this subjecet were not aware of these facts, but we are astonished that the agitators who are in opposition to the bill had not acquainted themselves more fully with the various provisions of the charter.

Objection has also been made to the bill because it repeals section 1,226 of the charter. This section is virtually a reprint of one of the session laws of 1895, permitting the health board to sell a surplus of the productions of its laboratories. This the board has been doing since that time, and it is to this we objected —first, on the ground that the municipality should not engage in private merchandising enterprises; and, secondly, because we are credibly informed that, while these sales have been made to apothecaries in this city at the net profit of one dollar a vial, the price has for distant cities been made as low as fifty cents and perhaps less. We are also informed that the late board further violated at least the spirit of the law by making advance sales of antitoxin before the same had been actually prepared. If we are in error in regard to either of these statements, we shall be glad to receive an authoritative denial. Will any of our readers defend these practices? The opponents of the bill tell us that the repeal of section 1,226 will absolutely forbid the sale of antitoxin by the health board. Evidently these gentlemen are ignorant of the existence of section 1,553 of the charter, under the authority of which sales can be continued, but they would have to be open and above board and not by secret contract.

Perhaps it will comfort the opponents of the bill to know that it has been revised and now appears as senate bill 435, and that the amendments to section 1,247 have been omitted, leaving this section of the charter without change, and also leaving the health board with perhaps less power to combat contagious disease than the Brush bill would have given it.

THE SANITARY CODE.

WE understand that the present board of health of Greater New York has re-enacted with but little change the sanitary code enforced prior to its taking office, retaining the highly objectionable section No. 225, which makes it obligatory on physicians to report every case of pulmonary tuberculosis occurring in their practice. We should have thought that the sentiments of the profession, so frequently, freely, and forcibly expressed on this point, would have led the present commissioners of health to hesitate before enacting this unnecessary and offensive provision. It is to be regretted that the health board shows in this matter a disposition to ignore the wishes of the profession rather than a desire to conciliate it. Nothing helps any health board in its efforts to educate and protect the people more than the cordial indorsement of the medical profession.

TWO GREAT BRITISH SURGEONS.

MUCH has already been written concerning Harvey and Hunter, but, as the old saying that "you can't have too much of a good thing" is true, the two biographies recently published of the above-mentioned great men are welcome. The life of William Harvey has been written by D'Arcy Power, and that of John Hunter by Stephen Paget. Each of these books has been compiled with great care, and the information contained therein has been procured from reliable sources. It is fitting, too, in a high degree that the lives of these two men should be issued simultaneously, although their lives are a hundred years apart, as they were both pioneers in their particular branches of science. Harvey may be said to have founded modern medicine by his discovery of the circulation of blood, while Hunter with equal truth may be hailed as the father of modern pathology.

Harvey was born at Hastingleigh, in Kent, on April 1, 1578, and was educated at Kings' School, Canterbury, and Caius College, Cambridge. Thence he proceeded to Padua, which was probably at that time the most famous medical school in Europe. The celebrated Vesalius then held the professorship of anatomy there. In the year 1602 Harvey gained the degree of doctor of physic at Padua, after which he

returned to England and it is believed commenced to lecture on anatomy at St. Bartholomew's Hospital in 1616. In 1628 he published, at Frankfort-on-the-Main, his theory of the circulation of the blood. Harvey was physician to Charles I., and was treated by that ill-fated king with much consideration. However, as was to be expected, when the Parliamentarians obtained the upper hand, he suffered considerably for his loyalty. At the restoration he was knighted by Charles II., and died of gout at the ripe old age of eighty, at Roehampton, on June 3, 1657.

John Hunter was born in the vicinity of Glasgow in 1728. When a youth he absolutely refused to apply himself to book study, but preferred to spend his time watching and noting the habits of insects, birds, and animals. This neglect of books was responsible for Hunter's ignorance throughout his life of composition and spelling. In 1773 he delivered his first course of lectures on the "Principles of Surgery." As a lecturer Hunter was decidedly eccentric, although able to impart his knowledge to others. Among his pupils were Astley Cooper, Abernethy, Thomson, Cline, and Edward Jenner. Between Jenner and Hunter there was a great friendship, so much so that when a young man Jenner lived in Hunter's house and was instrumental in obtaining a large part of the 13,682 specimens which made up the latter's magnificent collection. In private life Hunter is described as averse to society, and many amusing tales are told of his brusqueness and absent-mindedness when, as happened on some occasions, he returned home to find his house filled with guests. His whole soul was in his work, and he grudged every moment that took him away from it. Hunter died of angina pectoris, from which he had suffered for many years, on October 16, 1793.

ANNUAL REPORT OF THE STATE BOARD OF CHARITIES.

The thirty-first annual report of the New York State board of charities has recently been issued. It appears that the board had a special interest in comparatively few of the measures of general legislation brought forward in 1897. The one in which it took the greatest interest was the "placing-out bill." This was an act giving to the "board" the power of drawing up rules and regulations in regard to the placing out of children. As, however, there was much opposition, the governor decided to withdraw his approval, and the measure failed to become law. The board holds that the present methods of placing out children are subject to much abuse, and expresses the hope that a statute regulating this matter will be passed shortly. Twelve of the State's charitable institutions were visited and inspected by the board, as well as nine under private management but mainly supported by State appropriations. The complaint is made that too much expense is incurred, as a rule, in the erection of buildings for charitable purposes. When the statement is made that as much as $1,000 *per capita* has recently been paid for housing, it cannot be denied that the complaint is just criticism. This is a matter that should be thoroughly looked into, for it is surely scandalous that the public money should be expended on the erection of palatial buildings, when it is plainly shown that half the amount would suffice to furnish well-equipped and substantial buildings, fully equal to all the requirements of their inmates. The inspection of the existing charitable institutions exhibited on the whole a satisfactory state of affairs, and demonstrated the fact that considerable progress has been made in their management.

AGAINST SPITTING.

An anti-expectoration crusade is now being conducted by the Woman's Health Protective Association. The health board of New York is said to have promised its full co-operation with the association, and to have expressed special sympathy with the movement against expectoration. It is stated that some of the street cars in New York are in such a disgraceful state from the prevalence of the spitting-habit that they are not fit for a human being to enter. The president of the Woman's Association suggested as a remedy for this condition of things that the conductors should be supplied with tickets bearing the words, "Do not expectorate on the floor—by order of the health board," to be handed to passengers who are seen breaking the law. It is thought that this will give comparatively little offence to the offender, and will thus prevent unpleasant scenes. On the other side of the ticket will be printed the words, "Keep this in your pocket," so that, after reading the wholesome advice, the sinner against the laws of decency shall not be guilty of breaking another ordinance against scattering papers on sidewalks and in cars. It is said that the association does not intend to rest from its labors in regard to the question of expectoration until it is settled in one way or the other, either by the enforcement or the repeal of the law. This action on the part of the Woman's Association is greatly to be commended, and is, further, one in which women are chiefly interested. What can be imagined more nasty, to say nothing of the insanitary bearings of the matter, than for a lady to be condemned to sit or walk in a street car whose floor is plentifully besmeared with unpleasant expectorations?

A Suspicious Scheme.—We learn from the *Dubuque Times* that a bill has been introduced into the Iowa State legislature to exempt from the examination required by the medical-practice law all graduates of the medical department of the Iowa State University. The reasons urged for the desired exception may be cogent ones (we have not seen them stated), but to the uninitiated it looks like an unworthy attempt to entrap medical students in this particular school and to draw their dollars into the pockets of the professors. At any rate we hope the physicians of the State will see to it that their lawmakers are enlightened as to the probable results of such unwarranted favoritism before they pass the act.

News of the Week.

A Case of Plagiarism. — Our attention has been called to an imposition recently practised upon us by the alleged author of an article on "Angina Pectoris," published in the MEDICAL RECORD of January 8th. We find on examination that the entire article, with the exception of a few words on treatment at the end, was lifted bodily, word for word, even to the punctuation and paragraphing, from the work on "Heart Disease," by Sir William Broadbent and John F. H. Broadbent, published by Baillière, Tindall & Cox, of London, in 1897. The only changes in the article published in these columns were omissions of credit given by the real authors to other investigators for original work done by them. We deeply regret having been the unsuspecting agent of such an outrage on Sir William Broadbent, although we trust that he will agree with us that we showed good taste and judgment in accepting such an excellent contribution. As for the alleged author of the article in the MEDICAL RECORD, we commend his case to the earnest consideration of the Saginaw County (Michigan) Medical Society, before which he claims to have read Sir W. H. Broadbent's scholarly description of angina pectoris.

Professor Hitzig, of Halle, has been mentioned as honorary member of the London Neurological Society, in the place of Du Bois-Reymond, deceased. The number of honorary members in this society is limited to six.—*Berlin. klin. Woch.*

Professors Senator and Ewald, of Berlin, have been unanimously elected as honorary members of the Moscow Therapeutic Society.—*Berlin. klin. Woch.*

Drs. Nathan E. Brill and Morris Manges were appointed visiting physicians to the Mt. Sinai Hospital, at a meeting of the board of directors, held February 13th.

Female Medical Practitioners in Germany.—It is stated in *The Hospital* that, although the German universities do not as yet grant medical degrees to women, the chancellor is about to open the state examination to them, and as this examination is the one portal to the legal practice of medicine in Germany, and has to be undergone even by members of the universities, the women's right to practise in that country will be fully secured.

An Operation on Sarah Bernhardt.—Dr. Samuel Pozzi, of Paris, operated on February 16th upon Mme. Sarah Bernhardt, the French actress, for the removal of an intraligamentary cyst. The operation, which was performed at Dr. Pozzi's private hospital, is reported to have been entirely successful.

Hospitals in Alaska.—A company has been formed to establish hospital stations along the route of travel to the Klondyke, similar to those in Northern Michigan. It is intended to organize a hospital service at Dyea, Lake Bennett, Stewart River, Dawson, Fort Cudahy, Circle City, Minock Creek, and Copper River. The first station to be organized will be at Dyea.

Dr. William H. Welch, of the Johns Hopkins University, Baltimore, has been appointed by the governor of Maryland a member of the State board of health, and has accepted the position.

Dr. Carl Johnson, of Denver, Col., has been appointed United States vice-consul at Amoy, China, marshal of the consular court there, and also United States port surgeon.

Recipe for a Tsarevitch.—Poor Dr. Schenk, of Vienna, who so rashly asserted his alleged discovery of the secret of sex determination, has already suffered more than can be compensated for by the royalties on his promised treatise. It is said his mail contains hundreds of letters from anxious women all over the globe, asking how they can bring about the conception of a male child. The gossips of Vienna will now have it that the Tsar of Russia, who is bothered with girls, has sent to the professor of sex to learn what diet the Tsarina should resort to in order to bring forth a male Romanoff. This report has apparently filled Professor Schenk's cup of bitterness, for he denies all knowledge of the Tsar's desires and declares that his life is being made a burden to him. His colleagues, he declares, are ridiculing him, and the public has tried to force him upon a career that is distasteful to him. He asserts that he has never undertaken the professional treatment of patients to determine the sex of their offspring, and he wishes the world to know that he never will do so.

Amendments to the Brush Bill.—Senator Brush, the father of the bill limiting the powers of the New York City board of health, has stated that some of the features which the members of the board claimed to regard as the most objectionable had been eliminated. The prohibition of the sale of vaccine virus and antitoxin would not now apply within the city. It was intended only to prevent their sale by the health board to the city of Chicago, the United States army, and other outsiders. The provisions to keep the police board president out of the health board and to exclude tuberculosis and other diseases from the list of contagious disease have been stricken out. All that the bill provides for now, Senator Brush says, is to permit a physician to be president of the board, to limit the jurisdiction of the department to matters of health specifically, to require that all vaccinators must be physicians, to fix a penalty for failures to report births, and to make the mandatory issue of warrants under the sanitary code contingent on the complaint of the board of health instead of any citizen. According to an Albany dispatch, the commissioners still object to the limitation of their antitoxin trade, and believe with England that the markets of the entire world should be open to all without restriction.

Mr. Gladstone's Malady.—It is reported in London that Mr. Gladstone is suffering from an affection of the nose, alleged by some to be necrosis of the nasal bones, by others malignant disease. It is this, it is said, which has been at the root of the obstinate neuralgia which has tried him for some months past.

The Tsarina is reported to be suffering from a mild attack of measles.

The Health Board and the Milk Business.—The following item is clipped from the *Commercial Advertiser* of January 25, 1898: "Health-board milk. President Straus adopts Mr. Straus' scheme. President Nathan Straus, of the health department, has taken up Nathan Straus' idea of dispensing sterilized milk to children. Mr. Straus had some trouble with the old health board about this very subject. But he succeeded the old board with his board, and he has been studying the old board's records and statistics of the death rate of children. His conclusion is that he was right all along. Parents should be compelled to give their children proper food, and sterilized-milk stations will be established all over town. 'The great death rate among children is undoubtedly due to carelessness on the part of parents in giving their children improper food,' said Mr. Straus. 'I believe that if proper care is taken and the children are given proper food in summer the death rate will be decreased till it reaches the average death rate for adults, which last week was 17.95 per 1,000. In 1893 there were 83,148 under two years of age, of which 14,427 died, the death rate being 173.5 per 1,000. In 1894 there were 85,582, of which 14,118 died, the death rate being 165 per 1,000. In 1895 there were 87,886 children under two years of age, and 14,087 died, a death rate of 160.3 per 1,000. In 1896, out of 91,482 children, 13,888 died, making a death rate of 151.8 per 1,000. Last year (1897) there were 94,154 children under two years of age; of these, 12,897 died, bringing the death rate down to 137 per 1,000. I attribute this decrease in the death rate mainly to the increased use of sterilized milk. These stations will probably be under the charge of the health department.'"

The Therapeutics of Music.—Mr. Gladstone, it is said, has found music a great relief during his sufferings of the last few weeks. Miss Geraldine Liddell, the performer who charms his neuralgia, is an exquisite musician, and her melodies have a peculiarly soothing effect.

Professor von Esmarch has announced his intention to resign the chair of surgery at the University of Kiel at the end of the present semester. His reason for retiring is advanced age, he being now over seventy-five years old. He was appointed professor of surgery at Kiel in 1857. He is also a surgeon-general in the German army.

The Plague in Bombay.—A fire destroyed one of the temporary plague hospitals at Bombay on February 19th. There were ninety-nine patients in the hospital at the time, twelve of whom were Europeans. All were saved from the flames, but three died as a result of the moving. Several of the nurses and one physician sent from England to care for the sick have themselves been taken down with the plague.

Social versus Professional Visits.—A young physician, practising in a city in Ulster County in this State, recently brought suit against a former patient, a young lady, from whom he was unable to collect a bill of $60 for professional services. The defendant's attorney contested the bill, which he characterized as exorbitant. He said that many of the alleged professional calls were of a social nature. The plaintiff would call at times when he wasn't expected, and keep the defendant and her sister from their household duties. In view of the annoyance and loss of time the young lady alleges that she suffered through these visits, she puts in a counter claim of $100. The case will be tried before a jury next month.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the two weeks ending February 19, 1898. February 11th.—Passed Assistant Surgeon L. H. Stone, retired, February 10th. February 12th.—Assistant Surgeon G. C. Hubbard sent to St. Elizabeth's Government Hospital for the Insane; Assistant Surgeon J. C. Thompson detached from the naval hospital, Mare Island, Cal., and ordered at once to the *Mohican*.

International Congress of Hydrology and Climatology.—The fifth triennial session of this congress will be held at Liége, Belgium, September 25 to October 1, 1898. There will be, in addition to the general sessions of opening and closing of the congress, daily sessions of each of the three sections of medical hydrology, medical geology, and climatology. The permissible languages are French, German, English, and Flemish. The registration fee is 20 francs ($4) for members of the congress and 10 francs ($2) for their wives. Those intending to read papers should send the title and conclusions of the same to the secretary at least one month before the opening of the congress. The president of the committee of organization is Dr. G. Dewalque, the secretary-general Dr. G. Jorissenne, and the treasurer Dr. J. Delaite, all of Liége.

The Streets of New York are becoming visibly dirtier than they were before our recent change of rulers. We earnestly hope, for the sake of the new street-cleaning commissioner's reputation and peace of mind, that this deterioration will not be progressive. If it is, somebody will be responsible for the deaths of many helpless children next summer.

Addition to Edinburgh University.—The infirmary at Edinburgh and the university buildings devoted to medicine have long been among the greatest prides of the grand old city. Through the munificence of a private citizen the university has recently received a magnificent addition. Mr. McEwan, M.P., at his own cost, has caused to be erected a hall, bearing his name, for the use of the faculty and students of the university. This building, on which has been expended a sum approaching $1,000,000, was opened on December 3d by Mr. A. T. Balfour, M.P., the chancellor of the university. Mr. Balfour, in his reply of thanks to Mr. McEwan for his gift, made in the course of his speech some remarks which should gratify the *amour propre* of the American nation. These were as follows: "I have seen with regret, sometimes almost amounting to shame, the

extreme difficulty which there has been, not merely in Edinburgh, but in connection with other great seats of learning, in obtaining from the liberality of a not illiberal public sufficient means to make our great universities all that British universities should be. In this respect we could ill bear comparison with our cousins in the United States. I believe that the educational value of a worthy setting of a great university is not to be despised."

Dispensary Abuse in New York City and State.—Statistics collected by the State board of charities show the following as the work of the free dispensaries in the seven largest cities of the State for the year 1897:

	Number of Patients.	Per Cent. of Population.	Number of Prescriptions.
New York	1,077,149	71	1,699,468
Brooklyn.....	252,695	31.3	455,940
Buffalo	14,886	5.5	32,509
Rochester.....	2,476	1.5	6,695
Albany	20,345	21.4	17,939
Syracuse.....	8,796	9.9	6,116
Troy	715	1.2	716

Besides the medical relief furnished by dispensaries, various charitable societies in the city of New York provide medical attendance for the poor at their homes. The secretary of the board states that the statistics for New York City, or that part of the present city included in the boroughs of Manhattan and the Bronx, do not represent all of the institutions, as only sixty-eight of the ninety-seven reported to the State board. He says that he has investigated many cases of applicants for free treatment at the dispensaries, and in fully half of them found that the people were perfectly able to pay for the services of a physician and should have been compelled to do so. It is a common thing to find families whose salaries range from $20 to $40 a week going to dispensaries for treatment, and, in one instance, a storekeeper and real-estate owner worth over $100,000 was one of the applicants under investigation.

Vivisection.—A new crusade against vivisection, says the *International Medical Magazine*, has been started recently in Baltimore. It is headed by Cardinal Gibbons, Bishop Paret, and other prominent citizens of Baltimore. An antivivisection society has been formed, and the medical school of Johns Hopkins University has been selected to suffer from its attacks. Such periodical outbreaks are, in the end, says the New York *Medical Journal*, of great value to science, for the study of mental epidemics.

The Texas Tax on Physicians.—The members of the Western Texas Medical Association, at a meeting held January 27th, adopted resolutions denouncing the "occupation tax" imposed upon medical practitioners in the State by the last legislature and urging the repeal of the act authorizing this imposition. An effort will be made to secure pledges from candidates for election to the next legislature that they will do everything in their power "to enact laws the purpose of which shall be to elevate the standing of medical education, regulate the practice of medicine, and to consign to eternal oblivion the act imposing an occupation tax on the profession."

Practice of Medicine in Hawaii.—A license is now required in order to practise medicine or surgery in the Hawaiian Islands, such license to be granted only upon the written recommendation of the board of health. The licenses of those who, at the time of the passing of the act enforcing the foregoing regulation, were already in practice will remain valid, subject to the provisions of this act. The board of health is prohibited from recommending any person for a license, except the said person has been duly examined and found to be possessed of the necessary qualifications.

Deportation of Insane Patients.—During the past fiscal year the State commission in lunacy sent to other States and deported to foreign countries one hundred and ten alien and non-resident insane inmates of State hospitals who were not properly charges of New York State.

Obituary Notes.—Dr. James Wilkinson, of Jersey City, died at his home in that place on February 17th. He was born in England in 1837, but came to this country with his parents at an early age. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1858.—Dr. Conant Sawyer died at his home in Auburn, N. Y., on February 21st, of pneumonia. He was physician to Auburn Prison, to which place he was appointed about ten years ago.—Dr. Sumner Laughton, of Bangor, Me., died at his home in that city on February 8th, at the age of eighty-six years. He was graduated in medicine from Bowdoin College in 1834. He had practised in Bangor since the autumn of 1849. He was a member of the consulting staff of the Eastern Maine General Hospital.

Obituary.

EDWARD CONSTANT SEGUIN, M.D.,

NEW YORK.

Dr. E. C. Seguin, at one time one of the best known of American neurologists, died at his home in this city, on February 19th, of a chronic affection of the liver. Dr. Seguin was born in Paris fifty-five years ago, but was brought to this country by his father, Dr. E. O. Seguin, when he was seven years old. He was a brilliant student, and was graduated from the College of Physicians and Surgeons in this city, at the early age of twenty-one years, after having already served two years as medical cadet in the regular army. After the war he was stationed as post surgeon at different forts in New Mexico, where he was ordered at his own request in the hope of relief from a beginning lung trouble. He remained there a few years, recovering his health perfectly. Afterward he resigned from the army and went to Paris to study in the clinics of Charcot and other neurologists. He returned to this country in 1870 or 1871, and at once began the practice of medicine in New York City, where his great abilities won for him immediate fame and position. For nearly fifteen years he was a member of the faculty of the College of Physicians and Surgeons, and was also actively engaged in neurological practice and in editorial and other literary work. His health had been poor for some time before his death and he had lived in practical retirement for several years. He was an honorary member of many neurological societies in Europe.

Clinical Department.

ABDOMINAL ABSCESS CONTAINING ONE AND ONE-HALF GALLONS OF PUS; LAPAROTOMY; RECOVERY.

By W. H. IRVINE, M.D.,

MEMBER OF THE BRITISH MEDICAL ASSOCIATION, OF THE AMERICAN MEDICAL ASSOCIATION, ETC., BOIESTOWN, NORTHUMBERLAND CO., N. B.

The case under consideration presents a history rather unique. The patient, J. Mc——, aged thirty-six, received about twenty years ago an injury in the left lumbar region, caused by several logs passing over his body, he having fallen from a "brow" (*i.e.*, a pile of logs placed on the side of a stream during the winter season, and rolled into the stream in the spring). A detailed history of the patient's suffering is wanting. He, however, was confined to his home for several months; yet the only inconvenience from which he suffered was a lameness in the right hip, which would at times almost disappear, yet has been present more or less since the time of the injury twenty years ago.

Present history: I saw the patient on May 20, 1897, when he was complaining of intense pain over the region of the left great trochanter. The temperature was 103° F. and a fraction. He complained of "cold chills" followed by "hot flashes" for several days. He had been feeling poorly since the 2d day of May, when he strained his side in an effort to lift a log with a peevy, while working on the river. He tried to "work the sickness off;" walked forty miles into the woods, got worse, and walked back and about six miles farther to see the doctor, making in all a walk of over eighty miles.

When seen he was lying flat on his back, with the legs in complete extension. He said he felt "first rate," all save his left hip, which was very sensitive to pressure. Inspection revealed nothing abnormal in the region of the hip, however. A fulness, occupying the left iliac region and extending upward and to the right of the linea alba, was plainly to be made out, being dull on percussion—the dulness blending with that of the spleen on the left, and extending to the ensiform cartilage above and to the right one inch or more beyond the median line. There was no discoloration of the skin. The bowels had moved regularly and the patient had not vomited; the urine did not contain pus or albumin. Aspiration revealed thick, dark, very offensive pus. Chloroform was administered and laparotomy performed, the patient lying on a lounge in a little, old, one-story country house. Antiseptic measures were as strictly enforced as was possible under existing circumstances.

An incision was made parallel with the fibres of the external oblique, the upper limit being about on a level with the anterior superior iliac spine, and about three inches long. The abscess wall was found adherent to the abdominal walls; it was incised, and pus of the most obnoxious odor welled forth, sufficient being caught to fill a one-and-one-half gallon vessel. One would hardly believe that such a quantity of material could be held in an abdominal cavity.

The patient stood the operation well, but the character of the breathing became somewhat alarming, presumably from sudden removal of pressure from the diaphragm, and one-twentieth grain of strychnine nitrate was administered hypodermically; the cavity was irrigated with bichloride, 1 to 3,000, subsequently with sterilized water, and a drainage tube of ½ calibre inserted. The cavity was daily irrigated with sterilized water. Convalescence was uninterrupted. The abscess wall contracted daily, so that in one month's time it felt like a scirrhus growth adherent to the pelvic wall. When last examined, about two months ago, it was apparently absorbed. The patient has never had a pain in the hip since, is apparently a perfectly well man, and says he never felt so well before.

The points of interest in this case are: (1) the obscurity of the source of the pus; (2) the absence of pain, save in the hip; (3) the absence of all subjective symptoms, except as stated; (4) the tolerance of such a quantity of fluid in the abdomen; and (5) the disappearance of pain from the hip.

I am inclined to think that the following may be excluded as causes: (1) Perinephritic abscess; (2) lumbar abscess; and (3) necrosis of bone; and that either the pelvic cellular tissue, or perhaps the hip itself, played the all-important rôle in the original production of the contents of the abscess.

MATERNAL IMPRESSIONS.

By A. C. FLACK, M.D.,

FREDONIA, KAN.

I WISH to add to the literature of the above subject by recording the following case that occurred in my practice: August 7, 1894, I was hastily called to see a child that had been bitten by a rat, soon after she had been put to bed. On arriving I found the child in her mother's arms. The rat had bitten her on the external surface of the foot near the little toe, and a few drops of blood had escaped and trickled down the side of the foot. On November 13th—ninety-eight days from the above date—this mother gave birth to a child marked by a red blotch on the foot, in a position exactly corresponding to the blood stain on the child bitten by the rat.

SOME INTERESTING EYE CASES.

By J. H. McCASSY, M.A., M.D.,

DAYTON, OHIO.

CASE I.—Irido-dialysis, or detachment of the iris from the ciliary body. S——, aged thirteen years, while playing at school last April, was accidentally struck with a stone, of the size of a pigeon's egg, on the upper part of the left eyeball. His vision became blurred immediately, so that he could not count fingers. He was brought to my office at once. I found a rent in the iris, about three-eighths of an inch long, at the junction of the iris with the ciliary body. Free hemorrhage into the chambers of the eye had taken place, which obstructed a view of the fundus.

Atropine solution was used once daily. Saturated boric-acid solution was used several times daily and five grains of iodide of potassium was administered four times daily.

The blood in the anterior and posterior chambers of the eye was speedily absorbed and normal vision returned in one week. Treatment was discontinued at the end of two weeks and the boy returned to school. The tear in the iris never closed and the pupil remained oval on the upper side.

CASE II.—Diplopia due to injury of the right orbit. In May last, L——, aged fourteen years, while trying to explode a cartridge, was struck in the right orbit by the bullet, producing considerable laceration of the part beneath the supra-orbital ridge. A large induration followed with crossed diplopia.

Eight to ten grains of iodide of potassium was administered thrice daily. The induration was painted twice daily with tincture of iodine. After this line of treatment had been used for eight weeks, the induration disappeared and good binocular vision returned.

It would seem that hemorrhage into the orbit was the cause of the diplopia: a septic process would have caused either abscess or orbital cellulitis. The speedy

absorption speaks in favor of hemorrhage. The diplopia was the result of the mechanical impediment and perhaps of direct injury to the muscles.

Case III.—Secondary hemorrhage following iridectomy. M. M——, aged fourteen years, had a dense central leucoma on the cornea of the right eye, caused five years previously by ulcerative keratitis, induced by too long and too frequent bathing in the river. This virtually blinded the eye for binocular vision. The cornea was clear in the outer segment. I made a small iridectomy outward and normal binocular vision was restored. The boy was confined to bed only two days. On the evening of the third day he felt so well that he took his own counsel and slipped away and viewed a bicycle parade until 10 P.M. This caused profuse hemorrhage into the chambers of the eye, blurring vision completely and rendering an ophthalmoscopic view of the fundus an impossibility.

He was given one grain of calomel as a cathartic; five grains of iodide of potassium was given four times daily. The eye cleared up in a few days. Vision, $\frac{20}{20}$. Using the eye too soon was undoubtedly the cause of the hemorrhage in this case.

Case IV.—Refraction changed from E to M. Mr. B——, aged forty-seven years, a travelling salesman, got a hot cinder in his right eye in August, 1897, while riding on the train. Redness of the sclera, lacrymation, and pain followed. He consulted a general practitioner in Kentucky, who advised him to use a quack eye water, which he did, but the pain in the eye and brow became so severe that he was compelled to abandon travelling and return to his home in Dayton, Ohio.

Examination, September 2d last, showed the case to be one of severe plastic iritis with extensive posterior synechiæ. A one-per-cent. solution of atropine was pushed for ten days, when the adhesions yielded fairly well. His temple was leeched several times and hot applications were diligently and judiciously used. Recovery took place in about eight weeks, but the refraction had changed. The best distant vision was secured by the aid of a -3.25 spherical lens, and near reading was best without any lens. In August, 1896, I examined this eye and found D. V. $\frac{20}{20}$, and it was not improved by the addition of any kind of lens. At that time he accepted a $+2.50$ sphere for reading.

The change of refraction may be caused by three things: (1) Elongation of the eyeball by a softening of the sclera and ectasia. (2) An increase of the refraction of the lens by its getting thicker. (3) During an iritis or irido-cyclitis or irido-choroiditis the anterior chamber may become shallow and the lens advance; by this the nodal point of the eye advances and the state of refraction becomes increased, *i.e.*, myopic. This is always a much-to-be-feared phenomenon and a bad sign. I do not know which of the three possible causes to assign in this case. If it is due to the lens becoming thicker, I would therefore be on the lookout for the possible formation of a cataract in this lens after a while. Change of refraction is not very frequent.

Case V.—Congenital displacement and deformity of the pupil. Mr. S——, aged sixty years, retired from the pulpit four years ago on account of catarrhal deafness and impairment of his voice. The pupil of his left eye, although about normal in size, is balloon or egg shaped, with the large end situated close to the limbus and the small end extending toward the ceatre of the cornea. The space that should be occupied by the pupil is covered by a blue iris. The eye is amblyopic, not possessing more than one-third normal vision. Both eyes are slightly myopic. The right eye is good, having been his mainstay during his busy and studious life in the ministry.

116 South Ludlow Street.

PURPURA SYPHILITICA.

By CONRAD P. KORNREICH, M.D.,

ATTENDING PHYSICIAN, INTERNAL DEPARTMENT, EAST SIDE DISPENSARY, NEW YORK.

That this disease of the vascular system often owes its origin to a syphilitic poison existing somewhere in the body, as in the blood itself or in the vessel walls, seems to me to be an apparent and undoubted fact, as is shown by the following interesting case which came under my observation some time ago.

C. S——, male, unmarried, aged twenty-five years, by occupation a bookkeeper, consulted me about "a bloody rash," as he termed it, which on examination was found to be irregularly distributed over the body, on arms, chest, back, abdomen, thighs, and legs, causing him considerable anxiety. The nature of the lesion was as follows: flat, not elevated above the surface of the skin, irregular and diversified in form, and of a dark purplish hue, which discoloration became lighter, but did not entirely disappear on pressure.

The patient seemed otherwise to be in fair physical condition, except for occasional severe attacks of headache, which he said occurred chiefly at night. His appetite was good, there was no loss of flesh or strength, and altogether his other bodily functions were in comparatively good order. Further inquiry enabled me to elicit a distinct syphilitic history, the initial lesion having manifested itself eighteen months ago, there still being present some distinct symptoms of this disease, such as alopecia capitis, nocturnal headache, irregular pains in the body; no rheumatic history was elicited. On inquiry as to the mode of treatment and the length of time he had been under treatment before consulting me, I learned that he had received mercurial inunctions as well as internal medication, both of which he was in the habit of neglecting at various periods during his course of treatment. This fact convinced me of the correctness of my diagnosis of tertiary syphilis, and that this purpura was of syphilitic origin.

We know of the many causes which have been assigned to account for the occurrence of purpura; we know that it may occur at any period of life, and in both sexes, and in the most varying conditions of health, as a symptom in different diseases and cachexiæ, after the ingestion of certain drugs, and under other circumstances too numerous to catalogue here. We also know, and have seen, what effect syphilis has upon the general economy, its deteriorating effect on the bones, muscles, and the various organs, and the numerous bodily functions. Its effect in this instance was upon the vascular system: 1, a change in the blood itself which allows of its passing through the walls of the vessels; 2, a change in the vessel walls themselves which permits the blood to pass through them.

Some authorities believe that purpura is of microbial and infectious origin. Letzerich wrote on this subject in 1889, and described the "bacillus purpuræ hæmorrhagicæ" as the cause of the disease.

When first this patient came under my treatment I treated the purpura as is generally recommended and practised, that is, by putting the patient in good hygienic surroundings by administering iron and ergot, turpentine, dilute sulphuric acid, nitrate of silver in pill form, one-eighth to one-sixth of a grain three times daily, and other astringents. Hydrotherapy in its various forms was carefully and persistently followed up. These various measures were strictly adhered to for fully three weeks, and instead of improving the patient seemed to be getting steadily worse. The headache still continued with increasing severity, the appetite was failing, there was beginning loss of flesh and strength, and altogether the patient was in

abject misery. I had by this time become discouraged with my form of treatment, and as an experiment put my patient on an antisyphilitic treatment—that is, the regular mixed treatment. Beginning with iodide of potassium, ten grains three times a day, I gradually increased the dose to thirty grains three times daily, with increasing doses of from one-fiftieth to one-thirtieth of a grain of bichloride of mercury in one week, and to my great surprise the blotches began to fade away by the second week after I had put him on the mixed treatment; by the third week the headache had entirely disappeared, and by the fourth week there was no sign of purpura to be seen on the body.

REPORT OF TWO CASES OF COLITIS OF CURIOUS ORIGIN.

By WILLIAM J. GREANELLÉ, M.D.,

NEW YORK.

While in attendance on an elderly gentleman suffering from endocarditis, I was asked at one of my visits to see his daughter-in-law, who had been seized with "an upset stomach" while visiting him during his illness. The young woman was of petite build but had evidently enjoyed good general health. She stated that she had been taken with vomiting and diarrhœa the day before, and as her illness did not yield to home remedies she thought it best to see a physician. Apart from the diarrhœa she felt quite well. Careful questioning elicited no evidence of error in diet, nor could any satisfactory cause of her condition be discovered.

On examination there was found a broad, coated tongue, moist; slight tenderness over the abdomen; and a rectal temperature of 97° F. She was instructed to keep her bed, and small doses of castor oil were ordered every three hours, in emulsion. The diet was restricted to beef tea and scraped beef, there having been no vomiting after the onset of her illness.

The next morning her symptoms had not improved; the stools were as frequent as they had been from the start (one every two hours) and were of the same consistence—the only noticeable change was the beginning of slight pallor. I was, however, informed that her husband was now also ill with the same symptoms, and such I found to be the case on examination. The cases were so nearly identical that I need follow but one in detail clinically, adding but this one modification—that in the case of the husband the symptoms were not quite so severe, the loss of flesh not so great, and the ultimate recovery a little more rapid.

Renewed investigation and careful cross-questioning still failed to explain the origin of the trouble. The treatment was continued with the addition of twenty grains of bismuth subnitrate every four hours and of five minims of deodorized tincture of opium to each dose of emulsion of oil.

On the evening of this day Mrs. T—— complained of nausea and the castor oil was discontinued, the bismuth being increased to thirty grains every three hours; the frequency of the stools remained the same. The temperature remained at 97° or 97.4° F., and there were well-marked pallor and beginning emaciation; the pulse ran from 90 to 100 until convalescence.

On the third day of treatment I found that the stools had become much more frequent, the nausea continued, and there was tenderness fairly well marked over the line of the colon. The stools had changed in appearance from simple diarrhœal stools to stools of rather a dysenteric character. No explanation could be found by the most minute investigation of both cases. The treatment was continued. The evening of the third day Mrs. T—— complained that since my visit in the morning she had been seized with uncontrollable vomiting whenever she tried to take the bismuth. She stated that she had no objection to the medicine and did not mind taking it; but in spite of her best efforts she vomited as soon as the bismuth was in her mouth. The stools were now quite dysenteric in character, being full of mucus and occasionally blood streaked; defecations occurred every half-hour, and with some tenesmus. The vomitus consisted of mucus, bile, and water. The cases puzzled me: they looked exactly like cases of arsenical or bichloride poisoning, so much so that I remarked to a fellow-physician that I felt sure that there was some mineral poison at the bottom of it all, and, recalling the occasional contamination of bismuth by arsenic, I went to the druggist who had answered my prescription and asked him if he had tested his bismuth. He was one of the most reliable druggists in upper New York, and he assured me that he tested every pound of bismuth that came into his store, and offered to let me test the stock bottle from which my prescriptions had been filled. I explained the reason for my inquiry, and stated that I had discontinued the bismuth because I had feared it was contaminated, it being quite evident that the patients were made worse by the drug, usually so inert. The frequency of stools and the now increased tenesmus were controlled by deodorized tincture of opium and belladonna suppositories, all other medication being discontinued, while brandy had meanwhile been added as food and stimulant. The cases resembled nothing so much as they did the cases of "bichloride colitis," seen once in a while in a surgical ward.

On what was the fourth day of treatment I learned that both Mr. T—— and his wife had been taking a much-advertised skin medicine for some three months prior to their illness. I had previously asked if any tonics or other medicines had been taken, but had always been told "No" through forgetfulness, and it was only by a mere chance that Mrs. T—— finally remembered the patent medicine which she had been using. Neither patient was syphilitic, and they had taken the remedy only "as a good tonic." I was in entire ignorance of the nature of this remedy, beyond what was claimed in the advertisements. I was, however, strongly suspicious of that "tonic." I at once questioned a druggist of my acquaintance and he stated that there was about one-thirty-second of a grain of bichloride of mercury in each half-ounce of the "mixture." I put both patients on small doses of Rochelle salts at once; both improved promptly and made steady recoveries. The wife had become more emaciated, and had had a somewhat more severe attack than had her husband, and her convalescence was correspondingly slow. At the end of three weeks from the onset of the trouble, both patients were following their usual pursuits, with, however, a strong aversion for all advertised "tonics."

The history of these cases points out the necessity of going most carefully into any and all possible (or impossible, I might almost say) causes for a given condition, and that such investigation cannot be too often repeated. It points out the danger in self-medication on the part of patients, and the latent harm that may lurk even in a well-advertised "tonic." A careful druggist may also at times be needlessly and unjustly blamed from misleading circumstantial evidence coupled with intentional or unintentional deception on the part of a patient: while a good and well-recognized method of treatment may receive severe criticism when subjected to an unexpected chemical struggle with "tonics" in the system of a patient. The evident irritation set up by the bismuth taken into an economy already charged with mercury is but too plainly set forth in the above history, by the vomiting and the aggravation of symptoms which it caused.

University Heights, New York.

HYSTERICAL APHONIA.

By JOHN WINSLOW, M.D.,

ITHACA, N. Y.

THE case of hysterical aphonia reported by Dr. Follett, in the MEDICAL RECORD of November 13th, recalls one of my own. A young woman had called a few times, at intervals of several months, for sudden attacks of complete aphonia, which had been promptly and entirely relieved by faradization of the crico-thyroids. The cure was so prompt and persistent as to suggest hysteria; so on the next occasion I placed in the circuit a rheotome controlled by the foot. Applying a strong current, as by accident, to indifferent regions of the neck, I shut it off before bringing the electrodes to the larynx. But the buzzing of the battery continued, and relief was again immediate and complete when the crico-thyroids were covered and the patient was told to speak.

152 EAST SENECA STREET.

SUPERNUMERARY TOOTH IN THE PALATINE VAULT.

By R. CADWALLADER, M.D.,

FALL RIVER MILLS, CAL.

A YOUNG man (Indian) came to me October 26, 1895, to have a tooth pulled. I ran over his mouth without finding a faulty tooth in his head; every one was perfect and sound. He called my attention then to its location. I found a tooth exactly in the median line of the palate on a transverse line between the two first molars.

There was no photographer within forty miles, or I should have had the vault reproduced with the tooth *in situ*. I extracted it with some difficulty. It measured one-half inch in length with a hooked root which penetrated the vault.

The recent work on "Anomalies and Curiosities of Medicine" contains a short note concerning supernumerary teeth in this situation, and states that Fanton-Touvet gives an example of a supernumerary tooth implanted in the palatine arch.

It would be useless to theorize as to how it came there. It could be developed only from a dental centre displaced, or else be a deciduous tooth forcibly implanted by some accident. Against this latter are its anomalous shape and the statement of the young man that it had been there ever since he could remember.

A CASE OF PUERPERAL SEPTICÆMIA UNSUCCESSFULLY TREATED BY ANTISTREPTOCOCCUS SERUM.

By HUBERT WORK, M.D.,

PUEBLO, COL.

MRS. W——, aged twenty-five, multipara, in perfect health, of good physique and family history, was taken with "flooding," September 9th, and expelled a fœtus, which from the description I supposed to be of about the fourth month.

September 18th, she expelled a placenta, which was promptly destroyed. I was called and found the patient's condition apparently good in every way. I made no examination, and was told that daily reports would be made to me, in order to save expense of visits.

September 27th, I was summoned, as her husband thought she "was having a little fever for some days past." I found the patient with a temperature of 105 F.; pulse, 120: and the other typical symptoms of puerperal infection. I ordered a large dose of quinine and small doses of calomel.

On September 28th I curetted the uterus and removed fragments of placenta. The temperature fell to 104 F.; pulse, 120. The quinine was continued in twenty-grain doses.

September 29th, the temperature was 105.5 F.; pulse, 130. I curetted again, but found no débris. The patient now had a severe chill, and the temperature soon rose to 105 F. and the pulse to 120.

By October 1st I was able to reduce the temperature to 102.5 or 103 F., and keep it down by constant applications of cold, meanwhile urging food and using stimulants.

On October 2d I injected ten cubic centimetres of antistreptococcus serum in the evening, the patient's temperature being 102.5 F.; pulse, 130.

October 3d, A.M., temperature, 104 F.; pulse, 128; P.M., temperature, 104.5 F.; pulse, 135. Violent diarrhœa, with retention of urine.

On October 4th I injected twenty cubic centimetres of antistreptococcus serum, with no apparent effect on the temperature.

On October 5th the temperature reached 106 F., and the pulse was exceedingly rapid and feeble.

On October 6th the patient died from puerperal infection.

I do not care to comment upon this history, except to say with Dr. Siff, who reported a case of puerperal infection in your issue of November 13th, treated by the antistreptococcus serum, "that it requires more than one test to convince a physician of the efficacy of a therapeutic agent."

THE CLINICAL REPORT OF FOUR CASES OF LAVAGE OF THE STOMACH BY THE AID OF KNAPP'S DIRECTOR.

By MARK I. KNAPP, M.D.,

NEW YORK.

ON August 29, 1896, appeared in the MEDICAL RECORD the description of my "stomach-tube director." It was then largely a new device and only theoretically correct. Since then, however, I have had occasion to use my director in four cases in which the introduction of the tube into the patient's stomach without the director proved an impossibility. Following are the cases:

CASE I.—Mrs. F. W——, forty-two years old, widow, had suffered from chronic gastric catarrh for over three years, during which time she had consulted many physicians. This malady made her very despondent and melancholy. Her friend who recommended me to her had succeeded in bringing her to me only after long and persistent persuasion. After an unsuccessful trial with medicines I advised lavage. My attempts with the tube in the ordinary way were fruitless. Neither persuasion nor coaxing availed anything. I then had recourse to my director, and the result was astonishing. It took me but a few seconds, and the tube was down in the stomach.

CASE II.—Mrs. L——, thirty years old, married, highly nervous, came to have her stomach washed, which I advised her some time before. I did not dare introduce the stomach tube without the director, and before the patient had realized anything the tube was in the stomach.

CASE III.—Mrs. C. S——, thirty-eight years old, married, had an operation for the removal of gall stones in January, 1896. In May she went to Carlsbad, and after she came back family affairs began to depress her spirits, and the diagnosis made subsequently by an eminent specialist was incipient melancholia. Her digestion was in a terrible condition. Lavage of the stomach was my advice, but for a long while I could not induce the patient to submit to it.

Attempts without the director proving valueless, I used the director, when I at once succeeded.

Case IV.—Miss F. S——, twenty-two years of age, attempted suicide on November 7, 1897. As is usual in such cases, the patient violently objected to the introduction of the tube. I then tied her arms behind her back, forced the mouth open with the handle of a spoon, and introduced the tube by means of the director into the stomach. Here my full expectations were realized. The patient struggled and bit, with the desired result of having the director kept in place and in apposition still better. In this case the director acted not only as such, but also as tongue depressor and mouth gag.

Now a few words in repetition as to the utility of the director. First, the physician need not introduce his finger into the mouth of the patient, thus avoiding possible danger to himself: second, the physician need not fear to go anywhere else than in the desired direction by simply pushing the director as far back as he can: and third, the patient is entirely at the mercy of the physician.

A few gentlemen contend, in derogation of the instrument, that we might introduce the tube through the nose. Well, at the very best, we can use only a small catheter: and secondly, is not one sometimes nonplussed in finding deviations there or hypertrophies?

230 Broome Street.

FORWARD DISLOCATION OF BOTH BONES OF THE FOREARM.

By F. A. AUGUR, M.D.,

NEWBURG, N. Y.

Owing to infrequency of occurrence, it may be of interest to mention a case paralleling the one of dislocation of the forearm, reported by Dr. Fulton in the Medical Record of November 20th. A boy, about ten or twelve years of age, fell from an apple tree that he was climbing, instinctively grasping a limb with his left hand, the falling weight of the body being thereby sustained by the left arm. This resulted in a forward dislocation of both bones of the forearm. Reduction in this case was performed with considerable difficulty, and necessitated the free use of an anæsthetic.

HYDRO-THERAPEUTIC PRINCIPLES IN THE TREATMENT OF TYPHOID FEVER.

By ELMER LEE, A.M., M.D., Ph.B.,

NEW YORK.

First, the internal administration of soft water, in definite doses, of proper temperature and at regular intervals (with a suitable placebo if necessary), according to the age and sex of the patient, the temperature of the fever, and the character of the urine, against which there are no veritable contraindications. The rule is to give an amount of water which would be equivalent to nearly one-fifteenth of the weight of the patient.

Second, the application of water of suitable temperature to the surface of the body, preferably in the form of sprinkle or rain contact with friction, at frequent and regular intervals, as indicated by the severity of the symptoms and the age and sex of the patient. The cold bath of Brandt may be useful, but is not imperative; in fact, satisfactory and rapid recovery may be secured without bathing.

Third, the application of compresses of linen, wrung dry from ice water, to the abdomen and to the head and neck, applied as often as necessary and as long as the fever continues.

Fourth, the use of warm, cool, or cold irrigations of the colon, with plain, soapy, or normal salt water, from one to four times a day, and from one to three litres in quantity, during the acute stage and while there is fever.

Fifth, assuming that there is an absence of hydrochloric acid and peptones in the gastric juice during the febrile stage in typhoid fever, food of every character and of any quantity is contraindicated, and can only augment the complications and prolong the disease.

Sixth, in collapse and exhaustion from hemorrhage, intravenous transfusion of one-half to one litre of decinormal salt solution is indicated and strongly recommended. The transfusion or subcutaneous injection is to be repeated from time to time till the crisis is passed.

Seventh, drugs and stimulants are absolutely contraindicated, as they are not essential to nutrition, and can but further increase the labor of the system and diminish its vitality in the process of oxidation and elimination of tissue waste and toxic products.

Eighth, in the hydriatic management of typhoid fever ulceration and perforation of the intestines have never been known to take place: also there are no distressing after-effects, as there are no baneful sequelæ.

Ninth, it is my experience and belief that when cases are seen within the first five days, typhoid fever can be aborted and convalescence established within ten days to two weeks, based upon intelligent application of hydrotherapy.

Tenth, a treatment which is so simple and always available, and which has been proven by experience with many thousands of cases, ought to secure its adoption by the profession.

10 West Forty-Ninth Street.

MENSTRUATION THE CAUSE OF ACUTE OTITIS.

By F. PIERCE HOOVER, M.D.,

LECTURER IN OTOLOGY, NEW YORK POLYCLINIC; ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL.

February 4, 1897, Mr. J. B—— brought his wife to see me, regarding her ears. He informed me that every few weeks she would experience excruciating pain, which lasted several days; more in the right ear than in the left. During the time the right ear would discharge something similar to matter.

Mrs. B—— was a healthy-looking young woman, brunette, aged twenty-two years; weight, one hundred and twenty pounds; of medium height; married one year. Previous to that time she had never experienced trouble with her ears, but regularly each time her menses came on since her marriage she suffered agony with them. She desired to know what should be done to alleviate her great discomfort. She said she never had had womb trouble; her family physician, who had attended her from childhood, had pronounced her in perfect condition. On being informed she would be unwell the following week, I requested her to call to see me immediately she felt any unpleasant sensation in her ears.

The morning of the 8th she called again, begging me to ease her pain: it was similar to the passing of a knife through her head from one side to the other. Looking in the ears, I found the drum membranes somewhat reddened, the left one more than the right, and in its lower inferior quadrant I noticed a puffed-out area. I at once decided to perform paracentesis. Her husband held her while I punctured the drum membrane in two places with a fine Graefe knife, previously applying a four-per-cent. solution of cocaine to the drum. I was successful in letting out considerable pus, and upon inflating the ear by the Politzer method I removed

much more. I recommended warm water to be syringed in the ear three times a day, after which drops of peroxide of hydrogen: also warm applications to the ear. Salt I prefer in a linen bag, if one has not a hot-water bag.

Two days later the patient reported to me that the discharge had ceased; the sixth day the drum membrane had entirely healed. There had been no pain since the morning after the operation. As the patient was on the eve of her departure for a trip South, she could not call on me again, but promised to notify me the following month if similar trouble came on at a certain period, which she did, saying: "A day or two before my monthly sickness I used warm salt to my ears at bedtime and during the day; also inhalations of the menthol preparation you gave me; and am pleased to report I have not been bothered with the pain as before. I find the inhalations of hot medications most efficacious," etc.

Mr. B—— wrote me, June 1st: "My wife every month feels some slight twinge or pricking pain in her ears, but aborts the same immediately by following the orders given her in February. She takes a great deal of outdoor exercise and horseback riding, and feels splendid in every respect."

I desire to say further that when the patient first came to me I examined her nose and throat; they were in a normal condition, but during menstruation there was a general hyperæmia of the nose and nasopharynx.

My opinion in explanation of the condition of the ear trouble is that it was sympathetic to the menstruation—an excessive hyperæmia of the ear, the result of engorgement of the blood-vessels; a vicarious menstruation, so to speak; the first case of the kind I have met with. The large majority of actions which are spoken of as vicarious bear no such relationship to the suspended activity, but are pathological phenomena.

143 West Forty-Fifth Street.

HYSTERIA WITH COMPLETE ANÆSTHESIA AND CATALEPSY.[1]

By CHARLES E. NAMMACK, M.D.,

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History.—Edith B——, twenty-one years old, born in the United States, of Hebrew parentage, applied for treatment on account of "loss of feeling," and gave the following interesting history: Eight years before she had accidentally run a broken and rusty needle into the back of her left hand. The next day the hand swelled, was incised, and the fragment of needle removed. Phlegmonous cellulitis set in and recurred again and again, the hand refusing for four and a half years to heal completely. She visited clinic after clinic, until finally she came under the care of a surgeon who recognized the neurotic element in her case, and, by hypnotic suggestion, cured the hand in about four months' treatment. She stated that she had been hypnotized every day during this period, and that she finally became so susceptible that to gaze steadily into another person's eyes is now sufficient to bring on the hypnotic state. This latter statement was verified on the spot by the senior clinical assistant and, on her next visit to the dispensary, by the writer. This susceptibility is very embarrassing to the young lady in street cars and in public places. Whatever element of attraction these attacks may have had for her in the beginning has long since passed away, and she is now keenly alive to the discomfort of her disease, and resists, with all the will power she has, the influences which induce the hysterical state, which latter now threatens her future welfare and happiness. She is not presented before you in a melodramatic but in a scientific spirit, and with the hope that a free discussion of her case will evolve a plan of treatment which may make for her complete recovery.

Etiology.—Into the etiology of her case, indirect and dissimilar heredity may enter. Her parents and immediate ancestors have been hard-working Jewish people of the orthodox tenement-house type, overworked, underfed, and badly housed. Their management of the daughter's attacks has been based on the idea that she was possessed of a devil which needed vigorous exorcising, an idea which has the backing of a venerable historical position. But to-day we know that traumatism followed by long-continued suppuration and suffering needs neither demoniac possession nor congenital or hereditary taint in order to lead to depression of the nervous functions and of general nutrition great enough to produce traumatic neurosis, and, as regards its symptomatology, traumatic neurosis does not differ from hysteria. How much the application of hypnotic suggestion aided in the development of hysteria in this case is a question that should be given thoughtful consideration.

Symptomatology.—In the intervals of her attacks the most striking symptom is the alteration in sensibility, *i.e.*, anæsthesia. The anæsthesia appears to be total and universally distributed. Analgesia, or loss of the perception of pain, was noted in every part of the body tested. Anæsthesia, or loss of the tactile sense, can be easily demonstrated with the eyes bandaged. Thermo-anæsthesia is shown by the hot and cold water tube test. Electro-anæsthesia exists. Sensations of numbness, cold, or tingling ("paræsthesia") have not been noted by the patient, in either hands or feet. Dysæsthesia, a condition in which the skin cannot bear the least contact or the slightest change in temperature without experiencing pain, does not exist. Tickling the soles of the feet does not excite reflex action. The nipple reflex persists. The pupillary reflex is present and prompt, both to light and to accommodation. Punctures made to test sensibility do not bleed as in healthy individuals. The mucous membranes of the nose, mouth, and eyes share in the general anæsthesia. The skin of the lids, the conjunctiva, and the cornea itself are devoid of sensation. Hysterical blindness has never existed. Narrowing of the visual field was not tested for. The acuteness of the sight was unaffected. It is doubtless by strong stimulation of the retina that the hypnoid state is produced in this patient and that a bright light would have the same effect as a voluntary concentration of her gaze. Disturbances of taste, which render all food insipid and add very much to the annoyance of patients, are not present in this case. The nasal mucous membrane is affected in the general anæsthesia. The sense of smell is normal. Deafness does not exist, nor does any evidence of impaired hearing. The skin of the external auditory canal shares in the universal anæsthesia. Patient states that she feels the passage of urine and fæces. Sensibility of the genital mucous membranes was not tested. Abolition seems to be the only disturbance of sensation present in this case, there being neither perversion nor exaltation of function. The existence of hysterogenic zones could be demonstrated, as pressure on the ovaries arrested one of the attacks. The painful stigmata of hysteria were absent. There was no perceptible weakness of the voluntary muscles on either side, and dynamometric pressure was fairly good in each hand. The reflexes at knee, elbow, and wrist were exaggerated. The only tendency to contracture observed was the muscular rigidity present during the attacks induced by hypnotic suggestion. Deep massage, taps on the tendons, compression of a nerve, the application of a vibrating tuning-fork, faradization, the ap-

[1] Patient presented before the section on neurology, New York Academy of Medicine, October 22, 1897.

plication of a magnet, and simple touching of the skin, were alike powerless to initiate contracture. The history of the case does not include spasms of the œsophagus or of the neck of the bladder. Blepharospasm, nystagmus, and ptosis are absent. Tremor of any description is not discernible. Her general nutrition, appetite, and digestion are normal. Regarding her mental state, the writer's emphatic conviction is that simulation and deceit do not enter into the manifestations of her malady, but that these manifestations are caused by a weakening of the nervous functions against which she is at present powerless.

Leaving then the persisting or permanent phenomena of her case, we consider next the paroxysmal symptoms. Convulsions do not constitute a prominent feature, although at the menstrual epoch she is apt to have explosions of irritability coincident with slight pain in the ovarian region. The classical convulsive stage with aura, globus, and sensation of constriction in the pharynx is short and abortive, and the patient passes rapidly under the influence of hypnotic suggestion into the epileptoid stage, with irregular respiratory movements and stertor. The extremities execute slow movements for a short time, then follows a general tetanic spasm, sometimes amounting to opisthotonos. Then succeeds a stage of muscular resolution, followed by a period of attitudinizing or "clownism." The attitudes may be illogical, emotional, or passional. A fourth period follows, that of delirium, varying according to the ordinary state of sensibility of the subject. In coming out of the stage of delirium, this patient does not return wholly to the normal condition, but is usually able within two hours to go home unassisted.

She thus presents all the phenomena of the "grande hysterie" of Charcot, a form which is not common in this country, although physicians who practise among the uneducated Polish Hebrews of this city meet it frequently. Fear, superstition, and the faculty of imitation form powerful auxiliaries in the development of neurotic tendencies in these people to the overwork and privations which pull down their physical development and pave the way for neuroses in their children.

But in addition to the ordinary symptoms of "grande hysterie," the stage of attitudinizing in her case exhibits a marked degree of catalepsy. Her limbs may be mechanically placed in attitudes which remain fixed, but the fixity of the attitudes is not absolute, for the limbs finally obey the laws of gravity at the end of a certain period. Somnambulism and ambulatory automatism have never been noticed in her case, in which latter respect she is more fortunate than the patients whose case is mentioned by Desplats. (Reference in *New York Medical Journal* of October 9, 1897, page 506.) Memory has not been impaired. The nutrition of the skin has not suffered recently to the extent of producing dermatoses, excesssive sweating, localized œdemas, spontaneous urticarias, dermographism, pemphigus, ecchymoses, or hemorrhages, but she gives a history of one attack of blue œdema and frequent limited urticarias in the past. The hair and nails present no abnormalities, nor is there unnatural dryness of the skin. Hysterical breast has never occurred. There is no muscular atrophy at present. The writer has no reliable evidence regarding the presence or absence of hysterical pyrexia during the paroxysms. She gives a history of motor paralysis affecting the right upper extremity and left lower extremity simultaneously, which was cured by suggestion. The systematic palsy of the movements necessary for walking and standing, known as astasia-abasia, has never existed. Disorders of speech, like mutism, occurred once in her history, but her voice returned in three weeks. Respiratory spasms, such as cough, barking, hiccough, sneezing, and aphonia, have not been prominent, although the patient at present complains of a weakness of the voice which prevents singing. Laryngoscopic examination does not reveal any local lesion. Digestive disturbances, usually very frequent in the hysteria of young women, occasion no complaint in this instance, except the spasm of the pharynx which forms a part of the first period of the attack. Dysphagia, gastric spasms, vomiting, gastralgia, hæmatemesis, hysterical anorexia with its "excess of resistance aroused by an excess of insistance," have formed no part of her clinical history. Meteorism, constipation, intestinal colic, diarrhœa, or rectal tenesmus has not appeared. The urinary apparatus is not the seat of any trouble. Wandering kidney, regarded by Féré and by Albarran as a stigma of degeneration, is not demonstrable. Polyuria, independent of the attacks and permanent in character, and ischuria coinciding with vicarious vomiting, are alike wanting. Retention and incontinence of urine are absent.

It seems important to insist here upon the fact that "some of the traits of character so often ascribed to hysteria by former writer, such as simulation, sexual perversions, scruples, and morbid impulses, are symptoms of degeneracy and not of hysteria" (J. Hendrie Lloyd, "Nervous Diseases by American Authors," page 129). It will be observed that such symptoms play no part in the history of this girl, who is only anxious to do her full duty as a daughter or wife, and does not seek to attract attention to herself.

Too many medical men still regard hysteria as on a level with folly, mendacity, and malingering, and treat it in accordance with that idea. It cannot be too frequently repeated that physical rather than mental agents play the predominating rôle in the causation of hysteria. The mind is not an organ but a function, and this function is troubled whenever its chief organ, the brain, does not receive nourishment which is proper in quantity and in quality, or whenever it is unduly fatigued. To this conception must of course be added that of congenital defect as a personal factor in the causation of hysteria, as of other diseases.

42 East Twenty-Ninth Street

CLINICAL MISCELLANY.[1]

By R. ABRAHAMS, M.D.,

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In selecting material for this paper, my aim was to present to your attention a series of clinical pictures, though varying in theme, yet I hope interesting and instructive.

Post-Partum Eclampsia Followed by Hemorrhage.—It was in the fall of 1895, when I was called to deliver Mrs. G—— of her ninth child. I had delivered her twice before. She is a short, puny, little woman, about thirty-five years old. For four years she frequently suffered from intense uræmic headaches and gastro-intestinal disturbances consequent upon an old Bright's disease. Her heart and lungs, liver, and eyes were in good order. Her urine always contained some percentage of albumin and different kinds of casts. At no time, whether she was pregnant or not, were her legs or face œdematous. At my arrival I found a midwife, a stillborn child, and a placenta half way out. I was informed that the labor was rapid and the child was born dead, and that in spite of all efforts at resuscitation it remained dead. All was serene and comfortable after the placenta was expressed and sundry minor things were attended to. Just as I was about to leave the room, a half-hour after the completion of the third stage, I noticed that the patient was getting ready

[1] Read before the Society for Medical Progress, November 10, 1897.

for an eclamptic fit. Two typical paroxysms occurred in rapid and terrible succession before I could send out for help and drugs. No more than three minutes after the second seizure, just as the coma was deepening, a violent uterine hemorrhage appeared, blanching the patient as well as the medical attendant. It would be taxing your patience if I told you in detail how the woman looked and felt, as you can all easily picture her condition: suffice it to say that she was alive with a pulse scarcely perceptible. The treatment might be of greater interest. The poor, filthy, wretched surroundings only intensified the gravity of the circumstances. Grabbing the first and nearest rag within reach and view, I shoved it up into the uterine cavity. When that organ was effectively packed, the horny hand of the husband was put on it. Next, about three quarts of saline solution was pumped into the rectum and colon, which was fortunately retained; then came the liberal use of ergot, strychnine, and whiskey hypodermically—never mind the dose. In about twenty minutes the woman began to rally, the pulse and color grew better. The coma had disappeared, as the patient yawned and sighed and tossed about, symptoms characteristic of loss of blood. In three hours I felt secure to leave her to the care of the untrained nurse. At my visit the next day the woman was found pale yet comfortable, pulse rapid but of good quality, and the uterus firmly contracted. The packing was slowly removed, followed by a hot sublimate irrigation. The woman made a good recovery: was up in ten days. During the puerperium intense headache was complained of and pain in the right thigh. This latter trouble resulted from the hypodermic needle and eventually terminated in a mean, nasty abscess which took some time to heal. Aside from this uncommon though not impossible complication of events, two points might be of interest and utility: (1) The magic effect the saline injection exerted on the pulse. It was immediate and salutary. It was quite evident to me, as I anxiously watched the dying woman, that all the employed stimulants added auxiliary aid only. (2) The cessation of the eclamptic fit and the emergence from coma after the hemorrhage. This observation would tend to lend support to the practice and doctrine of some that venesection benefits puerperal eclampsia.

Death Resulting from Diphtheria Antitoxin.—In the early and struggling days of antitoxin, when every shaft of criticism was hurled at it by its few but loud opponents, a physician with a small quantity of serum but a large quantity of enthusiasm was vociferously decried for refusing to waste his precious drug on a moribund diphtheritic child which held out no other hope but that of adding a case against antitoxin and fuel to the flame of prejudice. At that time this action and refusal were eminently just. Now, however, as adverse criticism, no matter the source, could not alter the universal verdict of the almost uniform beneficence of diphtheria antitoxin, one need not fear bias or intimidation by reporting a fatal case resulting from its administration.

Child, F——, six years old, developed tonsillar diphtheria on a Friday. Saturday, about five o'clock in the morning, I was called because croup appeared. The child was examined: diphtheritic membrane was found covering the tonsils. During the day the parents made an effort "to scrub off the white blisters." Although the child was decidedly croupy, the breathing was far from alarming. Temperature, 102 F., with a pulse in proportion. At half-past six o'clock I injected between the shoulder blades fifteen hundred cubic centimetres of the antitoxin of the New York board of health. The reaction was marked by a rise of temperature of one degree, otherwise the child fell asleep, as most of them do after serum treatment. At eleven o'clock the temperature was the same, but there was evidence of improvement in the breathing and the cough. Nourishment was taken without protest. At one o'clock the report was still more gratifying. At two o'clock the child suddenly began to gasp for air and became very blue, with cold extremities, poor pulse, and profuse cold perspiration. This alarming condition lasted but ten minutes. Then the child began to breathe quietly, pulse weak, and temperature subnormal. A slow but gradual paralysis of the limbs and reflexes set in, and by five o'clock, in spite of the most vigorous treatment, the child died in a condition of total collapse and paralysis. The most curious feature of this case was that the quiet though slow breathing was preserved until the last moment, and, were it not for the ghastly appearance of the face, one could not by mere inspection tell the approach of death.

There is no doubt in my mind, and in that of another physician whom I showed the case, that the antitoxin was responsible for the speedy and fatal termination. It was not a case of profound septic diphtheria, and the fact that improvement followed the injection but fatality later should urge the physicians to watch their cases, instead of being, as some are, satisfied that they have done all they can after making the injection, and trusting that a beneficent Providence will look out for the rest.

Gummous or Tertiary Bubo.—The adenitis which accompanies the initial lesion is so common that one instinctively looks for it in examining a suspicious ulcer; indeed, its invariable accompaniment, coupled with its characteristic features, often helps to establish the true luetic nature of the ulcer. The adenitis which appears in various regions of the body during the evolution of the secondary stage of syphilis, though less universal, is not less known. So are glandular tumors known to occur coincidently with ulcerating gummata years after the acute stages of the infectious process. But instances of isolated syphilitic bubo, wholly independent of any sign of existing syphilis, primary, secondary, or teriary, are excessively rare. Upon this point I beg to quote Dr. S. Lustgarten (Villarets' "Dictionary of Medicine," article "Bubo," New York MEDICAL RECORD, January 11, 1890), who, more than any other, brought this subject most prominently before the profession here and abroad. He says: "Nearly all of the cases mentioned, as well as a number of those which follow, contain instances of gumma of glands complicating other tertiary process. The observations of glands affected in an isolated manner are of more importance, but are much less frequently referred to (about twenty cases, including my own four observations). If the first group demonstrates by the complication the syphilitic nature of the affection, and removes every doubt of its existence, the second is of more importance, because it shows the difficulty of diagnosis in some cases and the clinical resemblance to malignant tumor, and especially to malignant lymphomata." A typical case of an isolated tertiary bubo came under my observation last summer in June.

Miss L——, twenty-five years old; prostitute. Nothing known of her family history. Appears in perfect health. Denies specific disease. For five months she noticed a gradual, painless enlargement of the glands of both sides of her neck. As the swelling did not hurt her she did not care to doctor about it. She consulted me because the tumor on the left side of the neck assumed such dimensions that it interfered with the natural movements of her head. A careful examination was made of all the internal organs, with negative result. The teeth were found in good condition. No skin trouble: hair and scalp healthy: no anæmia and no enlargement of any other glands of the body, except those of the neck. The latter appeared

on the left side as one conglomerate mass, commencing at the mastoid process, coursing along the line of the sterno-cleido muscles, and projecting far to the median line. Upon careful palpation of the mass one could distinguish separate glandular nodes, small in size but adherent to the main mass. The tumor on the left side was considerably smaller in size; its separate constituents were more distinct and separable. The tumors were somewhat movable and the skin overlying them was considerably so. At the lower end of the left enlargement there were slight fluctuation and a mild redness of the skin. These two features were considerably augmented by the application, through mistaken orders, of hot linseed poultices. In three days I was tempted to incise that part of the mass which appeared suppurative. A few drops of sero-purulent stuff escaped. The healing for a week was unsatisfactory. The edges of the wound were thin and everted; the cavity was not large but yet not healthy in appearanec. Up to that time, while different diagnoses suggested themselves, none appeared plausible. However, it is said that a man is judged by the company he keeps. I judged this woman's lesion by the pathological mishaps her profession entails. I therefore empirically put her on large doses of iodide of potassium, mercurial plaster, and inunctions. In a week improvement began to show. In four weeks there was no vestige of the tumors. This remarkable result left no doubt in my mind that the tumors were of the variety named by Dr. Lustgarten, "gummous or tertiary bubo or lymphoma."

Dislocation during Birth.—The subject of dislocation in children is interesting on account of the rarity of the occurrence, and in infants it is doubly interesting, because the rarity is still greater. Scanzoni is quoted in Keating's "Cyclopedia of Diseases of Children" (page 1,099, vol. iii.) as saying that he "never met with luxations in the newly born, yet they occur sometimes as congenital lesions, sometimes and not seldom in the hip as the result of powerful traction made on the lower extremities." The three cases of luxation that I will briefly report belong to the latter class.

Case I.—Infant B——; mother was delivered by a midwife. Primipara: breech presentation. In delivering the after-coming head, tremendous force was applied in traction on the legs. Two days later I found the right buttocks swollen with limited motion. Diagnosis, downward dislocation of the hip. Reduction accomplished by manipulation; no anæsthetic.

Case II.—This case was one of double dislocation of the lower jaw, brought about by an effort to deliver the after-coming hand. It was effected by making traction on the lower jaw with a hand in the vagina; the other hand was employed in pressing the occiput. The accident might be attributed to haste, impatience, or a false notion of obstetrical mechanics, but the result was instructive. Reduction was accomplished without trouble.

Case III.—Those who practise among the ignorant foreigners are undoubtedly familiar with a pernicious practice religiously performed by mother, midwife, or nurse, for some time after the birth of a child. I refer to that manipulation technically described by them as "measuring the infants' limbs" in or out of the bath-tub.

Infant C—— had his limbs kneaded and straightened in its morning bath. Shortly after the mother found that it could not nurse, and it also "checked" in swallowing. An examination disclosed an upward dislocation of the sternal end of the clavicle. The accident and its removal were beneficial to both mother and child—one learned a lesson, the other obtained relief—then and for all time to come.

The last case of this clinical hodgepodge is one of amusing interest. You know it has come to pass that there is no medical gathering without the mention of appendicitis. I shall therefore relate a case of what one might call pseudo-appendicitis.

A married man of twenty-eight years, an hour or two, or perhaps longer, after feasting sumptuously on poultry, began to complain of pain in the abdomen. The pain was not violent but rather constant. Vomiting and fever were absent. Gradually the uncomfortable feeling shifted to the right iliac fossa, the Mecca of modern surgeons. The man stayed home, though not in bed. From Wednesday evening to Saturday morning there was decided tenderness in the appendiceal area, but nothing else. Early Saturday morning he treated himself to a good dose of Epsom salt, which produced several movements. After the last passage he found himself riveted to the seat. The pain at the anus was so intense that he was carried to his bed. Examining the seat of trouble, I immediately discovered the difficulty—a chicken bone, about an inch and one-half in length, with rugged edges, was placed firmly and squarely across the anus. It required force to remove the bone of contention, as it were. After this the patient made, as the stereotyped phrase goes, an uneventful recovery. All pain in the right iliac fossa ceased at the escape of the bone. It seems to me reasonable to infer that the bone, in all probability having lodged in the caput coli, produced a condition simulating a mild catarrhal appendicitis. If there is anything in the "inductive method," this supposition is correct.

156 Clinton Street.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SUDDEN DEATH IN ACUTE RHEUMATISM—MAMMARY CANCER—SIR W. JENNER — PRINCE'S FUND AND PROPOSED CENTRAL BOARD—THE COLLEGES ON ARMY MEDICAL REFORM—MR. ALLINGHAM—THE LATE CARMATT JONES—INFLUENZA AND DIPHTHERIA.

London, February 4, 1898.

The subject of sudden death in acute rheumatism was discussed by the Clinical Society on Friday, *à propos* of a case related by Dr. Heringham, in a girl of sixteen. The joint pains ceased under salicylate of sodium, but she continued to suffer pain in the epigastric and precordial regions, and became cyanotic. The heart enlarged, râles became audible, and fever persisted until a sudden change occurred and she died in a few minutes. At the post-mortem œdema of both lungs was found, with fatty degeneration of the walls of the left ventricle and great increase of cells in the interstitial connective tissue—acute myocarditis.

Such an acute change in the heart is perhaps the usual cause of sudden death in the few cases of rheumatism terminating in this way. It would scarcely be possible to diagnose it, but suspicion might be excited by cyanosis without sufficient lung mischief to account for it, especially if accompanied by pain in the precordia.

Dr. Maclagan said the best account of such cases was Corvisant's, who scheduled them as "distinct" and "latent," according as there was any evidence or not of direct changes in the heart. When there was not, the symptoms were referable to the nervous system. He believed that inflammation spread from the pericardium to the endocardium, but not in the reverse way, and said that endocarditis never spread all over the heart, but was limited to certain spots. He never

gave salicylate of sodium when he suspected the heart, but used salicin in such cases.

Dr. Lees said he was indebted to the author for the details of the post-mortem, and he wished that in every fatal case of rheumatism the cardiac muscle could be examined microscopically. He had come to believe in definite enlargement of the heart apart from pericarditis. In one case the progress of recovery was watched by tracings made without reference to those taken on the preceding day. They showed at first great dilatation, which rapidly diminished to normal under treatment. He considered that the symptoms—delirium, pain, dyspnœa, cyanosis—did not prove cardiac inflammation, but might be due to the toxic action of rheumatism.

Dr. Glover described the post-mortem appearances in the case of a man of fifty, who died suddenly the first time he was visited. There was a reddish or grayish-red patch, the size of a five-shilling piece, on the front aspect of the heart, looking as if it might have sloughed out, with a corresponding patch on the opposing surface of the pericardium. Another spot on this membrane was ecchymosed. Discolored clots were found in the aorta and pulmonary vessels. The lungs were congested and emphysematous.

Dr. A. Morrison remarked on the common experience that the initial evidence of cardiac failure first manifests itself in the left lung.

Sir D. Duckworth said he had seen endocarditis pass bodily into the substance of the heart. It was ushered in by progressive failure of the circulation, and was sometimes averted by treatment. He thought salicylate should be discarded in such cases for iodide of potassium, quinine, and a stimulant.

What is the general result of operation for cancer of the breast? This is perhaps the principal question suggested in the discussion by the Medico-Chirurgical Society, evoked by Mr. Marmaduke Sheild's paper, entitled "Immunity and Latency after Operations for Reputed Cancer of the Breast." Mr. Sheild had collected and tabulated a number of cases from various sources. These cases seemed to show that the results of the older operations were not so constantly bad as is too often declared by advocates for the more extensive procedures now commonly adopted. In one group of cases forty-four were recorded in which there was no recurrence after long periods; but in the same group there were sixty-four recurrences. In some cases these recurrences were repeated, and in others there was immunity for very long periods. Mr. Sheild submitted that some of the results must be due to peculiarity of the growth or of the patient, rather than to the extent of the operation. Volkmann's rule of a three-years' limit was evidently too absolute. A much longer period must pass before admitting a "cure." A collective investigation was suggested as to the results of the old "incomplete" or the newer more extensive operation. Objection was taken in the course of the discussion to the terms complete and incomplete—the latter of which almost suggests the omission of something which the surgeon ought to have done.

Mr. Pridgin Teale had a record of private cases for thirty-five years. In eighteen selected cases there was only one recurrence in eight years, but all but two or three of the patients eventually died from this cause. In his earlier work he had not systematically opened the axilla, but later had done so and removed all glands that could be felt. He had not removed the pectoral fascia. He repudiated the term "cured" for cases operated on. The extensive operations recently done, he said, would have led to greater mortality before the antiseptic period.

Mr. Bryant thought the statistics submitted enabled operators to give a more favorable prognosis, as some patients had survived from five to twenty years. Of his own private patients, seventy-two in number, fifty-five per cent. died within three years, forty-four per cent. lived longer, twenty-two per cent. for five years or upward. He cleared the axilla and removed the pectoral fascia only when necessary, but he always opened the axilla to see if the glands were enlarged. Still he found that recurrence, when it took place, did not generally do so in the line of the lymphatics. The results of the so-called "incomplete" operation were better than those of the more extensive. These last on old women would raise the mortality. Nodules might come and disappear again, leaving white scars behind, as he had seen in ten cases.

Mr. C. Heath said he still took care to remove all implicated tissues, with results as good as those claimed for more extensive operations.

Mr. Barwell had had a patient who survived for twenty years, another fifteen, and six patients who died from other diseases after ten years without recurrence.

Mr. Butlin protested against the pessimism that there was no cure for cancer. It was "fatalism and the high Calvinism of surgery to say, Cancer once, cancer always." He accepted Volkmann's three-year limit as a fairly useful one, for if no recurrence occurred in that time the patient might be said practically to be cured. If the period should be somewhat longer for cancer of the breast, it might be shortened for some other parts, *e.g.*, the tongue; and, as experience increased, he thought the time limit of every organ might be fixed.

The further discussion of the subject was at this point adjourned.

Sir William Jenner arrived at his eighty-third year on Sunday last. He retired to his country seat some years ago. He is remembered by his old pupils with intense respect as their ablest clinical teacher. A good story is told about his son at Oxford. A cleric, on being introduced to the young man, asked if he was any connection of "the great Jenner," and on being asked in return which Jenner he meant answered: "Why, the bishop, of course." There were those present who had not heard of the bishop.

The Duke of Bedford presided at the dinner of University College Hospital on Wednesday. He deprecated any attempt of outside persons to interfere with the control of the hospital.

Mr. Christopher Heath, in returning thanks for the staff, took the same stand and showed that the plan of the Charity Organization Society would hand our hospitals to a body having no responsibility for their pecuniary support.

My recent remarks have not pleased the Charity Organization Society or the advocates of its central board, and the *Medical Press and Circular* opines that I am not "inspired" as to the Prince of Wales' fund. He says, "Up to a certain point these remarks are quite true," and then goes on to speak of the other funds. I made no claim to be "inspired," though I had unimpeachable information on the points raised. But I do not hold a brief for either of the funds.

The presidents of the two Royal Colleges have sent a joint letter to the war minister, urging that the demands of the medical officers of the army should be granted.

Mr. Herbert Allingham has been appointed surgeon to the Prince of Wales' household.

Mr. Carmatt Jones, F.R.C.S., died on Wednesday, in his fifty-first year. He was an enthusiastic worker in his specialty—rhinology—and the advocate of "spoke shaving" in nasal surgery, a procedure which has excited much difference of opinion.

Influenza still prevails. The type is mild, but there are malignant cases. The weekly mortality has steadily increased, as follows: 15, 29, 43, 40, 73, 88.

The disease has also appeared in many country districts.

Diphtheria is still on the increase in London. Thirty-six deaths from this cause were registered last week. The admissions into the asylums boards hospitals were 161, and 1,055 cases remained under treatment.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE MEDICAL PROBLEM—A CRISIS—OVERCROWDING—DEATH OF DR. PÉAN—TREATMENT OF BURNS BY PICRIC ACID—PAINS AND SYMPTOMS OF POISONING CAUSED THEREBY—ABANDONMENT OF THE TREATMENT.

PARIS, February 8, 1898.

THE overcrowding of the medical profession, not only in Paris but also in New York, is really a burning question, and almost every day it is brought home practically to its members and the public. All the trouble in New York regarding the dispensaries, and in Paris regarding the rigorous laws upon the practice of medicine and the admission of foreign doctors and students, has its origin in this plethora of medical schools and colleges, professors, physicians, and their pupils. The cause is easy to find—we have it right there: but the remedy—"Ay, there's the rub." In France it is boldly asserted that there is none, and a large proportion of those already engaged in the practice of medicine or about to embark upon it must go to the wall. It appears that a veritable medical crisis has been reached in France. A writer in *Le Figaro*, the great French literary journal, informs us in a recent number that he found upon his table a medical sheet containing the letter in which a physician announces to the inhabitants of Gergy that he is obliged to leave them, because the prefect has just cancelled an appropriation of only 200 francs in his favor—and he pointedly adds that medicine, at the time that it makes princes, tends to make *prolétaires*.

Let us look for a moment at the actual facts and figures. There are the doctors in the French senate and chamber of deputies, principally the latter; there are the electricians, masseurs, and hydrotherapeutists, whose number is very considerable—the number of physicians in the Parliament being estimated at eighty. Now if all these were thrown back into the great general medical profession, the crisis would be still greater.

There are twenty-five hundred physicians in Paris alone, and of these I have it on undoubted authority that twelve hundred barely make enough to live upon. Of the ten thousand provincial doctors, five thousand are in a pecuniary situation about equal to that of the conductor of a surveying-party. Of the other five thousand nothing is said; but one can easily imagine their financial and general condition when it is remembered that the country hardly nourishes its physicians, and a number of communes can get one only on condition of voting him substantial aid. Professor Lannelongue, president of the General Association of Physicians of France, announced recently to his confrères the approach of a time when the average receipt of a doctor would not exceed 3,000 francs, or about $600 a year—a sum so very small that it is not the interest on the capital expended in obtaining a medical education in France. And, in spite of oft-repeated statistics, we still find foreign doctors, Americans especially, anxious to practise here. As for the students in medicine, why, their number has more than doubled since the war of 1870, rising gradually and steadily from four thousand to eighty-four hundred and eighty-five.

Large numbers of the profession, both in New York and Paris, are aware of the actual truth regarding their chances of success in such a professional ocean, and seek municipal or State positions. We know how many applicants there usually are in New York for the most modest medical post within the gift of the authorities, and we also know exactly how such positions are obtained. The same holds good in France, where the faculties graduate twelve hundred doctors a year, and there are but six or seven hundred vacant posts to fill.

One cause of the trouble in this country is that young men become doctors or licentiates to avoid military duty—that is, to do one year's military service instead of three; and that explains also, in part at least, the success of shady clinics and the painful contact of medicine with the criminal courts.

We have just sustained a loss by the death of Dr. Péan. After all, perhaps the laity is the best judge of the doctor and the man; not of Péan especially, but of all doctors. To satisfy the public, to have the public appreciate a man at his real value—that is the crucial test, that is the practical refinement of professional dross. Péan was a great surgeon, a great and good man, a field marshal of French surgery—that is the verdict upon the man, large of heart and body, always lending a helping hand to his younger, struggling confrères, actively engaged in works of charity, continually giving his services gratuitously to the poor, and at the moment of his death considering, with other distinguished physicians and surgeons, the means of brightening the clouded future of the medical profession. Péan was a member of the more important academies of medicine all over the world, and was a commander and grand officer of orders innumerable. His famous debate with Verneuil, about the small hæmostatic forceps, or "pinces," as he called them, is still fresh in memory. As soon as he felt the rigors of pneumonia upon him, he said to his friends, "I am lost;" and, as the disease progressed, he added, counting his own pulse: "I never knew any one to survive what I am experiencing. In an hour I shall be dead."

The local treatment of burns by picric acid has received its *coup de grâce*. At least, it will probably not in future have that popularity in hospitals and private practice that it has hitherto enjoyed. Dr. Walther, at a recent meeting of the Society of Surgery, introduced the subject, *à propos* of two children, of eleven and four years of age respectively, who had been burnt to the first and second degrees. Dr. Latouche, at the Autun Hospital, dressed the burns with a saturated watery solution of picric acid. Five minutes after the children complained of lively pains *in loco*, lasting about an hour. Five days after, when the dressings were removed, the surfaces had a good appearance, with a slight suppuration in the younger child's case. A second dressing with the same solution of picric acid caused the same pains as the first. The third dressing was made with picrated vaseline, ten parts to one hundred—each child getting about two hundred grams of the ointment, or twenty grams of picric acid. This time the result was deplorable. Violent pains in the wounds, and lasting three hours, were followed, twelve hours later, by incessant vomitings, active colics, yellowish diarrhœic motions, with tendency to coma, general icterus, and scanty black non-albuminous urine heavily charged with picric acid. This serious condition disappeared only after two days in the case of the elder child, and after eight days in that of the younger. In both the urines remained black for several days, the burns healing in about twenty-five days.

Dr. Berger, who has had grave annoyances, often persistent pains, with picric acid in the treatment of burns in children, has abandoned that mode of treatment altogether; also Dr. Tuffier, who alleges that

the treatment causes pains, pigmentation of the skin, and eczema. Dr. Championnière has seen intolerable pains and a certain intoxication caused by picric acid in cases of burns. Dr. Hartmann has observed intense erythema and pains provoked by picric acid in the adult. After this, we may at least say, picric acid as a dressing for burns of the first and second degrees is not likely to supersede the good old plan of powdering with dry bicarbonate of sodium or dressing with linseed oil and lime water.

A MODIFIED INCISION AT THE OUTER BORDER OF THE RECTUS MUSCLE FOR APPENDICITIS.

To the Editor of the Medical Record.

Sir: The excellent literary standing of the Medical Record and the deserved prominence given in a recent number to the article by Dr. Kammerer on "A Modified Incision at the Outer Border of the Rectus Muscle for Appendicitis," I think are sufficient warrant for a slight criticism of his anatomical assumptions. The nerve supply of the rectus abdominalis is through the lower intercostals and not through the ilio-hypogastric (incorrectly spelled ileo-hypogastric), which is chiefly or exclusively a cutaneous nerve. Also his assumption that an atrophied spot in the rectus was between two lineæ transversæ has but scant probability, since these vestigeal abdominal ribs are not scattered at random throughout the length of the muscle but are usually three in number, the lowest at the umbilicus.

H. L. Hibbard, M.D.

MIDWIVES AND THEIR DISREGARD FOR ANTISEPSIS.

To the Editor of the Medical Record.

Sir: A few days ago I was hastily summoned to a woman who had given birth to a child seven days before. Her husband called, stating that his wife had "pains in her stomach," and had been crying for the past six days, and that a midwife was in attendance. I immediately answered the summons. Upon my arrival at the patient's house I heard groaning and heartrending cries, which were being uttered by the patient, a woman twenty-two years old.

Questions put to the patient elicited the following: A midwife delivered her of a healthy child "without any trouble" (vertex presentation). Twenty minutes later she expressed the placenta, which came away complete. No hemorrhage. Twelve hours after delivery the patient complained of severe pains, which the midwife diagnosed as after-pains. The husband, not being satisfied with the explanation, summoned a physician who happened to pass by. Examining the patient, he found a temperature of 102.6 F., pulse of 96, tenderness over the entire abdomen, and localized pain on the left side. He advised currettage, but the persuasive words of the midwife "to wait" were successful, and only intra-uterine irrigations with creolin were ordered, which the midwife promised to make, and did make as promised. Five days later I was summoned to attend the patient, who not only was getting worse but also was exhausted from constant pain.

A thorough examination was made, the result of which was to disclose an unquestionable septic endometritis with pelvic cellulitis. While I was examining the patient the midwife appeared, somewhat astonished at the present status and proceedings, and quickly assured me that there was nothing wrong, that the patient only had after-pains (seven days after delivery)! Wishing to make an intra-uterine irrigation, but not having the catheter or Chamberlain tube with me, I promised to return in one-half hour, when the midwife, with all her kindness and born friendliness, offered me the catheter which she had used for the patient right along "to make the irrigation, which is so easy." To save time and another visit the same evening I accepted her offer, when to my surprise she opened a small handbag, which, by the way, contained gloves and handkerchiefs, and out came a female catheter, dirty and filthy, used for the withdrawal of urine. Quickly stepping to the hydrant, she washed it with cold water, and in handing it to me she remarked, "Here, doctor, is the catheter. It is clean. I always wash it off before using. It is all right now." Indignation and surprise were at this moment battling for supremacy. What was I to do? What was I to say?

I now ask, is it a wonder that we have so many septic cases after midwives? Shall human lives be sacrificed simply because midwives are careless and ignorant? Should the medical profession allow such proceedings to go on? Is it not high time that such nuisance should be stopped? How many who trust their lives to such ignorant women, for a paltry sum, put them in jeopardy? Is there no remedy to erase from existence such incompetent and careless midwives? What is the legislature going to do about it? Are the just demands of the majority of the profession to be ignored?

Gustav Kompert, M.D.

[illegible] Second Street.

PERSONAL CLEANLINESS AND THE HYGIENE OF PUBLIC CONVEYANCES.

To the Editor of the Medical Record.

Sir: Not only is the part that imagination plays in science evident in the various theories and hypotheses that help modern investigation, but now and then a germinal idea may be traced back to some poet or even to a person of unsound mind, just as years before the invention of the telegraph and telephone lunatics in confinement spoke of messages received from a long distance over wires entering into the walls of their cells. The light that pathological anatomy has thrown upon physiological problems only partly solved shows further the plausibility of such suggestion, which is mentioned here only to introduce the fact that the poet Lucretius long ago wrote of the microbian theory now dominating the minds of modern physicians.

The fight with the infinitely little appears to be the order of the day; we no longer attack disease as a morbid entity, but rather concern ourselves with the sanitary relations of man with the microscopic world and with the means of making these relations contribute to his welfare. In view of the popular interest in much that is written about cleanliness and the sanitation of public conveyances, and the great room for improvement in the conveyances themselves, as well as in the cleanliness of the people travelling by them, I may therefore mention the motive that prompted the detail of incidents coming under my own observation.

Lately a passenger by one of the Eastern Shore steamers plying the Chesapeake Bay from Baltimore told me of his becoming infested with lice, while a number of young women from a fashionable boarding-school in Washington met with the same misfortune in travelling from Chicago on a sleeping-car.

Many persons who served in the late civil war are familiar with this and other forms of parasitism; seafaring people know of vermin-infested ships—for instance, cockroaches on whalers, which I have known to eat one's finger and toe nails into the quick during sleep; and at least one medical man wrote a journal article some years ago concerning the different parasites found in the cushions of street cars and the ferry boats of New York—a circumstance that had prompt

effect in bringing about salutary reform in this respect.

During a residence in Washington I have seen Acanthia lectularia in the herdic cabs and in one of the fashionable churches; but my first experience with pediculi dates from 1866, during the cholera epidemic at Tybee Island, Ga., when I was in charge of the Savannah quarantine. In addition to other annoyances and discomforts of the occasion, I found the old hulk used for boarding purposes infested with lice. Again, in 1878, when a passenger by one of the transatlantic steamers, I knew of several passengers, one of them an Italian count, who had the misfortune to make acquaintance with these unpleasant travelling-companions. From experienced officers with whom I have talked I learn that it is often difficult, if not impossible, to prevent a passenger ship from becoming infested with vermin. The chief officer of one of the ocean greyhounds told me lately that even with the utmost care lice would sometimes spread rapidly through a ship. A person of undoubted veracity, formerly an officer of one of the old "Black Ball" line of packet ships which antedated the present steamer traffic tells me that a ship of that line became so infested with lice that on one occasion on going aloft he found them crawling on the topmasts. Such a story might test credulity, had I not seen them almost as bad on board an English steamer on which I sailed from New York for London in 1882. The first night or two out the passengers complained of being bitten by "mosquitoes" during the night; but every one found out differently before the voyage was over, and the owners were obliged to lay up the ship to be cleaned and fumigated. Still later, on board one of the crack steamers between New York and Liverpool, I knew of a lady of extremely fastidious tastes who, to her great consternation and disgust, became swarming with lice. I could prolong these citations by others learned in Marseilles and in various seaport towns of Italy frequented by merchant vessels.

Government ships, owing to superior advantages for enforcing cleanliness, are of course not so subject to these conditions, although at times such things do happen. When I was surgeon to the Arctic search expedition in 1880, several men and two officers of the *Corwin* became lousy from eiderdown jackets they had purchased from the natives of Saint Lawrence Island.

That birds and other animals of the lower orders are infested with lice that may be communicated to man is a fact not generally known. When serving on the Rio Grande frontier I knew of an army surgeon, something of a taxidermist, who became infested with these unwelcome guests from a pelican that he had killed. On subsequent examination of a number of the birds, I found them all affected by pediculosis. About the same time an officer of the fourth cavalry called my attention to a sore eyelid, which turned out to be ciliary blepharitis from what I then supposed was a crab louse with which his horse was infested. I have since learned, however, that the parasite in question was one lately described in a publication of the department of agriculture.

Dr. Bertellett, of the United States navy, tells me of a case of pediculi palpebrarum that he noticed in a coal passer on board a naval vessel.

Judging from the small number of cases reported, this condition of the appendages of the eye appears to be unusual and all the reporters speak of it as extremely rare, although Celsus mentions a phthiriasis of the eyelids from this cause.

Nor is the condition less prevalent ashore than on shipboard, as most of us know who have travelled much. Discoursing on sanitary science, a Smithsonian lecturer lately said that in the next generation the present Pullman sleeping-car will be on exhibition as one of the insanitary abominations of our forefathers. In addition to other cases I may cite from personal knowledge that of a lady, her son, and a nurse, who lately, in going from New York to Quebec, became infested with lice.

If these unwelcome travelling companions were the only discomforts of the railway conveyance, health would be but slightly menaced; but when we take into consideration the great army of spitters, many of whom are tuberculous, and the accumulated microbian dust of the curtains and carpets of the ordinary sleeping-car, which hold the seed sown by contagious travellers for those who follow, the damage therefrom assumes a reality that cannot be disputed. Indeed, hygienists have so well demonstrated by experiment the contagious properties of dust collected from cars that we may assume as axiomatic the fact that dust is the great enemy of public health. We may further insist upon the fact that cattle are better treated than human beings, since their cars are disinfected after each trip; diligent care is taken to prevent among them the spread of tuberculosis, and it is said that in European armies the medical attendants of the men are numerically inferior to the veterinarians in a regiment of cavalry.

The danger of bringing to light the virulent dust stored up in carpets and the like is one that may persist during a considerable period, since the dangerous germs contained in dry dust left by our predecessors in local habitations have been shown by experiment to live for years. In at least one instance, when the dust was placed in sterilized tubes microbes were found after sixteen years, and among them a very dangerous one, the bacillus of tetanus, which had preserved all its virulence. From such facts the deduction is that dust contaminated by disease germs, especially if kept away from light, is an agent whose action is hurtful to the healthy organism, and ought to be considered as remaining dangerous at least during twenty years.

A question as to the relative cleanliness of Europeans and Americans naturally arises in connection with this subject. The special investigation of the department of labor indicates that Americans are less cleanly than Europeans. Data collected by an agent of the department, who visited the chief cities of the world with the bathtub as his hobby, show with some startling results much to our discredit that Americans are in the aggregate unclean, and, as regards public facilities for bathing, are much behind the old world.

The modern public bath is now found in every progressive European city of any size, but in England, where they have been the thing for more than a century, they take the lead. In Liverpool, with its nine public baths and eighteen sheltered swimming-pools, any one may take a sea-water bath at any season. In one of these establishments, especially for boys, as many as sixteen thousand sometimes bathe in a week. Public bathing-establishments are to be found in two hundred cities of England and Wales, and Glasgow is said to have more bathhouses than any city in the world. The mammoth public-bath establishment of Manchester and that of the Roman Road in East London are the most elaborate of the kind in Great Britain.

Even in Germany, where many people seem proud of the boast that water has never touched their back since the vernix caseosa was removed at birth, we find an awakening as to "rain baths," as they are called. Physicians are beginning to recognize the importance of *Läuse und Läusesucht* in their therapeutic and medical police relations; baths have been adopted in the German army, and forty European cities have introduced them into the public schools, where their use is compulsory. At Stuttgart is one of the most elaborate public baths in Europe. Those of Buda-Pest are also

excellent, while public baths for workmen are fast gaining in popularity among European employers, no less than two hundred baths for workmen being found in Germany alone in connection with shops, mines, furnaces, breweries, etc.

In America, where pure water is cheaper and philanthropy is lavish, public baths open all the year round are found in but two of our hundreds of progressive cities, namely, Buffalo, N. Y., and Brookline, Mass., while the national capital boasts of its bathing-beach alone, where boys are allowed during the summer months to bathe in the sewer-contaminated water of the Potomac. Authentic statistics from eighteen flourishing American cities, which represent a cross-section of the country at large, show that only five-sixths of their citizens have facilities for washing themselves other than afforded by pail and sponge or flowing streams.

From a late report of the surgeon-general of the United States army, we should infer that bathing-facilities for soldiers at most of the posts, though said to be improved, are equally unsatisfactory.

But the crowning report as to American uncleanliness comes from fastidious Boston. The medical inspector of schools, writing to the *Boston Medical and Surgical Journal*, January 20, 1898, reports the prevalence of "Pediculosis in Boston's Public Schools," and says that "some of the teachers had been themselves infected from their pupils as many as four times." An exact idea of the prevalence of pediculosis may be had from the figures of one school of seven hundred and fifty-six children, all girls with the exception of fifty boys, and mostly from respectable families. Of this number but two hundred, or twenty-six per cent., were not infested. A dozen or more of these children showed considerable eczema of the face or scalp and enlarged cervical glands resulting from this pediculous condition. These children being given two weeks to clean up during Christmas vacation, a re-examination of five hundred and nine of them showed the astonishing and discouraging result of only twenty-six children free from nits. Among kindergarten children, less than half had pediculi; the same condition was found in five-sixths of the primary children and nearly three-fourths of the larger girls.

The foregoing facts carrying with them their own commentary, I shall leave the indications of special hygiene and the administrative regulations relatively thereto for others more competent to suggest.

IRVING C. ROSSE, M.D.

WASHINGTON, D. C.

Water Supply of Brooklyn.—The first report of the department of health of the city of Brooklyn, in regard to the sanitary condition of its water supply, has recently been published. This report deals with the question in an exhaustive manner. The water supply of Brooklyn is drawn from sixteen sources, and appears to be very unsatisfactory; in fact, the report fully confirms the general belief that the insanitary condition of a portion of her watershed is a menace to the health of the city. The ponds are stated as a rule to be free from any considerable amount of turbidity, but some of them are decidedly polluted. The suggestion is made that these polluted ponds should be placed out of service. This, however, would cause much inconvenience, as the supply is at present no more than equal to the needs of the inhabitants. That steps should be taken with all possible dispatch to remedy the defects of the existing system is desirable. Undoubtedly, too, the reforms should be sweeping, and rather than to resort to half-measures it would be wiser as well as cheaper in the long run to devise a plan to place the water supply of Brooklyn on a thoroughly satisfactory basis.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending February 19, 1898:

	Cases.	Deaths.
Tuberculosis	199	108
Typhoid fever	9	2
Scarlet fever	172	10
Measles	367	13
Diphtheria	195	8
Laryngeal diphtheria (croup)	5	2
Chicken-pox	30	0
Cerebro-spinal meningitis	0	2
Pertussis	2	0
Parotiditis	1	0

"Children Cry for It."—Mother: "What on earth are you doing to the child, Bridget, to make her cry so?" Bridget (who has just slapped her): "I s'pose it's the medicine, mum; the 'laibul' says as how children cries for it."

Electrolyzed Sea Water as a Disinfectant.—Electrolyzed sea water is a patented germicide made from sea water. It is readily prepared by passing an electrical current of a certain intensity through sea water. The current strength is ten amperes, and the electromotor force four volts. This current is passed through the water for some hours, and by its action sets free the chlorine, which in turn is taken up by the water. The cost of its production is very small, amounting to only a couple of cents a barrel. It is stated to be a fairly good germicide when freshly prepared and when a certain amount of chlorine gas is present; that it is particularly useful for the destruction of the cholera spirillum, but that it is not a good germicide for spores or for the more resisting micro-organisms.

What Can One Believe of Hydrotherapy?—Dr. Charles Ponce de Leon Smith, of Rahway, N. J., attributes his ripe age of one hundred and twenty-one years to his having bathed daily in the Lawrence Brook, and complains because a health board seeks to deprive his sanatorium patients from enjoying the stream's life-giving properties. This is one side of the question. On the other side, we read of the sudden death of an old lady in an institution across the river, after an enforced bath—she having given the authorities full warning of its dangers and having stated to them that she had not bathed in forty years. *Qu'en penser?*

A Medical Poet.—In 1691 the members of the College of Physicians of England were in the custom of giving gratuitous advice to the poor. After a year's experience they found their charity frustrated by the high price charged for physic by the apothecaries. They therefore decided to make up their own prescriptions. Not to be balked of their gains, the apothecaries waged a persistent war. During the time that public feeling was excited, Dr. Garth produced his poem of "The Dispensary." The lines referring to Apothecaries' Hall may be quoted:

> "Nigh where Fleet Ditch descends in sable streams
> To wash the sooty naiads in the Thames,
> There stands a structure on a rising hill,
> Where tyros take their freedom out to kill."

At the accession of George I., Garth was knighted and appointed king's physician in ordinary. His last work was an edition of Ovid's "Metamorphoses." He died on January 18, 1718.

To Improve the Race.—A bill has been introduced into the Ohio legislature to regulate marriages. A physical and mental examination of all who contemplate marriage is advocated in the proposed measure. Strong tendency of the applicants to hereditary insanity, habitual drunkenness, criminal record, tendency toward crime, or a liability to inherit a criminal inclination, imbecility, mental or physical constitutional diseases that might be transmitted to the progeny, consumption, blood diseases, etc., will debar the candidate. If the bill passes it is thought the State will decrease rapidly in population, by reason both of failure to pass the examination and of removal to neighboring States.

Does Suicide Carry off the Unfit?—Not all men who commit suicide ought to do so, and more who do not ought to do so for the good of the race. A selfish man, living as though the whole world was made for his sport or gust, giving free course to every impulse of lust and passion, bringing the natural satiety, disgust, disappointment, and disease on himself of unregulated indulgence, who destroys himself because he has made himself miserable and unfit to live is a benefactor to his race in taking sudden leave of the world, and the world "should speed the parting guest." If the breeding of the unfit to live could be stopped by more frequent suicides of the morally and physically unstable and viciously endowed—the neuropathic cripples, the mentally squint brained and obliquely visioned, the lame and halt and blind in mind and morals, the cataract-covered consciences—the millennium of earthly happiness would begin.—C. H. Hughes, *in Alienist and Neurologist.*

What a Man Eats in a Lifetime.—It is computed, by a contributor of inquiring mind to an English journal, that a healthy man with a good appetite and average drinking-capacity assimilates into his system during seventy years ninety-six and one-half tons of material, solid and liquid; or, putting it in another way, and assuming his weight to be twelve stones, he consumes over twelve hundred and eighty times his own weight of nourishment in the course of a lifetime.

Progress of Science in the Future.—Prof. Ludwig Buchner, in *Appleton's Science Monthly*, after reviewing briefly the scientific progress of the closing century, remarks, in reference to the future outlook: "It may be that we are, in respect to the coming century, in the same immature mental condition in which the people of the eighteenth century were with regard to the nineteenth. If some one in the preceding century had dared to predict the wonderful achievements of the nineteenth, he would probably have been declared a fool, and treated as was Robert Mayer in Germany in this century, who, after the discovery of the law of the conservation of force, was put into an insane asylum. A like fate might befall the man who should dare now to cast a horoscope for the twentieth century and to predict the progress of the human mind in the various domains of scientific research. After all, they may be right who, in spite of all these acquisitions on which we so justly pride ourselves, are of opinion that we are still moving in only the initial steps, in the leading-strings of evolution, and that we are yet very far from the goal of those material and ideal aims which the human race in its unremitting onward struggle is destined to attain or to show its capacity of attaining. The great Sir Isaac Newton used perhaps the most appropriate simile, when he compared men with children who on the seashore are picking up here and there a curious pebble or colored shell, while the great sea of truth lies still unexplored before them. We can only conjecture as to the probable progress, as we cannot know which position we occupy in the course of human evolution, whether we are still in its beginning or well advanced."

Obstacles in the Path of a Doctor in India.—As an illustration of the difficulties with which medical men in India have to contend in their endeavors to stay the plague, the following extract from a private letter received from Bombay may prove of interest: "Often when we pay our visits of inspection to native homes we find the head of the household sharpening a huge knife, wherewith he has pledged his word with neighbors to stab the first doctor sahib who enters his household. In one village we visited, over three thousand of the inhabitants had disappeared and gone to various hiding-places, whence they emerged as soon as we had finished our tour. Of course we were helpless in the matter. We knew the population was missing, but could not scour the country and conduct our physical examinations by force. It would have been like an Afridi expedition. So we returned with our work only half done."—*Hospital.*

Menstruation.—The natural law of which menstruation is a part began when the first leaf fell from the first tree.—Arthur Johnstone.

Asylum Physicians run risks in the daily routine duties that are little known. Dr. Campbell, medical superintendent of the Cumberland and Westmoreland Asylum, writes (*Lancet*, December 18, 1897) as follows: "I have been attacked by a patient with a scythe, who tried to cut my legs through; by a patient with a knife; by a man who waited at the back of a door with a stone in his hand and who smashed my front teeth; and I have had my spectacles smashed on my face—but I still live after thirty-two years spent in an asylum."

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended February 19, 1898:

Small-Pox—United States.

		Cases.	Deaths.
Alabama, Selma	February 14th	2	
Georgia, Atlanta	February 3d to 10th	2	
South Carolina, Charlotte	January 25th to February 12th.	3	
Tennessee, Memphis	February 10th	1	
Texas, Brownsville	January 29th to February 12th.	2	

Small-Pox—Foreign.

Bohemia, Prague	January 22d to 29th	5	
Cuba, Cienfuegos	February 1st to 13th	..	19
Havana	February 3d to 10th	9	
China, Hong Kong	December 25th to January 8th.	5	3
England, Liverpool	January 22d to 29th	2	
India, Madras	December 25th to January 7th.	..	4
Italy, Messina	January 29th to February 5th.	..	1
Japan, Osaka Fu	December 28th to January 1st.	1	
Tokyo Fu	December 28th to January 1st.	2	
Aichi Ken	December 28th to January 1st.	2	
Akita Ken	December 28th to January 1st.	2	1
Awomori Ken	December 28th to January 1st.	4	
Chiba Ken	December 28th to January 1st.	3	
Fukui Ken	December 28th to January 1st.	1	
Fukushima Ken	December 28th to January 1st.	8	2
Iwate Ken	December 28th to January 1st.	8	2
Kanagawa Ken	December 28th to January 1st.	3	
Kochi Ken	December 28th to January 1st.	1	
Miyagi Ken	December 28th to January 1st.	9	
The Hokaida	December 28th to January 1st.	106	32
Netherlands, Rotterdam	January 23d to 29th	1	
Russia, Odessa	January 22d to 29th	9	2
St. Petersburg	January 16th to 22d	18	8
Warsaw	January 16th to 22d	..	2
Spain, Madrid	December 22d to 28th	..	1

Cholera.

India, Bombay	January 4th to 11th	..	4
Calcutta	December 26th to January 8th.	..	17
Madras	December 25th to January 1st.	..	11

Yellow Fever.

Cuba, Havana	February 3d to 10th	..	1
Manzanillo	January 15th to 31st	..	4

Plague—Foreign.

China, Hong Kong	January 1st to 8th	2	1
India, Bombay	January 4th to 11th	..	458
Japan, Formosa	December 28th to January 21st	32	

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Original Articles.

BOTTINI'S GALVANO-CAUSTIC RADICAL TREATMENT FOR HYPERTROPHY OF THE PROSTATE.[1]

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MR. PRESIDENT AND GENTLEMEN: The surgeon who is called upon to-day to give his advice in regard to the best method of treatment for hypertrophy of the prostate gland still finds himself in a rather embarrassing position. It is true, quite a multitude of operations designed for the radical cure of this trouble are at our disposal, yet to propose the proper one in a given case is doubtless a difficult task.

A great deal has been written on this subject, many discussions have been held concerning the same here and abroad, but we are far from being able to draw definite conclusions as to the value and indications of the various operations.

As the matter presents itself to-day, it seems to me the wiser course, in all cases in which catarrh of the bladder complicates the trouble, not to propose an operation of any kind at once. It cannot be denied that in many instances irrigation of the bladder carried out very carefully by the attending physician under strict aseptic precautions, every day or every other day, yields very gratifying results. This treatment is greatly assisted by the internal application of urotropin, from three to eight times a day, eight grains in capsules or oblates (wafers). Only very recently Mendelsohn, Casper, and others[2] called our attention to the great relief this drug affords patients afflicted with cystitis and pyelitis, also in cases of prostatic enlargement. My personal experience fully corroborates this observation. The favorable influence of the drug is explained by the fact that the urine of persons who have taken urotropin internally frequently contains for many days formaldehyde, the antiseptic value of which is well known. Urotropin is a chemical combination of four molecules of ammonia and six molecules of formaldehyde. Of course, irrigation of the bladder will not generally influence the size of the prostate, and hence not reduce the residual urine, although it has frequently been the means also of improving this objective symptom. But the residual urine as such does not bother the average prostatic patient; what bothers him mostly is the infectious inflammation of the vesical mucous membrane that has been carried into the bladder by instrumentation or by micro-organisms that have wandered from the rectum into that viscus. Frequently the irritability of the bladder is partially caused by a present pyelitis.

If catarrh of the bladder be absent and the case be a recent one that admits of temporizing, we may eventually first try one of the other non-operative methods which have been proposed lately: Rectal tamponade of Manasse, or the parenchymatous injection of cocaine into the testicles with the view to produce atrophy (Coully), although neither of these procedures gives much hope for permanent improvement. The feeding with prostatic tablets might also come into consideration (Englisch, Reinert). The latter author gave a promising report on this branch of organo-therapy before the Thirteenth Congress of German Physicians at Munich, 1897. Of course all these procedures could also be combined with the irrigation treatment mentioned before.

But suppose our efforts to alleviate the patient's condition with these means have not been successful; suppose also that the patient be in the fifties, and refuses to have his testicles removed or his vasa deferentia resected—the two operations which, no matter what great improvements may yet be made in the direct interference for hypertrophy of the prostate, will, it seems, forever hold their place in this branch of operative surgery—shall we then in such a given case resort at once to the more serious operation, namely, that of attacking the gland directly with the help of prostatectomy by the suprapubic or the perineal route, or both routes combined? Or shall we try to influence the size of the organ indirectly by tying the internal iliac arteries—a method which, according to my experience, still deserves a place among the operations for the trouble here under discussion? Or shall we in such cases, when the patient refuses to run the risk involved in either of the afore-mentioned operations, establish a suprapubic fistula with subsequent permanent drainage of the bladder?

With reference to the latter procedure, I will state right here that the oftener I have done it the less I like it. It is true one of my patients, now sixty-seven years of age, has worn a permanent catheter in his suprapubic fistula with comparative comfort since 1888, and still drives to the cemetery—he being a church sexton—several times a week or a month, over rough roads, on a coachman's seat, and empties his bladder every couple of hours through the catheter, which is cut short and closed with a wooden plug. On the other hand, I have seen such patients in a pretty uncomfortable position, and this in spite of my attempts to relieve them with the aid of a more convenient apparatus for permanent suprapubic drainage of the bladder than that heretofore in use—an apparatus which I devised four years ago and after sufficient trial am now ready to publish.

At this time of the still present uncertainty as to how to advise a patient who is afflicted with this most frequent disease, we are greatly indebted to Dr. A. Freudenberg, of Berlin, for urgently having called our

[1] Read at the ninety-second annual meeting of the Medical Society of the State of New York, Albany, January 26, 1898, being part of the discussion: "The Management of Hypertrophy of the Prostate Gland and its Complications." A short abstract of the paper was read also before the section on general surgery of the New York Academy of Medicine, November 8, 1897.

[2] M. Mendelsohn, Berliner klinische Wochenschrift, 1898, No. 3; L. Casper, Deutsche medicinische Wochenschrift, 1897, No. 10, Beilage; J. Cohn, Berliner klinische Wochenschrift, 1897, No. 42; E. Schreiber, Deutsche medicinische Wochenschrift, 1897, No. 11, Beilage. The drug was first introduced and recommended by A. Nicolaier, of Göttingen, as a uric-acid solvent. Lately he also emphasized the beneficial influence of urotropin on infectious processes of the urinary system with ammoniacal reaction of the urine.

attention, in the early part of last year, to Bottini's galvano-caustic radical operation for hypertrophy of the prostate.[1] It is almost incredible that this, as it seems, splendid operation should have been practised for twenty-two years by virtually only one gentleman —namely, the inventor of the method, Enrico Bottini, of Pavia—and that in spite of the fact that he has repeatedly drawn the attention of the profession to his work.[2] A possible explanation I can find only in the fact that the instruments used in this operation were formerly made in Italy, and that Bottini for a number of years never finished improving them. A new impetus to follow in his footsteps was given to the medical profession when the well-known house of W. A. Hirschmann, of Berlin, undertook the manufacture of the instrument, making it a very handy and reliable one.

When Bottini performed his first operation, on October 26, 1875, he made use of the so-called "cauterizzatore prostatico," representing an instrument of the shape of a catheter of medium calibre with a short beak, the latter carrying on a porcelain disc a platinum plate about three-fourths inch long. With this plate, made red hot by the electric current, he cauterized the prostate thoroughly at different spots, if necessary repeatedly. When the eschar had been pushed off, improvement often began to set in; at times it took thirty days before the patients could notice the effect of the interference.

Two years later Bottini was able to publish five successful cases treated in this way.[3] With increasing experience he discarded the cauterisator and made use only of the second instrument, the "incisore prostatico," which removes the mechanical obstruction to the outflow of the urine at the neck of the bladder by slowly burning a groove or grooves through the same and not by superficial destruction. This instrument[4] (Fig. 1) shows a male and female arm, not unlike a lithotrite. The beak of the female part forms almost a right angle with its shank, and has at its concave side a deep groove. The shank of the male arm shows a platinum knife, about five-eighths inch long (*Pl. kn.*), which leaves the groove of the female arm on turning an Archimedean screw (*Ar. Scr.*) at the outer end of the instrument. A scale (*sc.*) attached to the latter admits of exactly gauging the length of the groove to be cut. The instrument further shows the so-called cooling apparatus which was added to it by Bottini in 1882, and which, no doubt, constitutes a very important feature, inasmuch as this alone saves urethra, prostate, and bladder from accidental burns. A short metal tube, the outflow of which is covered by rubber tubing (thick walled, to prevent bending), enters immediately below the lower end of the handle, and runs through the entire length of the shank and through the beak to the opposite side of the instrument, there showing an outlet of the same shape and length. Over this another rubber tube is slipped. The nozzle of an irrigator filled with cold water is attached to one end of the tube, and when the water is turned on the mechanism performs its function so exactly that the finger can touch the beak or the shank at any spot without the slightest sensation of heat, although the platinum knife has been made red or even white hot.

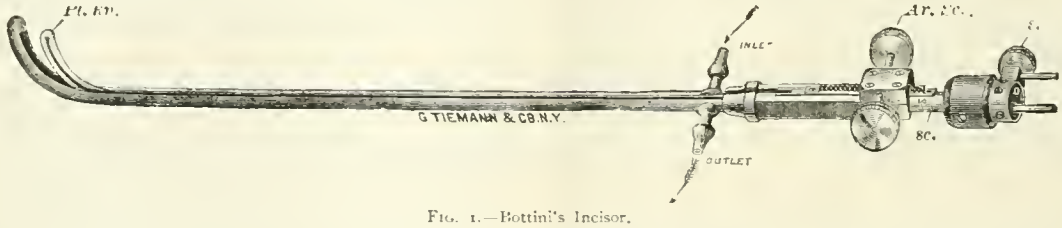

Fig. 1.—Bottini's Incisor.

In working with this instrument a number of drawbacks were observed. Thus it happened that the platinum knife, when heated and slowly ploughing its way through the prostate, being pulled or pushed by the turns of the Archimedean screw, bent sideways; on its return it then did not slip into and disappear within the groove of the female shank. The reason for this annoying accident was first thought to be insufficient heating of the knife, owing to too weak an electric current, and certainly this factor must be considered. But later it was found oftener in the fact that the well-heated knife became crooked on account of a turning sideways of the entire instrument in the hands of the operating surgeon. This happened so easily on account of the absence of a proper handle. The result of such an accident is that the removal of the instrument from the bladder and urethra is difficult, causes pain and hemorrhage (Czerny). Furthermore, the cooling apparatus, entering the shank below the incommodious handle, did not prevent the latter from becoming heated by the current. The conductors were eccentrically attached to the upper end of the instrument; when the latter was turned around its longitudinal axis, they became twisted. The instrument on the whole was too light and too long.

A. Freudenberg, of Berlin, who found these drawbacks by practical use, has greatly improved Bottini's instrument with regard to its shape and handiness, as well as to its electro-technic construction and possibility of sterilization (Fig. 2). He somewhat shortened that part of the instrument which enters the urethra and bladder (shank twenty-six centimetres instead of twenty-seven centimetres), at the same time making it considerably heavier by providing it with a compact handle (*Gr.*), seven centimetres long, such as we are used to grasp when working with the lithotrite. He moved the small water pipes of the cooling apparatus (*K*) to the upper end of the handle, and gave them an obliquely downward and inward direction.[1] At this place the rubber tubes will not be compressed so easily by the operator's hand; but they must nevertheless have a sufficiently thick wall not to bend when the instrument is turned. The cold water, running also through the handle, keeps the latter always cool. The two cables are thinner than those in the original Bottini incisor, and, with the help of a silk texture woven around them, are united into one big cable (*L*). The latter, being attached to the cable contact (*P*), can be easily slipped over a pivot at the upper end of the longitudinal axis of the instrument (*C*). This point moves up and down with the turning of the wheel, and carries both poles in a concentric arrangement. One push on the cable contact suffices to unite the parts. A small contact screw (*CS*) makes and breaks the current. This screw is also found in the

[1] Berliner klinische Wochenschrift, 1897, p. 15.

[2] "Galvani," 1874, tome x., and "La galvanocaustica nella pratica chirurgica," Milano, 1876 (text-book). Archiv für klinische Chirurgie, vol. xxi., 1877, pp. 1–24, and vol. liv., 1897, Heft i.; previously published in the Italian language in La Clinica Chirurgica, July 31, 1896, tome vii., p. 281.

[3] Archiv für klinische Chirurgie, xxi., 1877, *loc. cit.*

[4] The instrument was first demonstrated by me before the surgical section of the New York Academy of Medicine, November 8, 1897.

[1] The position of these two tubes will always tell us to which side the beak of the instrument is directed, after the latter has been introduced into the bladder. They correspond to the concave side of the beak.

original Bottini instrument (Fig. 1, *s.*). The scale marks (*Sc.*), on the central stem just below the wheel —which latter, by being turned, moves the platinum knife up and down—are made all around the stem and show numbers at every 120°, *i.e.*, three times. This enables us always to satisfy ourselves as to the distance between the knife and its groove, no matter how we may have turned the instrument. In the original Bottini these marks are engraved on one part of the circle only. The principal improvement, however, is found in the platinum knife (*Pl*). As stated above, that in Bottini's incisor sometimes bends sideways and then does not enter the groove of the female shank. To avoid this as much as possible, the groove itself has been widened; the knife is made of an alloy of platinum with iridium, which is much harder than the pure platinum and offers greater resistance to the electric current. For that reason a weaker current suffices to heat it. With this same point in view—namely, to reduce the demands on the battery—the electric conduits were changed. Instead of running two very small wires down to the platinum knife through the shank of the male part, one single wire of double calibre has been substituted. It corresponds to the positive pole. The negative pole is directly united with the metal of the male shank, and, on account of the close contact of the latter with the female one, virtually with all the metal of the instrument. In this way it was necessary to connect but one end of the knife with the wire; the other one could be directly soldered to a projection of the metal at the lower aspect of the male shank. As will be readily seen, the position of the knife is thus made much firmer than it is in Bottini's incisor, in which it is attached to two wires. By selecting for the occlusion of the male shank a cement which can be thoroughly exposed to water and heat without being affected thereby, it could be arranged to sterilize the entire instrument by boiling, the same as we are wont to do with other surgical implements.

I am sure Bottini's incisor, as modified by Freudenberg, is the one which will be used by surgeons when dividing the hypertrophied prostate with the galvanocaustic knife introduced through the urethra. It is manufactured in the Electro-Technic Institute of R. Kiss, Berlin, Königgrätzer Strasse 85. It impresses one as being a very reliable instrument.[1] It is worth stating that Bottini, at the last international medical congress, at Moscow, gave preference to this improved instrument.

The operation itself should, if possible, be preceded by a cystoscopic examination, a point which has been emphasized already by Freudenberg. This will enable us to avoid any difficulty during the after-treatment which may be caused, for instance, by the presence of a vesical calculus which has not or could not have been detected with the searcher. It will also inform us regarding the configuration of the prostate, as to the presence of a median lobe, and as to any difference in the size of the lateral lobes, which latter fact may also be corroborated by outlining the internal contours of the prostate with the stone searcher; it is often supplemented by rectal digital examination.

I want to emphasize here the fact that we can very well diagnose the configuration of the prostate with the help of the cystoscope, partly by observing the shape of the internal vesical fold, partly by bringing the handle of the cystoscope over to one side of the patient, thus conducting its beak into the bladder as far to the one side as possible. In this way we can often clearly distinguish a swollen median lobe, which then, however, is generally not brilliantly illuminated, but rather lies in the shade. I state this particularly to contradict Dr. E. Fuller, who maintained, at one of the late meetings of the section on genito-urinary surgery of the academy, that this was an impossibility and mainly existed in the phantasy of the observer. To prove the correctness of my statement, I would mention the case of the father of a colleague, on whom I was requested, some seven years ago, to perform cystoscopy for hypertrophy of the prostate. In this case I distinctly diagnosed a median lobe of the prostate projecting into the bladder, almost as long as the third phalanx of the little finger; there was besides general hypertrophy of the gland. This patient was later operated upon by Dr. Edward L. Keyes, by suprapubic radical extirpation of the gland, when the condition of the prostate was found to be exactly as previously seen by me through the cystoscope.[1]

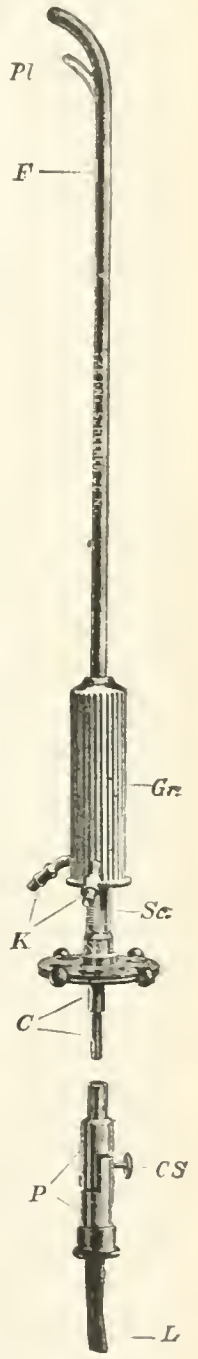

Fig. 2.—Freudenberg's Modification of Bottini's Incisor.

The technique of Bottini's operation is simple. After the bladder has been carefully irrigated and emptied, the posterior urethra is locally anæsthetized with cocaine or eucaine, one and one-half drachms of a one or two per cent. solution (eucaine, five per cent.) being injected either into the posterior urethra directly or into the anterior portion of the canal, and then pressed backward by gentle massage over the perineum. Five minutes later the mucous surface will be found to be sufficiently insensible to render the operation painless.[2]

Before the incisor is introduced pains must be taken that the bladder is thoroughly emptied, for it is obvious that then the effect of the cautery is far stronger. It is also necessary to test the efficiency of the battery repeatedly before starting the real work. With the help of the rheostat attached to the battery, the electricity needed for heating the instrument is gauged so as to allow the platinum knife to turn thoroughly red hot. If this is carefully attended to, no bleeding will set in after the operation. In order to ascertain how well the heated knife will cut its way through the prostatic tissue, Bottini advises taking a piece of moist sterile gauze and trying the knife on that first.[3] It is, furthermore, necessary that an assistant be ordered to do nothing else but watch the work of the cooling apparatus. He has to see to it that the outflow of water from the instrument never ceases.

[1] The instruments, Bottini's and Freudenberg's, were imported for me by the Kny-Scheerer Company, 17 Park Place, New York City. Both are now manufactured in this country by this company; Bottini's original instrument also by Messrs. George Tiemann & Co. Freudenberg's instrument was demonstrated by me before the section on genito-urinary surgery of the Academy of Medicine, December 14, 1897.

[1] New York Medical Record, 1891, vol. xl., p. 526, Case II.

[2] Bottini succeeded in doing the operation even without cocaine, and heard his patient complain of a momentary pain only when opening and closing the electric current. If patients suffer from painful spasmodic contractions of the detrusor muscle, when the bladder has been entirely emptied, it seems to me wiser to put them for the brief operation under the influence of general anæsthesia (Schleich's solution No. 1).

[3] I deem this point to be very important.

These preliminaries having been carefully observed, and the screw at the outer end of the instrument (*CS*, Fig. 2), which makes and breaks the current, having been turned to the left, thus temporarily breaking the current, the instrument is introduced into the bladder in accordance with the rules of ordinary catheterism.

Whoever has seen a case of marked hypertrophy of the prostate when the bladder was opened by suprapubic incision will have found that the gland in a great many cases surrounds the internal urethral orifice in the shape of a collar. With other words, there is a circular swelling at this spot, which, of course, is most pronounced in its lower half. On the basis of this anatomical fact, Bottini burns with his incisor one, two, or, better still, three grooves at one sitting—namely, a short one toward the symphysis, another just opposite directly backward toward the rectum, and a third one through that lateral lobe of the prostate which appears to be the larger one. Following his advice, we shall therefore, in a case of very marked hypertrophy of the prostate, as soon as the instrument has entered the bladder, pull it forward toward the anterior wall of the bladder, at the same time slightly raising the handle outside, until we feel the resistance inside. Then the cooling apparatus is started and the screw at the outer end of the instrument turned to the right, thus making the current. We wait about fifteen seconds until the platinum knife gets red, and then slowly turn the Archimedean screw to the left on Bottini's original instrument, or turn the wheel to the right on Freudenberg's modification, reading on the scale how far we have proceeded. If the knife does not work easily, the current is slightly increased; if it cuts too easily, the current is reduced. After a groove of the contemplated length has been burned, the knife is made to return to the groove of the female shank by turning the screw (wheel) to the opposite side. It is wise, according to Bottini, slightly to increase the current for this procedure. Now the current is broken, and the beak of the instrument turned downward and pulled gently forward, so as to hug the prostate. Then, according to necessity, one or two more grooves are made through the body of the prostate in the same way as just described.[1] If during the operation an assistant auscultates the suprapubic region, he will distinctly hear the noise which is produced by the burning. Sometimes this can be heard even by bringing the ear near the abdomen. The two or three grooves thus having been cut, the current is turned off and the instrument gently extracted from the bladder. The operation is finished. According to the number and length of the grooves cut, it lasts from two to five minutes. The inconvenience caused the patient during and after the operation is exceedingly slight. A physician operated upon by Bottini without cocaine pronounced the procedure less painful than the instillation of nitrate of silver into the prostatic urethra. Two of Freudenberg's patients stated that the operation had caused them less pain than the preceding cystoscopy. Another said that he preferred it to the examination with the stone searcher.

Soon after the operation most of the patients complain of a burning sensation when commencing to pass water. They may get up right after the operation in order to urinate, and can be permitted to be permanently out of bed on the second day, the general reaction of the operation being in most instances almost *nil*. If the bladder has been carefully irrigated, the patients will rarely develop any rise of temperature; bleeding, if there be any at all, is generally of minimal amount. The urine passed during the first night following the operation is often macroscopically free from blood. In more than eighty cases of this kind, Bottini has not seen a single serious hemorrhage. For this reason he warns against the use of a permanent catheter. Thus the after-treatment is comparatively very simple. If necessary, the bladder should be washed out daily in order to improve the present cystitis — best with a cold solution, as this will strengthen the contractility of the detrusor muscle. This latter may also be accomplished with the help of electricity. Strychnine internally is advisable. It is a matter of course that the detrusor muscle regains its full power of contractility only in course of time.

As regards annoying accidents during or after operation, Czerny once had a bend in the platinum knife which made the extraction of the instrument slightly difficult. This occurrence has been referred to above.

Kümmel, who has operated with the help of the cauterizator in a number of cases of urinary retention, once saw a rather serious hemorrhage on account of the patient having removed the permanent catheter which had been introduced. In order to stop the hemorrhage he then performed suprapubic cystotomy. The patient died a few days later. (As just stated, Bottini warns against the use of a permanent catheter.)

As Bottini maintains, Czerny as well as Kümmel made use of inferior batteries, which not only are unreliable in their effect but do not heat the knife sufficiently. Freudenberg explains Czerny's experience as being caused by turning the instrument (Bottini's original) when the heated platinum knife is doing its work (see above). It certainly is of greatest importance that a sufficiently powerful and absolutely reliable battery with a rheostat attached be used. As far as I have seen, the storage batteries for sale here do not well answer this purpose; they are not made to bring to red heat so large and thick a platinum knife as the one needed in this operation.[1] At present I use a battery manufactured by Hirschmann, of Berlin. It is, however, so heavy as to require two men to carry it. Freudenberg recommends a battery with an ampere meter, made, according to his design, by Kiss, of Berlin. This is the same concern that has brought the improved incisor upon the market. The ampere meter enables one to know at every moment the exact strength of the current, and thus the degree of heat attained by the knife. I have just brought out a useful small storage battery for Bottini's operation, with the kind assistance of the Kny-Scheerer Company, 17 Park Place, New York City. It is not heavy and can be easily transported.

L. Casper, of Berlin, when discussing[2] Freudenberg's last paper on this subject, "Zur Bottini'schen Operation bei Prostatahypertrophie,"[3] stated that the dangers connected with this procedure were hemorrhage, dribbling, and infection.

Freudenberg saw a secondary hemorrhage in three of his cases. In one of these the bleeding ceased after a permanent catheter had been put in for three days. Here the occurrence was later explained by the discharge of a piece of the prostate, of the shape and size of a split almond. This portion had been cut off from the right lateral lobe, which projected into the bladder—an accident which had never been observed before. In his other two cases the hemorrhage was not at all alarming. In watching these patients after the operation, one ought to be mindful of the fact that hæmaturia generally makes a more serious impression than is warranted by the amount of blood actually lost. Freudenberg believes that the danger of hemorrhage

[1] In my last two operations I have primarily divided the body of the prostate in its median and lateral lobes and then added a short anterior incision. The posterior (sagittal) incision, down to the floor of the bladder, is certainly the most important one.

[1] A friend of mine has informed me recently that the Edison-Laland Company is making a battery which would probably do good work.

[2] Berliner klinische Wochenschrift, 1897, No. 45, p. 990.

[3] Read before the Berlin Medical Society, October 20, 1897; Berliner klinische Wochenschrift, 1897, No. 46, p. 1,002.

greatly depends upon the operator. This is certainly true. It is self-understood that Bottini's operation, small and easy as it may appear at the first glance, also has its technique. And this technique in all its details must be mastered by practical experience. The result of the operation largely depends upon the proper observation and carrying out of quite a number of details. The length, direction, and number of cuts, the rapidity with which they are made, the amount of current used for heating the knife—all deserve to be mentioned in this connection.

Freudenberg also saw dribbling in a few cases after operation, but in no instance was it marked or did it become permanent.

This observation corresponds with the experience of Bottini, who informed Freudenberg, upon the latter's query, that he never saw enuresis as a result of his operations. Freudenberg, on the other hand, observed enuresis to disappear in three cases when it had been present before the operation. With reference to avoiding this occurrence, he also emphasized the necessity of sufficient practical experience. He believes that enuresis will probably set in if the grooves are burnt through the prostate into the membranous urethra or very close to the latter.

The danger of infection, as far as it might be carried into the bladder by the operation itself, has been eliminated since Freudenberg has completed his improved incisor, which can be sterilized by boiling.

As is natural, a number of objections against Bottini's operation have been raised in the course of time. Webb,[1] McGill,[2] and others stated that the operation was dangerous. However, Bottini has had but two deaths in a series of more than eighty cases—certainly a minimal death rate for an operation which is almost exclusively performed on old and decrepit patients; and these two deaths occurred before the cooling device had been added to the cauterizator.

Freudenberg lost two patients: one died from embolism into the lungs—an exceptional experience after Bottini's operation so far: the other, a very weak and much-reduced patient, seventy-seven and one-half years of age, died twenty-four days after—better, in spite of the operation.

McGill further believes that the operation could prove of benefit in but exceptional cases, because the real condition of the prostate could be properly made out only with the finger in the bladder or by direct inspection. Nitze's cystoscope refuted this objection as soon as it was raised.

Nitze[3] believed that the separated parts of the prostate would grow together again and thus cause a recurrence of the trouble. But, as Freudenberg insists, the act of micturition alone, which each time presses apart the walls of the grooves, renders reunion of the divided parts impossible. The same effect is probably produced by the tonus of the external sphincter muscle, the central fibres of which are divided by the operation. In the main, however, practical experience has proven the contrary of Nitze's objection. Bottini, who by his writings impresses one as being a very careful, straightforward, and upright observer, has never seen a recurrence of the trouble during twenty-two years of actual practical experience.

In perusing the literature of Bottini's operation, I find that so far only a few authors have tried this method besides Bottini, who, as stated before, has operated in more than eighty cases. Up to 1890 Bruce Clark was the only one who reported a successful case. He made use of the cauterizator. When discussing Bottini's paper, read before the Tenth International Medical Congress, at Berlin, in 1890, Clark stated[4] that this patient was still alive, could urinate without difficulty, and had gotten rid of his catheter. Without giving further details, he added that he never since had a similar result. How many cases this "never since" comprises remains doubtful. He certainly did not make use of a sufficiently strong current, for he himself says that "the current which I employed was a much weaker one" (than that of Bottini).

H. Kümmel, of Hamburg,[5] has operated with the cauterizator on a number of patients with hypertrophy of the prostate and retention, and is well satisfied with his results.

V. Czerny, of Heidelberg, has used the incisor five or six times,[6] and, although he had a very inferior battery, has never noticed an ill result, but in the majority of cases a marked improvement—spontaneous micturizion, or at least easier introduction of the catheter. He remarked last year that Bottini's operation deserves more attention than it has hitherto received.

Watson[7] states that he has had some experience with Bottini's method. He wants it reserved for cases with a hypertrophied median lobe.

L. Casper[8] has done the operation seven times on six patients—twice with satisfaction, three times with quite a good result, the sixth case being of too recent date to admit of drawing conclusions. He feels so much encouraged that he will continue to use the method.

Next to Bottini, Freudenberg has had the most extensive experience. He at first published five cases in which he operated with Bottini's incisor.[9] Of three of his patients who had suffered for months with complete urinary retention, one—who was operated upon twice, six days intervening—commenced to pass his water on the tenth and fourth days respectively after the operation; the two others began to void their urine spontaneously three and four hours after the operation. In a second group, comprising two patients who still were able to pass water, but had to urinate every twenty or thirty minutes with a great deal of pain if they did not catheterize themselves, the operation had a very favorable result with regard to the frequency of micturition. All of the five patients have gotten rid of the catheter; all have materially gained in weight and improved in general health; two of them—one a patient of eighty-one, the other sixty-seven years of age—who were in a deplorable condition before the operation, were evidently saved by the interference.

When demonstrating his last patient thus operated upon, before the Berlin Medical Society, October 20, 1897, Freudenberg mentioned that he had performed Bottini's operation eighteen times on fifteen patients; that he had always used the incisor, and three times his modification of the original instrument, to his greatest satisfaction. The case then presented is of such importance that I will here briefly append the history:

The patient, sixty-three years of age, had been a slave to the catheter on account of complete urinary retention for the last three years and a half. On June 5, 1894, both his testicles had been removed by Casper, of Berlin. The retention remained unimproved. Three years later the patient still had to catheterize himself four or five times in twenty-four hours. In spite of regular, careful irrigation of the bladder, some vesical catarrh was always present. The prostate was

[1] "Operative Procedures in Hypertrophy of the Prostate," Medical News, January, 1889, p. 70.

[2] Verhandlungen des X. internationalen medicinischen Congresses, Berlin, 1890, Abth. vii., p. 95.

[3] Centralblatt für die Krankheiten der Harn- und Sexual-Organe, Bd. viii., p. 171.

[4] Verhandlungen des X. internationalen medicinischen Congresses, Berlin, 1890, Abth. vii., pp. 95, 96.

[5] Berliner Klinik, August, 1895, p. 8.

[6] Deutsche medicinische Wochenschrift, 1896, No. 16, p. 243.

[7] Report of the International Medical Congress at Moscow, 1897, afternoon meeting of August 21st.

[8] Berliner klinische Wochenschrift, 1897, No. 45, p. 990.

[9] Berliner klinische Wochenschrift, 1897, No. 15.

very soft and bulged into the rectum; the upper end could not be reached with the finger. On April 22, 1897, almost three years after castration, Freudenberg performed Bottini's galvano-caustic radical operation on this patient. He burnt three grooves—one directly backward, three centimetres long; one of the same length through the left lateral lobe; and one, two centimetres long, anteriorly. Five and one-half hours after this operation the patient commenced to void his urine spontaneously; ten or twelve days later he voluntarily emptied his bladder almost completely, and after May 31st, or thirty-four days after the operation, the catheter was not used any more. Six months later the patient urinated in a good stream without any difficulty six or eight times in twenty-four hours, including once during the night. The urine had become perfectly clear. This improvement of the affection of the bladder had taken place without the use of strychnine, electricity, or cold intravesical douches. The patient had taken salol and urotropin internally. He had also lost his former constipation — an observation made by Freudenberg a number of times in patients on whom he had done Bottini's operation. The patient had gained seven pounds, although he had been quite stout before. He enjoyed life and regretted the loss of his testicles.

Bottini reported [1] a similar case, in which vasectomy had been done before, also without improving the bladder function. His operation cured the patient.

These cases speak for themselves. They prove beyond a doubt that the effect of Bottini's operation means the successful overcoming of the mechanical obstruction offered to the outflow of urine by the hypertrophied prostate. They also refute Lenander's (Upsala) explanation as to the effect of Bottini's operation,[2] viz., that the cautery knife burns the caput gallinaginis and thereby destroys the ejaculatory ducts, also the ganglia and nerves which run to the seminal vesicles and the vasa deferentia; with other words, that Bottini's operation means about the same as the resection of the vas deferens.

My personal experience so far is very limited. I have operated three times on two patients; once with Bottini's and twice with Freudenberg's improved incisor (at time of publication, four times on three patients, three times with Freudenberg's instrument). Both men were still able to pass water, but urinated, always with a great deal of pain, every twenty or thirty minutes day and night. Both had unilateral or bilateral pyelitis and purulent catarrh of the bladder; their prostates were very soft; they had been treated by a number of doctors before.

In the first patient, fifty-eight years old, I have done the operation twice at the German Hospital, on October 7[3] and December 18, 1897. (The long interval was due to the delay in the arrival of a suitable battery from abroad.) The patient had, as made out by rectal palpation, a very small prostate—so small that one might have with propriety made the diagnosis of "prostatisme vésicale" (Guyon). But the gentle exploration of the interior of the bladder with the stone searcher demonstrated an enlarged gland, and the cystoscope showed the prostate bulging into the bladder and the internal urethral fold irregularly curved; there was no median lobe. All clinical symptoms generally found in prostatics were well defined. Voluntary urination, 25 c.c.; residual urine, 300 c.c. When the bladder was emptied he had excruciating pain. For this reason I put him under general anæsthesia for both operations (Schleich's solution No. 1). I satisfied myself that the interference is a simple one for the doctor who is used to doing intravesical instrumentation. I was astonished to note how easily the prostatic tissue could be penetrated; it appeared to be extremely soft in this case. Although I had carefully gauged the heating of the knife before introducing the instrument, and although my assistants on auscultating the suprapubic region were sure to hear the noise of the cautery, I am under the impression that at the first operation, October 7th, I had not heated the platinum knife sufficiently (I had omitted to test the heated knife first on a piece of moist aseptic gauze), and that I cut the grooves too fast (a great deal of unburnt prostatic tissue adhered to the knife when the instrument was removed). At that time my storage battery was an unsatisfactory one. The operation itself (three grooves, 2.5, 2.5, and 1 cm., were cut) had lasted scarcely five minutes; there were no ill after-effects. The patient was up and about the next day. At his request he was soon discharged. Six weeks later he urinated just as often as before the operation, but without any pain. Ten weeks after the operation he passed water not quite so often as before during the day; at nights, only three or four times. The amount of residual urine was unchanged (15 : 280 c.c.). My proposition, which I had also made before the operation—namely, to draw off the residual urine—was again refused on account of the pain that set in when the bladder was emptied. On December 18, 1897, a second operation was performed with Freudenberg's modified incisor and a storage battery from Berlin. The patient again stood the operation well, and was up on the following day. Being opposed to subsequent local treatment, he left the hospital a few days later.

On February 16, 1898, I saw him at my office for the first time after the operation, and was greatly pleased to get from him the following report: A few days after the operation partial incontinence (dribbling) set in, more pronounced during sleep. This lasted two weeks. From that time on improvement has been gradual and continuous. To-day the patient does not experience any pain whatsoever; urinates three or four times during the day, twice during the night; amount each time about six or seven ounces, which is passed in the course of three or four minutes. For three weeks past he has been at work in his former occupation; he has gained in weight. When at my office he declared he had no desire to urinate, but I made him do so, nevertheless. He passed 20 c.c. (residual urine, 180 c.c.). The patient pronounced the small quantity passed an exceptional occurrence. Certainly we have a right to call his condition to-day much improved.

The amelioration of the different symptoms in this case is entirely due to Bottini's operation, because the patient did not undergo any after-treatment whatsoever. The few vesical irrigations carried out at the hospital after the operations, also during November at my office, made him decidedly worse. I must confess I had not expected so gratifying a result in this case, and therefore also feel very hopeful as to the future of this method of operation. The urine at present is acid, but very turbid. I have urged the patient now to undergo local treatment. I shall not fail to report on the progress of this case after some time.

My second patient, a man of seventy-three, was in a deplorable condition when he came under my care. Residual urine, 10 : 160 c.c. Prostate not large and very soft on rectal palpation, upper border could be reached; but found with the searcher to be considerably hypertrophied. Cystoscopy: Markedly trabecular bladder; diverticulum in right part of fundus; no stone; no enlarged median lobe; body of gland distinctly bulging inward. December 23, 1897, after preliminary careful irrigation, three cuts under cocaine—

[1] La Clinica Chirurgica, 1897, No. 4.

[2] Centralblatt für Chirurgie, 1897, No. 22.

[3] This seems to have been the first Bottini operation on this side of the ocean. I did not find a single case previously reported in American medical literature.

posteriorly and to the right, 3 cm.; anteriorly, 1.5 cm. No subsequent hemorrhage, no fever; patient up on the following day. Until January 8th, there was no improvement; the patient then entered another hospital. Meanwhile he has died, without having been benefited by the operation.

Since reading this paper at Albany, I have done Bottini's operation on a third patient, sixty-four years of age, who had suffered from increased frequency of micturition and repeated hæmaturia; also from catarrh of the bladder and bilateral pyelitis during the last two years. The patient died thirty hours after the operation, with very high temperature and a failing heart (acute sepsis [?]). I deem the case of great importance, and will therefore here append its history. The patient was first seen by me on December 13, 1897. He then stated that one year ago, when in the northern part of the State, he contracted a cold and for the first time passed blood on urinating. He was brought to a nearby city, where he was put to bed and treated by a doctor. He soon returned to his home in New York. During the hot summer months hæmaturia returned twice. After the last attack a doctor introduced a searcher into the bladder. The answer was bilateral epididymitis. On examination I found the patient to be greatly reduced, pale, and nervous; the epididymis on either side was much enlarged and painful. One hundred and fifty cubic centimetres of urine was passed voluntarily; residual urine, 450 c.c. The urine was turbid, contained one-fourth per cent. of albumin, no sugar, a considerable amount of pus, a moderate amount of mucus, hyaline casts, and cells of all layers of the bladder, also groups from the renal pelvis. The daily excretion of urea and chlorides was not quite up to the normal. The prostate was soft, large, bulging into the rectum; its upper end could not be reached with the finger. The region of both kidneys proved sensitive on pressure. The patient's stomach was constantly upset; he had not taken any solid food for some weeks, and had had frequent vomiting. Cystoscopy (December 20, 1897) was very difficult, on account of hemorrhage; Nitze's irrigating cystoscope was used. I got only one good glance at the interior of the bladder, and saw a very pronounced trabecular condition; no stone; median lobe (?).

During the subsequent weeks I washed out the bladder very carefully under aseptic precautions, every second or third day at my office, and put the patient on increasing doses of urotropin. The condition of his bladder improved, but of course not that of his kidneys. I frequently noticed that, when leaving the catheter *in situ* after careful flushing of the vesical viscus, a few drops of turbid urine would soon run out suddenly, although the irrigating fluid had before repeatedly returned perfectly clear. The clinical diagnosis of unilateral, perhaps bilateral pyelitis was established beyond a doubt. The improvement of the vesical catarrh, however, did not materially improve the patient's general condition. He continued to urinate every thirty to ninety minutes day and night; the residual urine did not diminish. His stomach remained very irritable; he had absolute aversion against solid food. He lost continually in weight, despite the most tender nursing by his devoted wife. Something had to be done. After careful deliberation I resolved to do Bottini's operation. It was performed at the patient's home, on January 29, 1898. All instruments to be used were carefully sterilized according to standard rules, as was also Freudenberg's modification of Bottini's incisor, which, as mentioned above, can well be boiled; my own and the assistant's hands were disinfected in the same way as in other operations. After irrigation of the anterior urethra the urine was withdrawn from the bladder, and the posterior urethra and bladder were repeatedly washed out with a two-per-cent. sterile boric solution. During the latter part of this procedure the patient was brought under the influence of Schleich's solution No. 1. Also in this case I thought it best to use general anæsthesia, on account of the painful, spasmodic contractions of the emptied bladder. At the same time I gauged the amount of current needed to make the knife red hot, tried its efficient working on a piece of moist sterile gauze, and properly arranged the irrigation through the cooling apparatus, which latter matter was in the hands of a trustworthy assistant. As soon as the irrigating water returned entirely clear and the bladder was emptied, the catheter was withdrawn. Next, Freudenberg's incisor was lubricated with glycerin and introduced. As I had raised the patient's hips on a hard pillow, thus putting him in a slightly recumbent posture,[1] it was not difficult to make the instrument enter the bladder, although the latter was entirely empty. Three grooves were cut—one posteriorly in the median line, 3.5 cm. long; another through the right lateral lobe, of the same length; and a third one, 1.5 cm. long, toward the front. Then the instrument was withdrawn and the patient brought to bed. The whole procedure had lasted not longer than five or six minutes. The operation was completed at 4 P.M. The patient was awake about five minutes later. There was a little bleeding from the urethra. It came from the external meatus, which was rather narrow. The same had been noted when I had performed cystoscopy on this patient. A nurse was put at his side.

Ten hours after the operation, at 2 A.M., January 30th, I received a report from the nurse that the patient, at 1 A.M., had had a severe chill, lasting about thirty-five minutes; that the temperature, which previously had been 99° F., had risen to 103.8° F.; and that the pulse, which had been 80 before, was 122. At 11 P.M., seven hours after the operation, he had urinated about three ounces, slightly tinged with blood, in the recumbent posture—a procedure which had not been possible within the last year. Since the chill he had been rather restless, but had very little pain; after a while he seemed to become delirious.

When I arrived at the patient's home, at 2:45 A.M., I found a colleague at his bedside, who reported that he had been obliged to administer one-fourth grain of morphine, on account of the sudden wildly delirious condition of the patient, who now rested on his back quietly in profound sleep. I at once made the necessary preparations for an aseptic catheterization and irrigation of the bladder. I withdrew 350 c.c. of a slightly sanguinolent urine of alkaline odor. Upon irrigation the fluid soon returned absolutely clear. I was satisfied that there was no hemorrhage coming from the prostate gland. At 3:30 A.M. the patient's temperature was 106.8° F.; pulse, 140. We then at once started with hypodermic stimulation and rectal injections of hot saline solution with whiskey. Later in the day we added continued rectal irrigation (Kemp) with saline solution of 105° F., to which was added salicylate of sodium, so as to make a one-per-cent. solution of the same. On catheterization at 12 M. the bladder was found to contain only half an ounce of urine. There was no hemorrhage. But, in spite of all efforts, the temperature did not come down nor did the heart respond to stimulation. The patient died at 10 P.M., without having regained consciousness.

To my regret, permission for a post-mortem examination could not be obtained.

In reviewing this case I cannot make any other diagnosis of the immediate cause of death than that of

[1] Such a posture is of great value. It facilitates the introduction of the instrument into the empty viscus; the region of the prostate being more elevated than the fundus of the bladder, the small amount of urine which will descend from the kidneys, during the short operation, will run into the fundus; thus the field of operation is kept dry.

foudroyant sepsis, although the patient had a moist tongue until his death. And this sepsis had occurred in spite of the most careful aseptic work before, during, and after the operation.

The other diagnosis which might come into consideration as the immediate cause of death is embolism of the lungs, which, as stated above, has been observed in another case subjected to Bottini's operation by Freudenberg. However, a very able medical man, who saw the patient with me, on auscultation could not find any symptoms that would justify such an assumption. There were also missing the rapid respiration, the cough, etc.

Certainly this case gives a great deal to think about. Two questions principally present themselves for discussion:

1. Was it correct to perform Bottini's operation on this patient at once? Would it not perhaps have been better first to have insisted upon resection of the vasa deferentia or of the principal vessels and nerves of the spermatic cord (Albarran's angio-neurectomy), especially in view of the bilateral chronic epididymitis, before resorting to a direct interference with the gland?

2. If the patient really died of acute sepsis, where had been the point of entrance of the streptococci?

With reference to the first of the two questions, future experience must decide whether we are justified in always giving Bottini's operation the first place when trying to bring radical relief to a patient suffering from hypertrophied prostate and its sequela. At present I do not believe that Bottini's operation, as Freudenberg seems inclined to think, should always be our first choice. Perhaps more extended experience may show it to be more advisable in all cases when pyelitis is surely present, when the prostate is soft and easily bleeding, when the patient's condition is run down and the urethra and bladder are not used to frequent instrumentation,[1] first to resect the vasa deferentia (or do Albarran's operation), and await the result of this operation, provided waiting is permissible, and then, if necesssary, add Bottini's operation.

According to present views the effect of the several operations mentioned, as also of castration, is to be found in a depletion of the enlarged, intimately connected, venous plexuses of the prostate, of the neck and of the wall of the bladder. And this depletion is due[2] to direct or to reflex irritation of vasomotor sympathetic fibres that were affected by the operation and now produce a contraction of the vascular walls. We can more or less rely upon this result of the operation. If, after this much has been achieved, the patient should still be unable to pass urine voluntarily or in a sufficient quantity, the galvano-caustic division of the prostate, as stated above, should be added instead of castration. The patient will then have more assurance that he will not succumb to an embolism of the lungs —one of the two principal dangers, as it seems, of Bottini's operation. It is reasonable to believe that such embolism is to be traced to the thrombi made by the galvano-caustic knife in the large veins of the prostatic plexus. Although so far this occurrence has been observed and proved by post-mortem examination but once (Freudenberg), we must admit the possibility of a repetition. The patient will, furthermore, not be deprived of having intercourse or be exposed to the possible consequences of castration (mental disturbance, etc.).[3]

[1] I specially emphasize these points. The remarks following refer to such patients only.

[2] Hoffmann: "Beiträge zur operativen Behandlung der Prostatahypertrophie," Beiträge zur klinischen Chirurgie, Band xix., Heft 3, p. 541.

[3] In view of the rather doubtful permanent results of vasectomy (cf. Hoffmann, *l. c.*), it seems to me to be a good plan to do Bottini's operation in every one of these cases, one to two weeks after vasectomy.

Question No. 2: Where has been the point of entrance for the streptococci in the case just related? Can we avoid at all, and, if so, how can we avoid sepsis, the second danger, in my opinion, connected with Bottini's operation?

It is evident that a trabecular bladder of a prostatic cannot be properly disinfected by continued irrigation. It is obvious that vesical irrigation does not influence the renal pelvis. The latter can be prepared for the operation by internal medication only—urotropin and salol. The fear, therefore, that a wound made within a bladder that cannot be reliably disinfected and remains a closed viscus after the operation—a viscus that is not drained as we are used to do after suprapubic or perineal incision—I say, the fear that such a wound may be the direct cause of infection to the patient must certainly be entertained. I believe that this danger does exist, although to but a limited extent. The eschar produced by the red-hot Bottini knife will generally be very slowly pushed off, certainly not before the fourth or fifth day, and this pushing off is caused by the reaction of the surrounding living tissues, namely, granulation. We all know that, if not irritated, such a granulating surface forms the best barrier against infection, and not the entrance for infectious micro-organisms.

But it should not be forgotten that a thrombus is formed in the prostatic veins by the cautery. Prostatic patients with pyelitis often are in a state of chronic sepsis (I am sure my patient was in that condition)—that is to say, streptococci circulate within their blood, but are not virulent enough to produce acute general infection: but as soon as traumatism takes place the locus minoris resistentiæ is established. In the coagulated blood, their best culture medium, the streptococci or the bacterium coli commune rapidly multiply and become more virulent. The proximal pole of the thrombus is the place whence absorption takes place and fatal systemic infection sets in.

Nevertheless I believe that in a case of death from sepsis as a result of Bottini's operation the infection will oftener make its way through the kidney or kidneys than through the wounds of the prostate gland. In the case of an old prostatic with secondary dilatation of the ureters and renal pelves from back pressure, the bladder and ureters and the renal pelvis or pelves are, in a physical sense, but one cavity: infected urine, if retained, easily reaches the kidneys. And even if ureters and renal pelves have not become chronically distended by the prostatic obstruction, the infection of these patients by way of the kidney is possible. The interesting experiments of Lewin and Goldschmidt[1] have demonstrated beyond a doubt that direct, we might say physical communication exists between bladder and heart in an opposite direction to that of the current of the blood. According to these experiments, soluble material (colored fluid, ultramarine) and insoluble material (air) can reach the right ventricle by way of the renal vein and inferior vena cava. Under certain conditions the ureteral mouth of even a normal vesical viscus can suddenly gape, its normal closure toward the kidney can become insufficient. By means of the difference in pressure between the bladder and renal pelvis, also of the antiperistaltic contraction of the ureter, the soluble as well as insoluble matter can now ascend from the bladder to the pelvis of the kidney, whence it enters the lymphatics, the veins, and the uriniferous tubules, and is conveyed to the right ventricle. Then the current of

[1] L. Lewin and H. Goldschmidt: "Kurze Mitteilung einer Beobachtung aus dem Gebiete der Nieren-Pathologie," Deutsche medicinische Wochenschrift, 1897, No. 38, p. 601. L. Lewin: "Der Uebertritt von festen Körpern und Luft aus der Blase in die Nieren und in entferntere Körper-Organe," Deutsche medicinische Wochenschrift, 1897, No. 52, p. 825.

blood transports the foreign substance into the other organs, principally lungs and liver.

By these experiments a path has been shown by which foreign substances, and much more readily, of course, infectious micro-organisms, may enter the general circulation. The experiments also tend to explain "the sudden appearance of a general systemic infection" after intravesical interference, the cause of the occurrence of which, in a pathologic sense, has hitherto been rather obscure. That such a retrograde wave within the uropoietic system is all the more apt to set in, if the cavities and canals of the latter are in a state of pathologic distention, is obvious.

I therefore am of the opinion that, if my patient did die of sepsis, the infection took place in the manner of Lewin's experiments. This taken for granted, one question yet has to be answered: Why did this septic infection set in after Bottini's operation? Why not sooner—for instance, after ordinary catheterization or after cystoscopy? I shall not venture to try and explain this, as it could be done only on basis of further hypotheses. But we shall perhaps be better able to understand it by assuming that in dividing the prostate down to the floor of the bladder and near to the membranous portion of the urethra, the galvanocautery struck a small inflamed focus within the prostatic tissue, which contained especially virulent micro-organisms; and that these, added to the other inhabitants of the bladder and renal pelves, sufficed to produce the explosion.

Further, after all other instrumental manipulations within the bladder—such as, for instance, cystoscopy, litholapaxy, etc.—we make it a rule, so as to have done our share to avoid infection, to irrigate the urethra and bladder after the interference, and let the patient, if possible, spontaneously void the injected fluid; while in Bottini's operation, having finished the work, we extract the incisor and stop right there. Now I believe that the early withdrawal of 200 or 300 c.c. of urine (which certainly is not sterile) from the bladder, and aseptic irrigation of this viscus a few hours after the operation, might possibly avert to a great extent the danger imminent from this source.

I have tried to explain the occurrence of the septic infection in my patient somewhat exhaustively, for the sake of avoiding as much as possible similar experiences in the future. That I thought of it a great deal can be imagined. In order to be just, however, the fact must be emphasized that Bottini has not lost a single case from sepsis, nor has Freudenberg, Czerny, or Kümmel; and their practical experience combined embraces over one hundred patients. My case evidently is an exceptional one; but it shows that Bottini's operation also has its deaths, and that it shares the risks involved in all the other operative methods so far proposed for the radical treatment of this grave trouble.

What I am anxiously waiting for now is a patient with complete retention, one who has been entirely or almost entirely a catheter slave for a long period. In perusing the literature of the subject, we find that it is this class of cases which has derived the greatest benefit from Bottini's operation. By means of the frequent slight reinfection, which almost always occurs when patients catheterize themselves, no matter how careful they may be, their system seems to have acquired a kind of immunity against an acute septic infection of the streptococci and other pathogenic micro-organisms which inhabit the bladder. Even with a pyelitis these patients will probably much better stand direct interference than those who have been only occasionally subjected to local treatment by their physicians.

I am sure we shall learn to select prostatic cases which are especially adapted for Bottini's operation; I also believe that we shall learn in course of time to pick out such cases as should be primarily subjected to operations on the spermatic cords or to castration, eventually also to prostatectomy. Much will have to be learned yet in that respect.

But certainly we can to-day say of Bottini's operation that it leaves the important anatomical parts absolutely intact, without destroying tissues which for certain periods of the life of the male subject are of great importance (vasa deferentia, testicles), and without sharing, to a great extent at least, the dangers of other radical operations (ligation of internal iliacs, total extirpation). It furthermore certainly appeals to our common sense that, if the mechanical division of a mechanical obstruction can be rendered a permanent one in a comparatively safe manner with the help of absolutely reliable instruments, the method must be a good one.

It therefore seems to me that Bottini's operation decidedly deserves to be given a careful and unbiassed test. Should it really prove to be of such great value in the greater number of cases of this dreadful, so frequently in its remote consequences fatal disease, it will become our duty to give this operation not only a firm place, but one of the first places on the stepladder of the multitude of operations so far devised for the radical cure of hypertrophy of the prostate gland.

A CASE OF ACUTE LEUKÆMIA.

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Lena F——, aged twenty-one, married, American parentage; admitted to the Roosevelt Hospital, June 8, 1897. Family history good. Patient gave no history of previous illness: denied syphilis, and never had rheumatism. She says that she gave birth to a child seven months ago, and that she had not felt strong since. But she complained of nothing during her pregnancy, and was not anæmic before or just after labor, and had nursed her child.

The most striking symptom which she presented on admission was her extreme anæmia, as if she was in the last stage of pernicious anæmia—the mucous membranes being very pale; skin yellowish; tongue moist, pale, and tremulous; gums not swollen or bleeding. She had a high temperature, 105.6° F. on admission; pulse, 148, very small; respiration, 40. She was also quite emaciated. The urine was acid; specific gravity, 1.014; it contained no blood or albumin or sugar, but full deposits of calcium oxalates.

Her history was that she had suffered from frontal headaches for six months, but otherwise she was fairly well and able to be about until six weeks ago, when she was first taken with a sore throat which lasted for two weeks. Then the entire right arm became swollen, painful, and red. This state of the arm lasted for three weeks, and it gradually got well. Then pains came on in the back and legs. Three days ago, on rising in the morning, she fainted and fell, when she struck her left side, which accident was followed by severe pain in the abdomen, extending to both sides, but especially the left. On palpation there was tenderness, but it was diffused and not localized. The pain remained constant, and was aggravated by deep inspiration. There was pain also on pressure at the eleventh and twelfth dorsal vertebræ. She had no vomiting and no cough, no dyspnœa, palpitations, or œdema; appetite fair, bowels costive, rather increased frequency of urination. On the night of her admission, however, she experienced a sense of choking and became short breathed. On examination her lungs were

found normal, there was a loud systolic hæmic murmur in the pulmonary area, the spleen could scarcely be felt, and there were no enlarged lymphatic glands palpable, nor were there any cutaneous ecchymoses visible.

As she appeared very much like one who had suffered from great loss of blood, a possible internal hemorrhage from rupture of the spleen after her fall was suspected. But, aside from the general abdominal tenderness being more marked on the left side, nothing could be made out, while continued internal bleeding appeared negatived by her pronounced pyrexia.

The first blood count, made the morning after admission, was 1,400,000 red cells per cubic millimetre; hæmoglobin, 27 per cent. The next day, the 9th, her temperature fell to 102.4° F. in the morning, and rose to 105° F. at 3 P.M. On the following morning it fell to normal; then rose to 102° F. at 3 P.M., and repeated these figures on the 11th, 12th, and 13th. On the 14th and 15th it gradually rose till it reached 104° F. on the 16th. It then fell gradually to 98° F. on June 19th, when she died.

Meantime her stomach became irritable, with continued nausea and repeated attacks of vomiting, from the 11th to the end of her illness. On the 15th she complained of much pain in her left arm, with local heat and tenderness, but no redness. She became unconscious twenty-four hours before death, and during the previous night a considerable patch of ecchymosis appeared upon the nose.

The following is the record by Dr. Ewing of the examinations made of her blood, of the autopsy, and of the microscopical appearances of the various tissues:

Acute leukæmia.—Date of receipt, June 19, 1897. Name of patient, Finnegan. Source, Roosevelt Hospital. Clinical diagnosis, acute leukæmia (?). Date of death, June 19th. Date of autopsy, June 19th. Autopsy by J. Ewing. Anatomical diagnosis: Leukæmic infiltration of marrow, spleen, liver, abdominal lymph nodes; anæmia. Material, all viscera. Preservation, formalin (Müller).

Examination of blood, June 10th: Red cells, 1,290,000; hæmoglobin, 20 per cent. There are but slight differences in the size and form of the red cells. There is a very marked leucocytosis. Of the leucocytes, 5 per cent. are myelocytes of medium size, containing rather scanty neutrophile granules. No nucleated red cells are seen. In the absence of a count of the leucocytes it may be said that they were not more numerous than is ordinarily seen in infectious diseases and probably numbered less than 50,000 per cubic millimetre.

June 15th, the red cells are as before, June 10th, but normoblasts are now abundant. The leucocytosis has increased and is now extreme, although the numbers probably do not exceed 100,000. Of these the proportions are: mononuclear leucocytes (lymphocytes), 33 per cent.; myelocytes, 12 per cent.; polynuclears, 55 per cent. An occasional eosinophile cell is seen.

June 19th, immediately after death. Normoblasts are very abundant. A good many megaloblasts are present, with single spherical nuclei. The leucocytes are very abundant, more so than on June 15th, but yet not nearly so numerous as in the average case of leukæmia. Mononuclears, 17 per cent.; myelocytes, 32 per cent.; polynuclears, 48 per cent.; eosinophile cells, 3 per cent. The granules and nuclei of the myelocytes are indistinct, and the polynuclear cells are very deficient in neutrophile granules and often in chromatin. It is possible that some hyaline leucocytes were enumerated as myelocytes in this estimate. No eosinophile myelocytes were seen. No distinct mast cells could be found.

Autopsy, June 19, 1897, one hour after death. Body emaciated, very anæmic. No rigor or œdema.

Heart: Size, valves, chambers, normal. Muscle very fatty. No signs of leukæmic infiltration.

Lungs: Very anæmic, otherwise normal.

Spleen: Moderately enlarged, very firm, elastic. Section very deep red. Malpighian bodies dark, shiny, indistinctly limited.

Liver: Consistence very much reduced. Slightly enlarged. Centres of lobules, homogeneous, pale; peripheries, deep red. There are very numerous, minute, pale or faintly gray foci, resembling the focal necroses of infectious diseases.

Kidneys: Size normal; surface smooth, very pale, fatty. Markings very irregular. Capsule not adherent.

Pancreas and adrenals normal.

Stomach: Mucosa shows a few ecchymoses. Gastro-intestinal tract otherwise normal. Neither Peyer's patches nor solitary follicles are enlarged.

Uterus rather small. Mucous membrane normal.

Ovaries normal.

Blood: No clots in vessels. Shed blood clots fairly well. Anæmia very pronounced. Abdominal lymph nodes—mesenteric, intraperitoneal, periportal—are slightly enlarged and hyperæmic. The superficial chains are nowhere enlarged.

The liver shows an enormous number of collections of large mononuclear cells, which usually appear to be in connection with the central veins. They show all stages of a peculiar necrosis characterized by extreme karyorhexis, without actual loss of chromatin and without a trace of inflammatory reaction in the neighboring cords of liver cells. The liver cells are otherwise markedly fatty. There is no infiltration in the portal canals. The necrotic process in the leukæmic foci strongly resembles the focal necroses seen in rabbits after the injection of large amounts of bacterial toxins, but the destruction of the cells is much less complete than in these experimental lesions.

In the kidneys, in the region of the arched vessels, are some foci of large round cells. The tubule cells show acute degeneration very marked in places.

The gastro-intestinal tract presents no lesions in any part of the wall. The lymph nodules throughout present normal appearances, although the sinuses appear rather cellular, and the blood-vessels here as elsewhere contain an increased number of leucocytes.

Marrow: The shaft of the femur contains almost diffluent, light-colored, bloodless marrow, which is with difficulty distinguished from pus on the one hand and fat on the other. Its physical properties are those of ordinary caseous material.

In the ribs, sternum, ilia, vertebræ, clavicle, hyoid, and humerus, the marrow is light colored and anæmic.

The nervous system appears normal.

Anatomical diagnosis: Leukæmic deposits in spleen, liver, abdominal lymph nodes, and marrow. Acute degeneration of liver. Fatty degeneration of kidneys, heart muscle. Anæmia.

Microscopical examination. Lymph nodes: Lymph sinuses and nodules partly or entirely obliterated by infiltration with large mononuclear cells. These grow diffusely through the node, often giving the appearance of sarcoma. The capsules of the nodes are intact. The vessels are usually gorged with blood. No bacteria are seen.

Sections of the marrow of the femur, at its middle point, show entire absence of fat cells and diffuse growth of large neutrophile myelocytes. There are very few giant cells, eosinophile cells, or lymphocytes. The sections of marrow from other localities are similar in appearance.

In the spleen the Malpighian bodies are largely replaced by collections of large mononuclear cells, which substitute the small lymphocytes normally found in these bodies. The splenic sinuses are moderately in-

filtrated with large mononuclear cells, and the splenic cords contain a considerably increased number of these cells. To these two latter changes the enlargement of this organ is due. The vessels and sinuses are moderately filled with red cells. Pigment deposit is moderate.

The pancreas appears normal.

The adrenals are normal.

The heart muscle is very fatty, but there are no distinct foci of round cells.

In the spinal cord there were no leukæmic deposits found.

It will be seen that the clinical features of this case rendered a definite diagnosis at first somewhat difficult. The signs during life, including the recent development of urgent symptoms, the extreme anæmia accompanied by such a high degree of pyrexia, the absence of any notable enlargement of the spleen, or of the liver, or of the lymphatic glands, conjoined with absence of signs of local inflammation in any important viscus, were also matched by the uncertain import of the macroscopical findings at the autopsy, from which the first report received was that the anatomical diagnosis was acute yellow atrophy of the liver, with fatty kidneys and heart, and a condition of the blood like pernicious anæmia. The first examination of the blood during life was also negative, for though there was increase of the white cells, yet the degree was not more than in the common leucocytosis in many febrile diseases. Therefore, without a subsequent microscopical examination of the blood and of the tissues, the essentially leukæmic nature of the affection could not have been recognized. On the first examination of the blood the appearance of myelocytes was doubtful, and there were no nucleated red blood cells seen. On the second examination, five days afterward, there was increased leucocytosis, red nucleated cells were abundant, and true myelocytes were demonstrable. On the blood examination after death the leucocytosis was still not nearly so pronounced as in ordinary cases of leukæmia, but the characters of the cells were unmistakable, including nucleated red cells, myelocytes, megalocytes, and large eosinophiles.

A great increase in the white corpuscles is, therefore, not necessarily characteristic of this specific disease, leukæmia, the diagnosis being dependent rather upon the presence of such special forms of cells as the myelocytes. In this case also it was the tissue infiltrations which were the most distinctive and pathologically the most significant. Besides the changes in the bone marrow, it is interesting to note that in the liver were numerous deposits similar to the necrotic changes in this organ caused by the toxins of diphtheria. It is in cases of acute rather than in chronic leukæmia that we find so much which is suggestive of a primary infective etiology. The unique case reported by Obrastow, of a ward tender who had charge of a patient suffering from acute leukæmia, and who, forty days later, was attacked by the disease, both patients then running a similar course to death, may have been only a coincidence, but it must be admitted that many histories of the acute form of this infection correspond more with infective processes than with any known form of systemic diseases. The specific agent, however, and its mode of entrance are entirely conjectural, though the occurrence of leukæmia in the lower animals, irrespective of the nature of their food, whether they were herbivora or carnivora, rather negatives the supposition of the alimentary canal being the channel of the infection, unless by means of drinking-water. The initial sore throat, however, in this patient, for some two weeks before any other symptom, and then the involvement of the arm, with subsequent subsidence before other developments elsewhere, offer some analogies to the infection of diphtheria.

INFANT FEEDING AND FOODS.[1]

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My excuses for this oft-repeated subject are its importance at this season of the year and the hope that I may drop at least one thought of service. There is no cause for infant mortality so great as improper foods and feeding, and when we consider that about one-sixth of the human race die within the first year of life—or the period which I shall consider infancy in this thesis—we may appreciate the importance of infant feeding, as at least one-third of the above mortality is due to lack of care of the infant. A few mothers give birth to children who cannot nurse them, while many there are who will not nurse them, perhaps because of imaginary social duties or because they think the task of artificial feeding easier than natural feeding. To impress mothers with the importance of nursing properly their infants, the writer considers it a duty to tell them, when making his last visit after accouchement, these facts: "Long life of your child will depend very largely on the manner of feeding during this first year. Indeed, I am convinced that with the proper care during this period you will add at least five years to its existence, and not only this, but it will be much more likely to enjoy good health during middle life." Let us first try to impress upon mothers the truth that they will be saved many hours of wakefulness, anxiety, and perhaps agony, by regular habits in feeding infants, and supply, if possible, nature's food for at least the first six months of their existence. Nothing else except this and water.

Infants should, generally speaking, depending some on weight and vitality, be fed every two hours from 5 A.M. to 10 P.M., until they are three months old; every three hours until six months old; and every four hours until weaned at eleven months.

In order that we may do the most good for a given case afflicted with some form of bowel trouble, it is essential that we determine: 1st. The kind and manner of food given. 2d. Condition of discharges and frequency. 3d. Constitutional symptoms, if present.

The kind of diet prescribed will depend wholly on the condition of the discharges and the constitutional symptoms.

Vomiting frequently, with rather a cachectic expression, would indicate gastric trouble; while a fretful, anxious look, accompanied by tenderness in the umbilical region and thin but not frequent stools, would indicate enteritis. Colitis is accompanied by frequent muco-sanguineous discharges and tenesmus, with small actions and often a peculiar musty odor. If the inflammation involves nearly all of the alimentary tract, we have the above symptoms present in an aggravated form. Of paramount importance it is to know:

1st. The chemical reaction of the alvine discharges, *i.e.*, whether acid or alkaline, and for this purpose I always carry litmus paper with me. If the reaction is excessively acid, we may know this is due to the carbohydrates; consequently the cessation of this class of foods would be indicated; if very alkaline we may infer at least that this is due to the ingestion of the albuminous foods, and these should be forbidden.

2d. The color. If this be green, we may infer that the infant has eaten too much of the albuminous foods or has taken its milk too fast; consequently the casein has not been digested, and is an excellent culture medium for the germs which produce the green color.

3d. Odor. If this is scarcely perceptible, or slightly sour, the cause is certainly the starchy foods, while if very offensive it must be due to the proteid foods.

4th. Consistence. If the discharge is very thin,

[1] Read before the Guernsey County Medical Society.

with little mucus and no blood and not very frequent action, this would indicate that the seat of the trouble is in the small gut; while if the consistence is somewhat heavier and the discharge contains mucus with perhaps some blood, accompanied by tormina and temesmus, the lesion is in the colon. If in the colon, intestinal lavage is indicated with an astringent solution, such as chloride of zinc or a decinormal sterile salt solution. If in the small gut, astringents should be given by the mouth, such as arsenite of copper or bismuth.

5th. Digestion. If solid particles are seen we may at once determine what food to withhold, or at least modify the manner of feeding it.

6th. Constitutional symptoms. If there is a high temperature, it is certainly due to the albuminous foods, for the carbohydrates do not produce marked constitutional symptoms. Therefore the indices to the kind of food required are the location of the trouble, the chemical reaction, and the odor.

Foods are divided into four great classes, two of which only we need consider here, viz., proteid or albuminous and carbohydrate or starchy foods.

In the infant under three months the salivary secretion is very limited, and it is not at all abundant until in the seventh month; and, since this secretion does not act on raw starch at all, we may draw our own conclusions. Pancreatic secretion acts on raw starch; but this is not formed in the infant under four months. Therefore if an infant is disturbed with gastritis accompanied by diarrhœa, the actions being acid and not offensive, we may be positive that the carbohydrate foods are producing the disturbance.

In all cases of bowel trouble the writer believes it best to begin anew, *i.e.*, thoroughly to clean out the alimentary tract with one-fourth of a grain of calomel every hour until the desired effect is obtained, when the actions are offensive; or with oil when they are not offensive. Then give the kind of food indicated, with medication if this be needed.

We may have green discharges after feeding the starchy or proteid foods, because this color, as stated before, is very often due to germ action, and an excellent way to neutralize this condition is by the dilution of food with lime water. I trust I have now made clear the guides by which we may determine the kind of food indicated. I shall therefore first take up the carbohydrates and the manner of preparing them.

Flour ball: Put one pint of flour in a linen sack, add enough salt to season, and boil for twelve hours, after which remove the pasty part around the ball and grate the central part, to which add enough boiled water to make it of the consistence of cream, and feed.

Oatmeal or barley water is made by taking one tablespoonful of either, crushed, to which add one pint of hot water and allow to simmer for thirty minutes; strain and use. The former has slightly laxative properties, while the latter is slightly astringent and will aid in more lightly coagulating milk albumin or casein. I think the best proportion in which to use either of the above waters or plain water with milk is, for the first two months of an infant's existence, one part milk and two parts of water; third and fourth months, one of milk and one of water; fifth, sixth, and seventh months, two of milk and one of water. Great dilution not only aids the natural juices but also aids in the elimination of poisons.

Rice grains, one tablespoonful boiled in one quart of water for two hours; strain and add one-fourth this quantity of plain milk and one teaspoonful of cream.

Peptogenic preparations used in digesting milk have a similar effect on the actions, and are therefore contraindicated when the actions are excessively acid.

Milk whey is often assimilated when the discharges are alkaline and constitutional symptoms are present. The rennet necessary to separate the casein may be procured at any drug store.

Albuminous foods: Light beef, mutton or chicken broths, cream or whole milk (*i.e.*, with its casein) diluted.

Albumen water, prepared by adding the white of one egg to eight ounces of boiled water.

In the process of growth an infant requires a larger proportion of albumin to starch than does an adult.

I shall close, knowing that if we remember the following, as Rachford gives it, we shall be the more able to cope with infant bowel troubles: Poisonous ptomains are formed by fermentation of albuminous food and not in carbohydrates. Therefore we find constitutional symptoms in diarrhœa accompanied by fetid stools, but not constitutional symptoms in diarrhœa due to starch fermentation.

STREPTOCOCCUS ENTERITIS: A STUDY OF TWO CASES.

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History.—Escherich, in 1886, in his celebrated researches on the bacteriology of the fæces of the healthy suckling child, found several varieties of streptococci. It is only of very late years, however, that attention has been paid to the rôle of the streptococcus in causing gastro-intestinal disease. Beck[1] described, in 1892, the case of an adult having cholera-like symptoms, in which case he found streptococci in the movements and in the blood. De Cerenville[2] reports three cases which looked like atypical typhoids; the stools contained numerous streptococci. Tavel and Eguet[3] observed a number of cases in which a streptococcus seemed to have been causal, and divided them into three sets: first, those that were typhoid-like; second, those that were choleraic; and third, those that presented the picture of a septico-pyæmia. Either set could be acute or chronic. All the above-mentioned cases occurred in adults.

Booker[5] was the first to draw attention to the same class of cases in children. In his exhaustive treatise he divides summer diarrhœas into three classes: first, dyspeptic diarrhœas, in which the bacilli coli communes and bacilli lactis aerogenes predominate; second, bacillary gastro-enteritis, in which a variety of other bacilli is found; third, streptococcus gastro-enteritis, which is characterized by symptoms of a general infection. The first work on the differentiation of the streptococci in such cases was done by Hirsch,[4] of Baltimore, working in the clinic of Escherich, in Graz. In the case he described he found a streptococcus hitherto unknown. Through the kindness and under the direction of Professor Escherich, whom I sincerely thank, I was enabled to study two cases of diarrhœal disturbance in which the streptococci isolated by Hirsch were present.

Case I.—Clinical history: The first child, two and one-half years old, was suddenly taken sick, with a temperature of 106° F., vomiting, and diarrhœa. The vomiting ceased after a few hours. During the first three days of the illness the number of the movements, composed mainly of greenish mucus, pus, and blood, averaged twenty daily. More minutely described, the movements consisted of three parts. The first was leek-green mucus (this part contained most of the streptococci). The second was made up of white streaks of pus, dotted with blood. The third was gray mucus, also dotted with blood. The child was apathetic and somnolent. On the evening of the first day it had two convulsions. The abdomen was always soft and contracted.

After the first day the temperature remained at about 100° F., except for a rise to 103.5° F. on the third day after this; the number of stools gradually diminished, and they became more and more feculent. Thenceforward the convalescence was uninterrupted. At the onset the urine contained a trace of albumin. There was also present in the blood a moderate polynuclear leucocytosis. The therapy consisted in regulation of the diet, tannalbin, and high enemata of liquor Burowi.

Bacteriology: In the early stools there were, microscopically, swollen and fatty epithelial cells, fat crystals, red blood corpuscles, mucus, and pus cells. Stained according to Weigert (Escherich's modification), there were seen numerous streptococci, later to be minutely described, and bacilli. The later stools contained streptococci almost exclusively, the same being confined mainly to the mucous portions of the stools. After the third day, coincident with the improvement of the child, the streptococci in the stools diminished, and a day later were absent. Cultures from the blood and urine remained sterile. A mouse subcutaneously inoculated with a small amount (a few cubic millimetres of the fæces) died after sixty hours, and in its blood, microscopically as well as by culture, the streptococci were found.

Case II.—Clinical history: The second child, eight months old, on admission to the clinic had an attack of vomiting followed by a severe diarrhœa. For several days previously it had had frequent mucous movements. After admission it had seven to ten stools daily, of the same character as those in the last case. The temperature at the onset was 101.5° F., later it rose to 102° F., after which it was subnormal. The urine was markedly albuminous and scanty. The abdomen was soft and retracted. The head was retracted, the neck stiff. After three days the child succumbed, having been stuporous almost constantly.

Post-mortem examination: At the section, made four hours after death, there was found a fatty degeneration of the heart, kidneys, and liver. The spleen was slightly enlarged. The gastro-intestinal tract as a whole looked pale. The stomach showed slight hemorrhagic erosions, and contained material like coffee grounds.

The mucous membrane of the small intestine was swollen, and presented pin-point hemorrhages. The Peyer's patches were swollen. The most marked changes were just above and just below the ileo-cæcal valve. The mucous membrane there was distinctly thickened, the follicles were swollen, and here and there were small defects.

The microscopical examination of the parts gave, in short, the following: In the stomach there were areas of small round-celled infiltration in the submucosa, above some of which the tubules were missing. There was also marked intraglandular inflammation. In the small intestine there were inflammatory changes in the intraglandular tissue. Here and deeper down, to the serosa, were streptococci in small numbers.

Just above and below the valve there was a marked cell infiltration between the glandular tubules. The follicles were markedly swollen, some being capped by small substance defects. On the surface of the latter and in the submucosa and muscularis were numerous streptococci.

In the lungs, in places there was a small-cell infiltration in the interstitial connective tissue, around the smaller vessels, and also some desquamation of the epithelium lining the alveoli near by. Cocci were present in the lumen of the vessels and in their surroundings. The heart, liver, kidneys, and spleen also contained streptococci.

Bacteriology: An examination of the early stools in this case revealed a colossal number of streptococci, and this find remained constant. Two hours ante mortem cultures were made from the blood and urine. In the former streptococci alone were found, and in the latter streptococci and coli bacilli. From the fæces an agar plate was poured, and by inoculating from this into sugar bouillon a pure culture of the streptococci was obtained. A mouse inoculated subcutaneously with one cubic centimetre of this culture succumbed in forty-three hours, the blood showing numerous streptococci. Before death the movements were soft and numerous, and contained the cocci. In the case first detailed, pure cultures were obtained by the method just mentioned. These resembled closely those present in the second case.

General Remarks.—The streptococcus found in these two cases corresponds to that described by Hirsch. In the fæces it appears as a flattened coccus, in short straight chains or angular chains, the diplococcus arrangement being frequent. In sugar bouillon, after twenty-four hours there is a uniform cloudiness; after five or six days the upper part of the fluid clears. The growth is less active in ordinary bouillon. In bouillon the coccus appears frequently in groups of two or three. In longer chains, one of the chains is apt to be larger. The average size of the cocci, stained in fuchsin, is 0.75 μ by 0.9 μ. The coccus stains with Gram.

On gelatin only the cocci from the second case grew, probably due to their greater vitality. On the surface of the gelatin there is a slight, faint, translucent white growth. In stick cultures there result discrete transparent points along the line of inoculation; occasionally there is a little continuous growth. On plates after forty-eight hours there are small, translucent white points, just visible to the naked eye. Under the microscope these appear as fine, light yellow points and discs of irregular form, with dark granular centres. The colonies reach a size of about 0.1 mm. in diameter, and spread no farther. In most cultures on gelatin there was a slight liquefaction.

On agar plates the colonies, microscopically viewed, are irregularly oval, coarsely granular, with a finely dentated edge; the centre is darker and yellowish. After twenty-four hours there is no further growth.

Milk is acidified after one day, and solidly coagulated after five or six. On potatoes there is a moderate growth, with active cultures, which appear in the form of isolated white colonies, which may later run together.

On agar, covered with a coagulated layer of human blood serum, there is a very abundant growth. In such cultures the cocci are apt to be arranged in larger groups, rather than in chains. The cultures thus obtained are very vigorous, giving, on agar and potatoes, thick, creamy growths. With them milk is coagulated after one day, instead of after five or six days, as before.

Mice were fed with such cultures in bouillon, on bread or mixed with milk. All had very frequent movements, consisting mainly of mucus, with a little pus, and in one there were some blood points. These mice died in varying lengths of time, from thirty-three to one hundred and three hours, depending on the number of generations from the cultures on serum the bouillon cultures were removed. The intestines, post mortem, always showed more or less marked inflammatory changes, and the cocci were found in the blood in small numbers.

Subcutaneously inoculated, one cubic centimetre of such cultures caused the death of mice in from forty-eight hours to eight days. Those that lived over two or three days had diarrhœal movements. Post mortem, the cocci were found in the blood and in some of the movements.

Experiments to show any existing antitoxic or bac-

tericidal action of the blood serum of the child that recovered gave no decided results.

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A REPORT ON FIFTY-ONE INTRAPERITONEAL OPERATIONS, SUPRAPUBIC AND VAGINAL, WITH TECHNIQUE.

By P. F. CHAMBERS, M.D.,

NEW YORK.

While fully recognizing the many reasons for unreliability of medical statistics, we must still accept them as the only possible guide we can have. We know the ease with which they can be warped to suit the condition and the prejudiced opinions of the operator. We know, too, that even when correctly and conscientiously submitted, there is always likelihood—owing to a run of very favorable cases—of doing more than justice to an operator. On the other hand, there is likelihood of injustice through a number of unfavorable cases.

Notwithstanding this, I unhesitatingly submit a report on the last fifty-one cases of intraperitoneal operations which I have consecutively performed at the Woman's Hospital, in my private practice, trusting thereby to emphasize a few points of technique which I have found to be of value.

A glance at this series of cases will show a good variety of operations which properly fall to the domain of gynæcology. They were in no way selected; simply taken as they came, none being rejected on account of malignancy, nor for any other reason that might affect the record.

Of the fifty-one operations, twelve were for removal of ovaries and tubes, fifteen for vaginal, and fifteen for suprapubic hysterectomy. The remainder were for ventral suspension and removal of one ovary and tube, abdominal shortening of the round ligaments, appendicitis, and vaginal oöphorectomy. The last operation (and the only fatal one) was for the removal of a fistulous tract, which I supposed led down to a ligature left at a previous operation performed by another surgeon two years before, but which proved to be a small, deep-seated septic abscess. Septic peritonitis quickly followed the operation, and the patient died in twenty-four hours.

The operation for the removal of ovarian cysts was a frequent one ten or more years ago, and was then so thoroughly performed that there have been very few changes in the technique, and in my judgment the changes have not been for the better.

But in the method of removing pus tubes, and especially in hysterectomy—both vaginal and suprapubic—I think the improvement has been very great. In suprapubic hysterectomy the clamps and the extraperitoneal treatment of the stump were first discarded, and the disuse of the metallic and non-absorbable ligature soon followed. The next advance has been made in discarding as much tissue from the ligature as possible; in other words, in trying to catch the arteries only in the ligatures, instead of a mass of tissue containing ligaments, nerves, and occasionally uterus. By this method there is as little as possible left to slough.

In the vaginal operation the last-mentioned improvement is much more difficult than the old method, but by the exercise of a little additional patience and some care in applying the clamps or ligatures even in this operation very little tissue needs to be involved. By enucleating or dissecting off the uterine artery, a clamp or ligature can be easily applied to the ovarian artery, and usually that is all that will be found necessary.

In suprapubic hysterectomy I have found the following method the most rapid and satisfactory in every way:

The abdomen being opened by a free median incision, and the patient placed in Trendelenburg's position, the uterus is drawn up as far as possible out of the pelvis. Two clamps are then applied upon the broad ligaments of one side, one near the uterus, the other to the parietal side of the ovary, the point of the latter touching the uterus. An incision is then made between the clamps, down to the point of the outer clamp, without loss of blood. After the same procedure is repeated upon the other side, an incision can be made across the anterior surface of the uterus from clamp to clamp, freeing the peritoneum and posterior bladder wall, which then can be easily peeled off down to the vaginal junction with the operator's finger nail or the handle of the scalpel. The uterus is then cut across and removed.

In the great majority of cases the two clamps left, one upon each broad ligament, will be found to have controlled all hemorrhage; and protruding from between the jaws of the clamps will be seen the open mouths of the blood-vessels. These can be easily picked up by artery forceps, and after the clamps are removed ligated with small chromicized catgut. By the use of the Paquelin cautery the cervical canal is enlarged, and with a small piece of iodoform gauze drainage is established through into the vagina. The peritoneal layers are then brought together by running catgut suture antero-posteriorly, so that the stump is covered and all raw surfaces are inclosed. The abdominal incision is closed with one line of silkworm-gut suture.

The operation is easily performed; it leaves a good floor to the pelvis, and there is no sloughing from the ligatures. Patients can usually sit up within ten days.

I have not used a silk ligature for more than a year; and while I do not consider the catgut an ideal one, it is still the best we have.

The suprapubic operation for the removal of pus tubes is performed after practically the same method. The tubes being held up by the fingers of the operator or by forceps, clamps are applied just below, and the tubes and ovaries are cut away. The arteries are picked up and ligated in the same manner as in the operation for hysterectomy, and the raw surfaces covered by bringing the peritoneum over with the running catgut.

The clamps in vaginal hysterectomy are for many reasons very objectionable. They cause considerable slough and are very uncomfortable, but in several of my cases they were indispensable; and in all they very materially shortened the operation, which in itself is a great consideration. I have never had any sepsis following their use, and have considered the drainage better than it would have been with gauze alone.

Vaginal oöphorectomy.	Pyosalpinx	1	2 cured.
	Ovarian cyst	1	
Suprapubic oöphorectomy.	Chronic salpingitis and ovaritis.	4	12 cured.
	Ovarian cyst	2	
	Pyosalpinx	6	
Vaginal hysterectomy.	Carcinoma uteri	4	15 cured.
	Ectopic gestation	1	
	Salpingitis and ovaritis (septic).	5	
	Pyosalpinx (with adhesions)	2	
	Fibroma uteri	3	

Suprapubic hysterectomy.	Fibroma uteri	9	15 cured.
	Pyosalpinx	5	
	Ovarian cyst	1	
Vaginal cœliotomy for removal of appendix		1	—Cured.
Herniotomy—large hernia, result of a previous laparotomy		1	"
Hysterorrhaphy and removal of appendix		1	"
Hysterorrhaphy and removal of one ovary		1	"
Nephrectomy for pyonephrosis		1	"
Abdominal shortening of round ligament		1	"
Removal of fistulous tract and pelvic abscess		1	—Died.
Total		51	

24 East Fifty-Fourth Street.

Progress of Medical Science.

Shock I admit is often very severe after operations upon the urinary organs and especially upon the kidneys. I have been told by Dr. Hewitt that he has several times known the pulse to fail at the moment that the ligature was tighened around the pedicle in performing nephrectomy.—Moullin.

Erythromelalgia a Symptom of Syringo-Myelia.—A recent observation, reported by Pospeloff, is interesting because of the association with syringo-myelia, since it is recalled that several previous observers have considered erythromelalgia not as a distinct morbid entity, but as a syndrome met with in the course of various affections of the cerebro-spinal system, due to a lesion of the posterior and lateral cords of the medulla. The patient was a woman, thirty-six years of age, who entered the hospital with characteristic symptoms of the affection, including anæsthetic panaris. There existed also in the palm of the right hand, at the elbow and shoulder, and upon the same side, intense pain of paroxysmal character. There was also cyanosis of the hand, especially of the index and middle fingers, with dense and glistening skin. The palmar surface of these fingers showed more marked perspiration than other regions of the body. The temperature was two degrees lower than on the opposite side. The left hand became glossy, œdematous, and extremely painful, and the back of the hand became violaceous. Subsequently the same condition was noted in the left foot. Gonorrhœal and acute rheumatism were excluded. The term acute, painful, circumscribed œdema is suggested to distinguish such instances from acute circumscribed œdema of Milton and Quincke. Subsequently gangrenous herpes in bands, such as is seen in syringo-myelia, developed. —*La Presse Méd.*, November 10, 1897.

An Acquired Syphilis of the Heart.—Grassmann declares (*Münch. med. Wochenschrift*, No. 18–19, 1897) that, contrary to generally accepted opinion, acquired syphilitic disease of the heart is not rare. The reason it is observed so rarely is that the pathological anatomist, in post-mortem examinations, pronounces only those cases "heart syphilis" in which gummata are found. *A priori*, the syphilitic infection finds its way to the heart through the circulation, though nothing certain is known of the course of the infection. The diagnosis of "heart syphilis" during life is very difficult and can seldom be made with certainty. The writer has made the following anatomical and pathological studies: Isolated specific pericarditis never occurs, the pericarditis being caused by direct extension from the underlying fibrous or specifically infiltrated gummatous heart muscle; in this way are both the visceral and parietal pericardial layers attacked. In similar manner specific endocarditis is in almost all cases due to an underlying gumma in the myocardium. The disease almost never manifests itself as an endocarditis valvularis. The most important changes occur in the myocardium. Histologically speaking, the gummata occurring in the heart muscle belong to the so-called granulation growths; they vary from a microscopically small growth to the size of a chestnut. The development of a gumma in this situation is very slow, generally requiring years from the time of infection. If in these tumors cellular proliferation predominates, the nodules become soft, cystic, or undergo cheesy metamorphosis; if increase in intracellular substance predominates, the nodules become more or less hard. If through some cause absorption of the gumma takes place, an aneurism of the heart may develop at the site of the thus impaired and thinned myocardium; from such an aneurism eventual thrombosis and embolism, or rupture (and consequent death), may occur. Gummata are generally found in the left ventricle. When, in the neighborhood of a gumma, inflammatory processes in the myocardium are found, these latter are also due to the syphilitic infection; yet such syphilitic processes may exist without gumma formation. Regarding the clinical symptoms of "heart syphilis" (when the post-mortem pathological diagnosis has been made), all observers are agreed that the disease does not occur till at least ten years after the infection. The symptoms are not pathognomonic; they are identical with those of cardiac insufficiency from other causes. Hence one observes the symptom complex of heart failure, in all its phases: œdema, effusions into the peritoneal and pleural cavities, palpitation, dyspnœa, etc. As another symptom of "heart syphilis," sudden death during the enjoyment of apparent health must be reckoned. Generally the diagnosis is made by exclusion, *e.g.*, exclusion of alcoholic myocarditis, of fatty degeneration of the heart, of arterio-sclerosis, of previous rheumatism, etc. In isolated cases the diagnosis may be made directly by the certainty of a previous syphilitic infection, or by the uselessness of the ordinary therapeutic remedies for cardiac insufficiency. The diagnosis is made certain by the favorable result of antisyphilitic treatment. The treatment of "heart syphilis" is the same as that of syphilis in general. The treatment, however, should be slow and careful; if it be too energetic, harm may occur through the too rapid absorption of gummatous deposits.

The Relationship of Psoriasis to Gout and Diabetes.—Medical literature cites a few cases in which a relationship existed between gout and psoriasis, as well as between psoriasis and diabetes. In corroboration of this, Carl Grube (Neuenahr) mentions nine cases of his own in which the existing psoriasis developed on a gouty basis. He also mentions seven cases in which diabetes was connected with a gouty diathesis.

Splenic Tumor in Rachitis.—Dr. Von Starck says, in the *Archiv fur klin. Med.*, 57, 3 and 4, that in one hundred cases of rachitis the diagnosis of splenic enlargement was made sixty-eight times. The situation of the tumor is the same as in the adult. There is no ground for the belief that the spleen is relatively larger during the first year of life than in the later years of childhood, yet during the first year the spleen shows an extraordinary tendency to enlarge under pathological conditions. The splenic enlargement, in the cases of rachitis examined, was generally medium. There is no constant relation between the severity of rachitic bone changes and the amount of enlargement of the spleen; the latter is more constantly governed by the severity of the accompanying anæmia. Autopsies on rachitic children (when other causes of splenic enlargement, *e.g.*, infectious diseases, could be excluded) showed a splenic tumor in over fifty per cent. of the cases. The tumor was more generally found in those presenting marked rachitic bone alterations; yet

even if the latter be very severe the enlargement may not exist. The splenic tumor, either macroscopically or microscopically, shows nothing characteristic. The writer concludes that tumefaction of the spleen can hardly be considered a symptom of rachitis in children, and that it is caused by the same unknown noxious product that produces the rachitis.

Traumatic Diabetes.—Lenné reports ten cases in which trauma could be regarded as the etiological factor in the production of diabetes.—*Deutsche med. Wochen.*, 1897.

The Rôle of the Blood-Vessels and of the Parenchyma in Inflammation.—R. Virchow (*Virchow's Archiv*, Band 149, Heft 3) claims that inflammation shows itself as an irritation, both of the blood-vessels and of the nerves; of the specific as well as of the non-specific parenchyma. He differentiates four kinds of inflammation: exudative, infiltrating, parenchymatous, and proliferating. The irritation is generally of a chemical, occasionally of a mechanical nature. Proliferation is only a peculiar form of cellular power; it always implies the formation of new material. The "new material" need not be taken directly from the vessels, since this form of inflammation (the proliferating) likewise occurs where there are no blood-vessels; in the latter case the cells take their material from their surroundings through their power of attraction. Nourishment consists in the assimilation of the taken-up material, the cells having the peculiar innate elective power of absorbing from the neighboring tissues what is best suited to them at that time. Heat and redness do not occur in inflammation of non-vascular parts. Inflammatory redness is due to irritation of the nerves. The result of parenchymatous inflammation is fatty metamorphosis. This inflammatory fatty metamorphosis is to be distinguished from the non-inflammatory: the latter is due simply to nutritive disturbance. The former always implies, as a condition preceding the fatty change, either cloudy swelling or cellular proliferation, both caused by the attractive power of the cells. In conclusion Virchow remarks that the fibrin in inflammation can very often be regarded as the product of parenchymatous metabolism.

Case of Dermatosis Linearis Neuropathica.—Leven (*Deutsche med. Wochenschrift*, 1897, No. 41) reports the case of a sixteen-months-old boy in whom since the sixth week of life there existed on the posterior surface of the left lower extremity a band-like, dark red, elevated stripe, three millimetres to one centimetre wide, which, beginning about two centimetres inward from the greater trochanter, ran obliquely downward and inward to the bend of the knee, then made a short turn outward, and finally took its course along the lower part of the thigh and centre of the leg, to the heel. The stripe was covered with small scales and crusts, but did not present a warty or papillomatous character. In the immediate vicinity could be seen here and there red-brown papules the size of a pin's head, and an intense itching was present. Leven is of the opinion that the affection is due to a disease of the cutaneous nerves.

Hemiplegia Cerebralis Following Diphtheria.—Levi describes a case of severe gangrenous diphtheria in which after three injections of Behring's solution No. 3 an improvement of the local condition was noticed. During the first week endocarditis and nephritis complicated the condition, and urticarial wheals sprang up over the entire body. During the second week there arose paralysis of the soft palate, which necessitated the use of the sound for the nourishment of the child. Then suddenly followed an apoplectic result with left-side facial paralysis and paralysis of the extremities of the same side, and soon after that a second attack, with paralysis of the muscles of the neck. These paralyses are very rare in diphtheria—only thirty-four cases having been reported—and are probably the result of thrombosis in the right Sylvian artery.—*Wiener klinische Rundschau*, January, 1898.

Thrombosis of the Femoral Vein following Pneumonia.—Dr. Kob (*Deutsche med. Wochenschrift*, No. 13, 1897) reports the above case. The patient died suddenly while sitting up in bed, death being probably due to a detachment of an embolus.

Tuberculous Myocarditis.—To the Société Anatomique de Paris, Péron demonstrated numerous hearts in which, in addition to the tuberculous inflammation of the pericardium, there existed tuberculous areas in the myocardium. In animals tuberculous myocarditis is seen after the injection of tuberculin.—*Berliner klinische Wochenschrift*, January, 1898.

Intermittent Hydronephrosis.—Richardson (*Boston Medical and Surgical Journal*, 1897) reports a case of the above which was caused by the fact that the insertion of the ureter to the pelvis of the kidney was such that each time the latter was filled compression of the former resulted.

Complications of the Menopause.—According to the observations of Le Gendre (Société médicale des Hôpitaux, December 10, 1897) the menopause may give rise to certain disturbances in the circulation of the kidney, which in turn may cause various disturbances in the organism. In such cases the urine is suddenly diminished; slight albuminuria and transient hæmaturia may also exist. The women complain of vertebral pain, nausea, vomiting, and severe headache. These symptoms probably depend upon a retention of toxic substances, that is, upon an auto-infection. Venesection and diuretics are indicated in such cases.—*Berliner klinische Wochenschrift*, January, 1898.

Fourteen Cases of Mal Perforant Treated by Nerve Elongation.—A. Chipault (*Gazette des Hôpitaux*, 1897, No. 127) recommends nerve stretching as a cure for perforating ulcer of the foot. In order to procure a good result, he states that the elongation must be carried out neither too near nor too far from the seat of the ulceration. His method is as follows: First the internal and external plantar nerves are stretched either singly or together, then the external saphenous nerve is stretched; at the same time the ulcer is kept scrupulously clean. Its edges are sewn together and covered with an antiseptic dressing. In twelve of the fourteen cases Chipault claims to have brought about a cure. This method is also recommended for the treatment and cure of similar disturbances in amputation stumps, and in long-standing trophic skin diseases, *e.g.*, herpes.

Indications and Contraindications in the Use of the Schleich Local Anæsthesia.—Krecke (Munich) and Reichold (Lauf), as a result of an extensive experience with the Schleich infiltration anæsthesia, make the following statements: In operating upon healthy tissue, as it were, such as injuries of the fingers, amputation of phalanges, cleansing of incised wounds, circumcision, and tracheotomy, it is a most excellent method. For the anæsthetizing of inflamed parts, however, such as felons, furuncles, and the like, it is of little worth, since the operation is practically as painful as without the anæsthesia. Again the after-pain is often so marked and lasting that this method in inflammatory processes is to be condemned.—*Wiener klinische Rundschau*, January, 1898.

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CASTRATION AS PUNISHMENT FOR RAPE.

A BILL to amend the existing statutes of Ohio, relating to the punishment of the crime of rape, has been brought before the legislature of that State and may become law. The object of this proposed amendment is to render a man who is convicted of a criminal assault upon any female, and particularly upon any child under fourteen years of age, liable to castration. How effectually to protect women and children from becoming the victims of sensual libertines or criminal degenerates has long been the aim of social reformers. That extreme measures are called for and that a punishment sufficiently deterrent is needed are obvious, as unfortunately offences of this description show no signs of diminishing. It is claimed by many that nothing short of asexualization will bring about the desired result. Castration was practised largely in very early times, and was then resorted to in order to limit the production of the human race. In Eastern countries the custom has prevailed from times immemorial. Many, too, of the early Christians submitted themselves voluntarily to mutilation as a means of mortifying the flesh, although the church authorities generally were averse to the practice. The opportunities of estimating the effect of castration, physical, mental, and moral, on man, are necessarily very few in civilized countries, and in order to gather trustworthy data the opinions of those who have lived in the East and made a study of the question there must be relied on. The physical effects of castration are similar in men and animals; those operated upon when young grow taller and larger, as well as more fleshy. M. Loitet exhibited before the Société de Médecine of Lyons the skeleton of a eunuch of Cairo. In this specimen the thorax was short as compared with the exceptional length of the legs. This phenomenon is quite in accordance with what is met with in the lower animals under like circumstances. Thus, while the wings of a capon are no more highly developed than those of a cock, the long legs of the emasculated fowl give it a peculiar appearance. This same lengthening of the hind limbs in the ox corrects the sloping of the back which is so characteristic of the bull. Gall and later Haschke have shown that in animals deprived of their testes when young there was an arrest of the development of the cerebellum, of the medulla oblongata, and even of the cerebral hemispheres. As to the mental effects of asexualization of man, opinions widely diverge. Most modern authors contend that eunuchs are in all cases weak minded; however, this view was not held by the ancient writers, nor is it by many observers of the present day. Dr. Edmund Andrews, of Chicago, says: "Some writers assert that if castrated young the eunuchs remain perfectly indifferent to female attractions, and articles are often written in medical journals advocating the castration of sundry criminals in adult life, under the assumption that their sexual temptations will all be removed by the simple ablation of the testes. . . . The fact appears to be that men castrated in adult life often retain a troublesome amount of sexual desire, and that even if it is done in childhood there is by no means a total absence of it, though it is much lessened." Dr. Louis Tercheron, the eminent French authority on medical jurisprudence, states that there is a physiological possibility of fecund coition after a castration has been performed on an adult. The opinions held in regard to the moral qualities of eunuchs are very conflicting. The majority of writers believe that the moral nature of these men is wholly perverted. M. Temturilie, in his work on the Skoptzy, a religious sect in Russia, who practise emasculation as one of their religious rites, says that these people, although susceptible of a certain attachment, are egoists, deceitful, liars, cunning, and greedy, but adds it is difficult to say if this is the effect of castration. Temturilie noticed among the Skoptzy an attenuated sense of responsibility, and this has been observed of eunuchs by many writers. Dr. Andrews is of the opinion that eunuchs differ little in moral qualities from the ordinary run of mankind. It seems, however, only reasonable to suppose that castration has a pernicious effect on the moral nature as well as on the mental and physical vigor of a man, although probably exaggerated notions exist on this point. Even allowing that ablation of the testes will remove sexual temptation, as doubtless it will in most cases, there will still remain among civilized people a strong prejudice against so degrading a punishment. The time may come when this matter will be viewed from a different standpoint, and when, as some predict, the operation will be esteemed necessary to stamp out many of the evils of modern civilization. As yet these advanced opinions will not receive general indorsement, and the action of the Ohio reformers will not commend itself favorably to the sense of the country at large. The use of the cat-o'-nine-tails has been found in England to act as an effective deterrent in the case of hardened criminals, and, while it is an inhuman form of punishment, it is preferable on the whole to that of castration.

The Compositor's Greek.—"Acoustics (derived from the Greek verb ἀκοὴω, 'to hear')" is the way an interesting article begins in one of our esteemed contemporaries. The Greek font was probably missing and the compositor did the best he could.

EGYPT AS A WINTER RESORT.

Egypt has gained an enviable reputation as a winter home for those who suffer from diseases of the respiratory organs. Every year, as the cold weather approaches, large numbers flock to the regions bordering the Nile, some on pleasure bent, but the majority imbued with the hope of deriving benefit from the exceptional climate. The ancients were well aware of the health-giving, medicinal properties of the climate of Egypt, although it is only within recent times that this fact has been appreciated and understood at its full value. The Roman physicians were accustomed to advise their patients to go to Egypt—by Egypt meaning Alexandria, as in those days the interior of the country was almost a *terra ignota*, owing to the difficulties of travelling. Herodotus makes mention of the salubrity of the air, and as a testimony to this points to the healthiness of the Egyptians. Naturally nowadays most of the visitors to Egypt are English, although latterly many Americans follow their example; indeed, during what is known as the Egyptian season, there are to be found gathered there representatives of nearly all the civilized nations. In view of this, it is a matter of great importance that thoroughly reliable information should be obtainable with regard to the variations of climate in different parts of the country. Some years ago, before accurate records of the varying degrees of temperature had been taken and tabulated, it was thought to be immaterial whether the sufferer lived in the cultivated valley of the Nile or on its western side in the desert. So long as the destination was Egypt, the particular location was regarded as an unimportant detail. Within recent times, however, the knowledge of the climate of Eygpt has been greatly extended, and now a physician is able to advise his patients as to the district best adapted to the necessities of their individual cases. Dr. H. E. Leigh Canney has just published a paper based upon the original research on the winter climate of Egypt which has been carried on during the past three or four winters. It has been already pointed out by the author in a former paper, read before the International Medical Congress at Moscow, that there are great differences in the local conditions of the Egyptian climate, and that these local conditions are for the most part modifications of the Libyan desert climate, produced by varying amounts of cultivation and varying distances from the Mediterranean Sea. The effect of cultivation on the temperature as stated by Dr. Canney is to produce a rapid rise of the latter immediately before sunset, and for the following two or three hours to maintain a fall, and to attain a far lower minimum than that reached at stations only slightly influenced by cultivation, so that at 6 A.M. a difference of fifteen or twenty degrees may be found at stations a mile or two apart. On the other hand, the course of the temperature in the desert is uniform and much less subject to the more or less sudden variations which mark that of stations in or under the influence of cultivated land. Dr. Canney goes on to say: "The feature of the Egyptian climate which has always attracted the most attention is the dryness of the air, and this has been the more noticeable in Upper Egypt, where the rainfall is hardly measurable. If the relative humidity is considered, there is no known health resort which can even approach the climate of Upper Egypt in dryness: it is even considerably dryer than the high altitudes of Colorado." The cases deriving the greatest benefit from the climate of Egypt are, according to the conclusions arrived at by medical men who live in Egypt and have made a study of the subject, mostly diseases unknown or rare in that country, as phthisis, asthma, bronchitis, gout (and its attendant disease of the arterial, renal, and cardiac organs), Bright's disease, insomnia, rheumatoid arthritis, dyspepsia, and sciatica; while the list of unsuitable cases given are phthisis, with very acute symptoms or tendency to diarrhœa, or repeated pleurisy, or involved larynx, or active disease of both lungs, all heart affections, chronic diarrhœa, tuberculous kidney.

ARE WE TO HAVE OSTEOPATHY IN NEW YORK STATE?

Quacks have always existed, and the prediction may be safely made that they always will exist. People willing and eager to be deceived abound everywhere, and it is by playing upon this well-known human weakness that the end-of-the-century charlatan is able to demand and receive such preposterous prices for his worthless "nostrums," and at the same time to rob a too-confiding public and the unfortunate doctor. To this condition of things the medical profession as a rule submits as a matter of course and endures with stoical philosophy; but the enterprising Christian scientists, faith healers, professors of osteopathy, purveyors of ointments and pills, and the other members of the irregular fraternity are not content with the scope of their present field of action. It is too restricted for the exercise of their abilities, and now, forsooth, they have the audacity to demand protection by law!

With this object in view, a bill has been introduced into the legislature of New York State to regulate and legalize the practice of osteopathy. This bill has been drawn with much subtlety, and is well calculated to delude the unwary into the belief that osteopathy is a more or less legitimate branch of medical science. For instance, a portion of the bill reads as follows: "Any person having a diploma or certificate of qualification regularly issued by any incorporated and regularly conducted school of osteopathy, and who shall have been in personal attendance as a student in such school for at least four terms of not less than five months each before receiving such diploma or certificate, shall be authorized to treat diseases of the human body according to the osteopathic method." In fact, this is a bold attempt, on the part of persons who have received no regular training, to creep in by a back door, in order to share in the privileges now granted only to those who by a long course of study and by passing severe examinations have proved themselves capable of treating human diseases.

It will be remembered that last year the legislatures

of South Dakota, Colorado, and Illinois passed a similar bill, which the respective governors of those States vetoed with commendable promptitude. Some little time ago, in Kentucky, a member of the osteopathy brotherhood was charged with practising medicine within the meaning of the act of the State. He endeavored to escape from his unpleasant position by asserting that he was not practising medicine, but merely manipulating with his hands. Judge Thompson, however, took a different view of the case, and held that the manipulator, in his ignorance of the fundamental principles of medicine and surgery, had subjected the patient—a child suffering from hip disease—to much cruel and unnecessary pain, injuring his health and necessitating the employment of a qualified medical man. The court ruled that "any person who for compensation professes to apply any science which relates to the prevention, cure, or alleviation of the diseases of the human body, is practising medicine within the meaning of the statute." It would be well, and in the best interests of the medical profession and the general public, if this State were to follow the lead of Kentucky in her broad interpretation of the laws regulating the practice of medicine. Strenuous efforts should be put forth to nip in the bud this attempt to legalize the practice of osteopathy.

Perhaps it may be thought that, in thus enlarging on the probable dangers resulting to the medical profession from the competition of "osteopaths," we are making a mountain out of a mole hill. However, the fact that this bill is but the introduction of the thin edge of the wedge should not be overlooked. That such a bill should have been even introduced into the legislature of this State is a sufficiently serious matter, and if, through the apathy and indifference of the medical profession, by political influence, or by some unforeseen chance, it should become law, the Christian Scientists, faith healers, *et hoc omne genus*, would clamor to be placed on the same footing. It rests, therefore, with the medical practitioners of this State to protect both themselves and the public. *The Lancet* goes so far as to suggest that in England legislation should step in and prevent peculiar people, faith healers, from being allowed to murder their own children. The gullible public loves to be quacked, and that this is so readers of medical journals know well, as the subject is always being discussed in their columns. It is a question of the gravest import to the profession at large. Many of its members have already suffered, and unless efficient protective measures are quickly taken the security of all will be seriously threatened. The Medical Society of this State has already done excellent service in exposing and proceeding against charlatans. Since the law providing for the criminal prosecution of quacks was reenacted in 1895, this society has caused more than eighty persons to be arrested for practising illegally in the commonwealth. Thus we may leave with confidence in the hands of the legislative committees the task of rendering abortive the bill for legalizing the practice of osteopathy, and may rest assured that they will at any rate spare no efforts to bring about this desirable result. At the same time we would impress upon the minds of the medical men of this State the necessity of presenting a united front and of warmly resenting any intrusion on their privileges.

News of the Week.

The Medical Log of the Maine.—One of the first things recovered by the divers from the *Maine*, lying at the bottom of Havana harbor, was the journal of the medical officers. The package was under water four days. The blue-mark lines ruled on the paper at the government printing-office are nearly faded out, but the writing in the journal in the ink used by the navy is clear and distinct. Surgeon Heneberger, the *Maine's* medical officer, had brought the record up to the last moments before the wreck of the ship, the last entry being February 15th.

Shorter Hours for Drug Clerks.—At a hearing before the senate cities committee at Albany, strong opposition was expressed against Senator Ford's bill shortening the hours for drug clerks. Petitions were presented against the measure signed by many druggists and drug clerks. The bill was also opposed by the president of the board of pharmacy, the vice-president of the State Pharmacists' Association, the president of the Kings County Pharmacists' Association, the vice-president of the College of Pharmacy, and the president of the German Apothecaries' Association.

Mount Sinai Hospital.—A block of ground between Fifth and Madison avenues and One Hundredth and One Hundred and First streets was purchased some time ago by the board of directors of the Mt. Sinai Hospital, now at Sixty-sixth Street and Lexington Avenue, for the purpose of erecting a new building. It is purposed to begin work on a thoroughly modern hospital, to cost about $1,000,000, as soon as the architect's plans are completed. The cost of the ground upon which the new hospital will stand was $350,000.

Bequests in Dr. Seguin's Will.—The will of Dr. E. C. Seguin, which was recently filed for probate, leaves an oil painting of his father, Dr. Edward O. Seguin; a framed autograph letter, dated December 16, 1847, from Pope Pius IX., regarding his work for imbecile children; a bronze medallion of Charcot; and a large photograph of Brown-Séquard to the New York Academy of Medicine. He also gives the Academy of Medicine his collection of monographs and pamphlets on the nervous system, and all the other books in his library. All his instruments for the study of the nervous system and his books on the anatomy and physiology of the nervous system he leaves to the pathological laboratory of the Alumni Association of the College of Physicians and Surgeons.

The Late Dr. Lewis R. Hurlbutt.—Dr. W. G. Brownson, of Noroton Heights, Conn., sends us the following note on the death of Dr. L. R. Hurlbutt, of Stamford, Conn.: "The brief announcement of Dr. Hurlbutt's death was full of pathetic significance to

those best qualified to estimate the career of this scholarly, Christian gentleman. From the boyhood of Dr. Hurlbutt he was a devoted student of what is best in general, classical, and medical literature. As salutatorian in the Yale class of 1843, as tutor in mathematics and Greek, principal of Hopkins Grammar School, Hartford, his early record as a man of letters was no less brilliant than his subsequent work in the field of hospital and medical practice. For forty-five years he was an ornament to the medical profession. The *Daily Advocate* of Stamford compresses into a few truthful and comprehensive words his most fitting eulogy: 'He represented for years—so long that only the older inhabitants can remember their beginning—all that was most reputable and useful in the profession of medicine, most distinguished and respectable in social life, and most admirable in citizenship.' But few still in active practice can share with me the pleasant memories of Dr. Hurlbutt, extending back into the sixties. His prompt response when summoned, his cordial greeting, his sympathy, helpfulness, and support endeared him to his patrons; while his modest demeanor, steadfast friendship, courage, and loyalty to duty won the profound respect of his acquaintances and friends. The flourishing society of younger medical men, over whom for some years our Nestor presided, will miss his wise rulings and counsels, his dignified bearing, and unfailing courtesy. The public schools in which he was a familiar figure, the church which never looked in vain to him for counsel and support, and, above all, the large circle of personal friends and relatives to whom he was endeared—all have sustained a loss which time will not replace. The memory of such a personality is an inspiration."

The Late Dr. John G. Truax.—The following resolutions have been adopted by the medical board of the Harlem Hospital:

"*Whereas*, We, the members of the medical board of the Harlem Hospital, have learned with deep regret of the death of our late associate, Dr. John G. Truax;

"*Resolved*, That we record our recognition of the value of his services in the establishment, due largely to his untiring energy, of the Harlem Hospital, the organization of which was his work;

"*Resolved*, That we hereby desire to express our appreciation of his manliness and decision of character, his high sense of professional honor, and the zeal and ability shown by him in the practice of the profession which he loved;

"*Resolved*, That a copy of these resolutions be sent for publication to the MEDICAL RECORD, to the *New York Medical Journal*, to the *Journal of the American Medical Association*, and to the widow of Dr. Truax.

[Signed] "J. T. JOSEPH BIRD, M.D., *Secretary*."

State Aid for Johns Hopkins.—At the commemoration-day exercises of the Johns Hopkins University, Baltimore, on February 22d, President Gilman announced that, "in accordance with the wishes of many of its friends and supporters, taxpayers and citizens of Maryland, the Johns Hopkins University has determined to present a statement of its financial condition to the legislature of Maryland and to ask for State aid." The university was dependent in large measure upon the stock of the Baltimore and Ohio Railroad owned by it, and when the road went into the hands of a receiver the loss to the university amounted to $150,000 a year. Through guaranteed private subscriptions the university will receive $50,000 for five years, but it is still short $100,000 a year, and it is this sum that the State legislature is to be asked to make good.

The Medical Bills.—The amended health-board bill and the dispensary bill received the unanimous endorsement of the Medical Society of the County of New York at its recent meeting.

Pay for Accident Cases.—A writer in the *Public Ledger* of Philadelphia says that it is the custom at most of the hospitals in that city to pay with a drink the policemen directing accident cases to them, while another writer says that certain hospitals pay one or two dollars in cash for each patient so obtained. We wonder whether such a custom exists in New York?

Obituary Notes.—DR. A. RUSSELL STRACHAN, of this city, died on March 1st, at the St. Cloud Hotel, from injuries received while saving a woman and her child from being run over by a cable car. The woman and child were got out of the way, but Dr. Strachan was struck by the car and thrown some distance, falling heavily. It was thought at first that his injuries were slight, but serious symptoms developed, and he died about a week after the accident. Dr. Strachan was a graduate of Victoria College in Toronto in 1861, and was seventy years of age.—DR. JOHN YALE died in Beloit, Kan., on February 26th, at the age of seventy-eight years. He was born in New Hartford, Conn., and was a descendant of Eli Yale, the founder of Yale College. He was a graduate of the Yale Medical School in the class of 1841, and practised the greater part of his life in Ware, Mass.—DR. JOHN PARKER MAYNARD died at his home in Dedham, Mass., on February 26th, at the age of seventy-two years. He was a native of Boston, and was graduated from the Harvard Medical School in the class of 1848. While still a student, in 1847, he discovered the use of collodion in surgical dressings.—DR. THOMAS B. BAILEY, a passed assistant surgeon in the United States navy, was found dead in his apartments in Washington on February 24th. A note was found saying that he was suffering from a disease of the heart and that he had become convinced that he could never be cured. He thought it best, therefore, to end his life by means of cocaine without further suffering. Dr. Bailey was thirty-four years old, and was appointed to the navy from New York in 1889, and was made passed assistant surgeon in 1892. He had lately been on the China station, but was recently ordered home and assigned to duty at the Washington navy yard.—DR. WILLIAM C. HOLMES, of Waterbury, Conn., died on February 22d, at the age of forty-three years. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1880.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 17, 1898.

EDWARD G. JANEWAY, M.D., PRESIDENT.

Report of Committee on National Public Health.—The committee embodied in its report the following resolution, which was unanimously adopted:

"*Resolved*, That the fellows of the New York Academy of Medicine do earnestly recommend the establishment of a bureau of health, with the power to administer, within constitutional limits, the sanitary needs of the United States."

DR. M. ALLEN STARR, speaking for the committee in regard to the two bills bearing on this subject, stated that, in the opinion of the committee, the passage of the Caffrey bill would be a misfortune to the country, not only because it would postpone the establishment of a national bureau of health, but because it unduly emphasized the importance of the seaports in connection with sanitation. On the other hand, the Spooner bill was substantially the bill advocated by the Academy of Medicine before Congress one year ago. The following resolution was adopted:

"*Resolved*, That the fellows of the New York Academy of Medicine give their unqualified support to the Spooner bill."

Report of Committee on Medical Expert Testimony.—In reporting progress, this committee stated that it had been determined that improvement in the system of medical expert testimony must proceed along three lines, viz.: (1) the establishment of some standard of excellence for experts; (2) the appointment of the experts for a given case by the presiding judge; and (3) the fixing of the fees by the court, and the deposit of a certain portion of the sum in advance. It was recommended that those registering as experts before the board of regents should be required to specify the particular branch of medicine, that they should have been in practice ten years and in the practice of their specialty for five years, that evidence of special study should be presented, together with a certificate of good moral character, and indorsements by the local county medical organization and a judge of a court of record.

Non-Tuberculous Inflammation of the Spine; Syphilitic, Rheumatic, Malignant, Gonorrhœal, Typhoid, Infectious, Traumatic.—DR. T. HALSTED MYERS read a paper with this title, the meeting being in charge of the section on orthopædic surgery.

Syphilitic: He said that syphilitic lesions of the vertebræ presented special difficulties in diagnosis. The relation of congenital syphilis to tuberculosis was not yet well understood, although the general opinion seemed to be that the syphilitic infant constituted a favorable soil for tuberculous infection. The cervical region was the one most commonly affected, possibly, as some have claimed, because of its proximity to the throat and pharynx, where syphilitic lesions were so frequently located.

Rheumatic: Of this group by far the most common was rheumatoid arthritis, which affected the bone as well as the other joint structures. It was never accompanied by suppuration. It was a chronic progressive disease, not yielding to treatment. The ribs were often involved. The cervical region of the spine was usually the last to be affected. The pain was very variable in degree, and was often the least when there was the least mobility. Dr. Myers said that he had had no experience with the so-called Paget's disease. It occurred late in life, and was a progressive, rarefying osteitis. The normal spinal curves became exaggerated as the disease advanced.

Malignant: This form of disease of the vertebræ was quite rare. Carcinoma and sarcoma occurred with about equal frequency, and both might be primary, but they were usually secondary. When a primary malignant growth was recognized, the occurrence of spinal symptoms would, of course, be traced to their proper source, but under other circumstances the diagnosis was not easily made. Kyphosis was seen in only nine out of twenty-nine cases in a series that had been reported. It usually occurred after the age of forty-five years. The cachexia at times did not appear until late. The spinal nerves were often involved in the new growth. Such cases were often mistaken for sciatica, lumbago, or Pott's disease. Hydatids sometimes attacked the spine, as in a case reported by Dr. Lloyd.

Gonorrhœal: This affection of the spine was exceedingly rare. In a series of one hundred and nineteen cases of gonorrhœal rheumatism reported, the spine was not involved in any of them, and of another series of over one hundred cases in only two was the spine affected.

Typhoid: This process was supposed to be an inflammation of the fibrous structures of the spine. It was associated with acute pain, with little or no rise of temperature. The attack usually came on shortly after the subsidence of the typhoid fever, and recovery might be rapid or might be delayed many months. The profession was greatly indebted to Dr. Gibney for its knowledge of this affection. According to Professor Welch, months and years after typhoid fever osteomyelitis might develop.

Infectious: This heading included those inflammations following scarlet fever, measles, and similar diseases. The germs usually attacked the cervical spine, probably from direct transmission from the throat. The generally healthy appearance of the patient, the mode of onset, and the rapid improvement were the chief points in the diagnosis.

Traumatic: Under this head were included those traumatisms of the spine which simulated Pott's disease. When the vertebræ were fractured, little or no injury was done to the cord; there were local weakness and some tenderness, but often no crepitus and very little pain. It was difficult to keep these parts quiet, so that it was probable that union did not take place, and, as a result, the weight of the body gradually produced kyphosis or lordosis. Personally, he did not believe that tuberculosis occurred primarily in the osseous system.

Conclusions.—(1) Syphilitic treatment should be pushed when there was a possibility of this disease being present; (2) fractures should be more carefully protected, and for a longer period, to prevent deformity and paralysis, and to relieve pain and disability; (3) rheumatoid arthritis could be rendered less deforming and less dangerous to life by securing ankylosis in good position, if ankylosis could not be avoided; (4) from a medico-legal standpoint it was important to remember that not all chronic cases of spinal disease were tuberculous; (5) life insurance should not be refused in these cases on any hard-and-fast rule, but they should be judged on their individual merits.

DR. C. C. RANSOM said that in speaking of rheumatic and gouty disease of the spine it was customary to include rheumatoid arthritis, but the latter was so different that it should be considered separately from affections of the spine. In nearly one thousand cases of rheumatism and gout treated at Richfield Springs, he had notes of only three or four in which the intervertebral joints were alone involved. The disease was usually of the chronic type, but differed in no way from rheumatism of the other joints. The tender-

ness in true arthritic cases was elicited only on deep pressure and on movement. In the muscular type the tenderness would much more rapidly disappear under prolonged movement than in the cases in which the spine itself was involved. It was only in exceptional cases and in persons of advanced years that fibrous ankylosis occurred. In differentiating rheumatism of the spine from muscular rheumatism, the chronicity of the trouble, the affection of other joints, and the deep-seated tenderness would usually suffice to make the diagnosis. It was distinguished from rheumatoid arthritis by the absence of deposit about the articulation, together with the characteristic deformities of the other affected joints in the latter disease, and also by the accompanying muscular atrophy. It was differentiated from spinal caries by the absence of tenderness on vertical pressure, as in the jarring of walking. To cure the trouble dependence must be placed on general tonic treatment, including hydrotherapy. Local douches of alternately hot and cold water would be found of the greatest service, and massage was always indicated. Among the drugs, iron and arsenic were the most useful. In the diet of these cases, every individual was a law unto himself. Rheumatoid arthritis affecting the spine was much more frequent and more serious because of its tendency to produce deformity and its irresponsiveness to treatment. As a rule, it was insidious in its onset. The upper cervical and the lumbar regions were those most usually affected, though the whole spine might be involved. There were always accompanying structural changes in the joints. The treatment should aim to check the disease as far as possible. Iodide of potassium, iron, strychnine, and the hypophosphites were the drugs chiefly of use, and the diet should be most nutritious.

Dr. V. P. Gibney said that in malignant disease of the vertebræ the early symptoms were often puzzling, yet it was quite possible to make the diagnosis during life. The intensity of the pain and its localization in certain regions were important aids to the diagnosis. In the case of women, it would often be found that the carcinomatous disease of the vertebræ was secondary to carcinoma elsewhere, usually in the breast. The measures which usually give relief in cases of tuberculous disease of the spine utterly failed in malignant disease of the spine.

Irritable Spine.—Referring to the common condition described as "spinal irritation," Dr. Gibney said that in quite a number of these cases he had known the treatment for Pott's disease to be insisted upon because of the irregularity of the spinous processes. It should be remembered that in Pott's disease, particularly in children, there was very rarely tenderness over the spinous processes. This served as an easy means of differentiating this disease from an irritable spine.

Dr. W. R. Townsend said regarding the rarity of these affections, as compared with tuberculosis of the spine, that his experience at the Hospital for Ruptured and Crippled led him to believe that the proportion of syphilitic cases was only about three or four in a thousand. It was not sufficient in making the diagnosis of syphilitic disease of the spine to rely upon the presence of a dactylitis, for in some instances it was practically impossible to distinguish between a tuberculous and a syphilitic dactylitis. In rheumatic disease of the spine it would be found that the kyphos was more rounded and less distinct than in tuberculosis of the spine. He had never seen a case of gonorrhœal inflammation of the spine.

Dr. S. Lloyd said that another class of cases which might be confounded with tuberculosis of the spine was those in which there had been a tearing of the spinal ligaments, particularly of the ligamentum subflavum, with hemorrhage and subsequent inflammation of the spine. Some years ago he had seen a healthy, non-tuberculous child, who had injured the spine. Gradually the case had presented the picture of a tuberculous spine. Finally she was operated upon and an ordinary non-tuberculous abscess found, and the pus and blood-clots were evacuated. The child eventually recovered. In a second class of cases there was hemorrhage into the spinal column following injury, particularly after a sudden and forcible bending, as from a weight bending down the head. A third traumatic class was those in which there were a partial dislocation of the spine, and the immediate appearance of a kyphos and hemorrhage. A fourth class was made up of fractures, particularly incomplete ones, which very often went unrecognized. In these cases, owing to the fact that a certain time was required for the development of a callus, the paralysis did not supervene immediately after the injury.

Hydatids of the Spine.—Dr. Lloyd referred to his case of hydatids of the spine. He said that at first there had been a distinct kyphosis, and the patient had been treated by a number of prominent surgeons for tuberculous disease of the spine. He finally developed an apparently marked curvature of the upper part of the spinal column. It was not until the development of a tumor that the true cause of his curvature was recognized. After the removal of this, his symptoms disappeared, and he returned home and went to work. Some months afterward he was injured in a railroad accident, his spinal column being crushed. This caused his death. The autopsy showed the part operated upon to be free from hydatids, but two small hydatid cysts were found in the cauda equina.

Scurvy, Rickets, and Aneurism.—Dr. R. H. Sayre thought that the occurrence of antero-posterior curvature in small children, associated with rickets and scurvy, should not be overlooked. He had seen many tuberculous and rickety children with marked antero-posterior curvature of the spine, and tenderness, and with many of the symptoms of Pott's disease. We should also bear in mind the possibility of erosion from aneurism being confounded with Pott's disease. He had seen cases of this kind in which a marked kyphos had been produced as a result of the destructive effects of the aneurism. In one or two recorded instances the true condition had not been recognized, and the attempt to suspend the patient had resulted in rupture of the aneurism and death. He only recalled seeing one case of inflammation of the spine which he regarded as gonorrhœal. There were decided pain and disability of the spine in this case, with very slight kyphos, but there was a definite history of gonorrhœa. He had seen one or two curious neurotic spines in which the exact diagnosis had not been very clear to him. In one of these there were marked limitation of motion in the neck and decided pain. The application of a support relieved the pain, but after a while nearly the entire spine became involved in the disease, and it was almost absolutely rigid from one end to the other. The stiffness even involved the articulations of the ribs and other joints in the body. He had watched the case a number of years, and had observed decided improvement under the persistent use of massage. There was no history of tuberculosis or syphilis, and it had not been benefited by anti-syphilitic treatment.

A Case of Malignant Disease of the Spine.—Dr. B. Farquhar Curtis said he desired to put on record a case of malignant disease of the spine secondary to a tumor of the breast. The patient was a woman, thirty-five years of age, who had been admitted to the medical wards of St. Luke's Hospital, November 7, 1893. The right breast had been amputated one year before for a malignant tumor. Five months before admission she began to have pain in the back

and right side of the chest. On examination, all the organs seemed normal, and there was no local recurrence in the breast. There were some pain and stiffness in the left shoulder and over the three lower intercostal spaces on the left side. On November 15th there was marked anæsthesia of the forearm, pharynx, and conjunctiva, and the knee reflex was increased. The next day it was noted that the knee reflex had disappeared, and that sensation and motion were absent below the umbilicus, and that there was loss of control over the rectum and bladder. A kyphosis was discovered in the mid-dorsal region. The paralysis was absolute, and the pain was so severe that he had been induced to do a laminectomy. The cord was found to be slightly congested at the point of the kyphosis. The bone at the sixth dorsal vertebra was softened and projected somewhat on the anterior surface of the spinal canal; there was, however, no marked thinning of the cord at that point. The removal of the laminæ did not relieve the pressure at all, and the symptoms continued. The wound healed by primary union. Quite early in the history of the case a large bedsore had developed on the sacrum. The patient died sixteen days after the operation. It was worthy of note that in this case, before the development of the kyphosis, the chief symptom was the pain, and this was not very intense. In these cases, to establish the diagnosis a most searching and thorough examination was required.

Dr. George R. Elliott spoke of the medico-legal aspect of neurotic affections of the spine, and the importance of carefully observing and noting all the organic findings.

Dr. C. N. Dowd said that mention had been made of the frequency with which the spine is involved secondarily by malignant disease. Last fall he had presented to the surgical section the histories of twenty-nine cases of cancer of the breast, in five of which there had been distinct symptoms of carcinomatous involvement of the spine. They had not been proved by autopsy, but the clinical symptoms seemed to be clear and definite.

Dr. A. B. Judson said that a review of the symptoms of non-tuberculous inflammation of the spine showed that, as a rule, spinal pain and spinal disability, which were so often absent in Pott's disease, were present in non-tuberculous inflammations of the spine. It was strange that when the spinal column had been virtually broken there was an absence of spinal pain and disability. Again, in non-tuberculous inflammation, the onset was comparatively frank and alarming, which was in marked contrast to the insidious approach of tuberculous disease of the spine.

Mercury may Improve Tuberculous Lesions of the Skin.—Dr. B. Laposki said that the text-books contain classical descriptions of the differential diagnosis of syphilitic and tuberculous dactylitis, but in practice it was often difficult, if not impossible, to make the distinction. A number of cases had been reported on excellent authority, in which tuberculous lesions of the skin had been distinctly improved by the use of mercury.

Difficulties in the Diagnosis.—Dr. Edward G. Janeway said that he had seen a number of cases of carcinoma of the spine, mostly secondary. They were quite commonly observed after the removal of malignant disease from the breast. Protracted pain in the spinal column, resisting treatment, might usually be ascribed to a new growth, aneurism or inflammatory disease. He recalled the case of a boy, who after being kicked, developed a secondary inflammation of the spine, which had been thought during life to be a cerebro-spinal meningitis. The autopsy showed inflammation in the interior of the sacrum and necrosis, and the inflammatory process could be traced up the spine. He had seen several cases which had been lectured upon as examples of tuberculous disease of the spine, and which had proved to be really cases of aneurism involving the spine. Sometimes it was very difficult to make the diagnosis, as, for instance, in a case in which there was a history of injury, tuberculosis, and syphilis. It was not uncommon to find tuberculosis in a person who had had syphilis, and there was no reason why a tuberculous person should not have a syphilitic spine. Then there were certain cases, best designated as "tertiary syphilitic fever," which were sometimes mistaken for tuberculosis of the spine by very eminent diagnosticians, and yet which yielded readily to antisyphilitic treatment. In his experience, it was exceptional not to have severe pain in malignant disease of the spine.

Dr. Myers closed the discussion. He said that in the cases in which he had spoken of the existence of a dactylitis as an indication of syphilis there had been, in addition, a clear history of syphilis. In the cases of malignant disease of the spine that he had seen, the pain had been severe up to the occurrence of the paraplegia.

SECTION ON SURGERY.

Stated Meeting, February 14, 1898.

W. W. Van Arsdale, M.D., Chairman.

Resection of Sigmoid Flexure for Carcinoma.—Dr. James P. Tuttle presented a man on whom he had performed this operation. The patient had been treated by several physicians, who had told him that he was suffering from chronic constipation merely. On examination with a Kelly tube, the speaker had been able to detect a carcinoma, situated about eleven inches up the bowel. After the carcinomatous portion of the bowel was taken out, it was found that there was no peritoneal covering, and the affection was too deep down to admit of an end-to-end suture. It had, therefore, occurred to him to sew up the upper divided end of the rectum entirely, and then make an incision in the anterior wall of the rectum, where it was covered with peritoneum. Through this the remaining portion of the colon was dragged, and held in place by sutures on the outside, but not passed through the bowel. This acted well at first, but the man soon developed a very bad stricture, due to contraction at the point of union. To remedy this Dr. Tuttle had adopted the plan of Dr. Bacon, of Chicago, viz., the application of long forceps to the obstructing portion, one blade being in the rectum and the other in the colon. The parts were firmly adherent by the time the forceps had cut through these tissues, and a good opening was left. Later it was found that a little portion of tissue, like a polypus, hung down and caused some obstruction. Through a Kelly tube a Bosworth snare was introduced and the polypus snared off, with good result.

Dr. John B. Walker said that in a recent similar case, an end-to-end anastomosis being impossible, he had closed the lower end of the rectum, and made an end-to-side anastomosis. It was too early yet to say whether or not there would be contraction in this case also.

Dr. Frederick Kammerer said it had been his experience that in resections and end-to-end anastomoses of the rectum and sigmoid flexure stenosis was very likely to occur—indeed, it seemed to him that after six or eight months there was invariably decided contraction. In the cases in which he had made the end-to-side anastomosis with Murphy's button, he had not observed this. In one case, examined many months later, he had been able to prove that not the slightest contraction had taken place. This might be

due to the fact that with the Murphy button the point of contact was very small, whereas with use of sutures this area was quite large. The method with the Murphy button seemed to him the ideal one of approximating cut surfaces of the intestine in end-to-side anastomoses. The method adopted by Dr. Tuttle was very ingenious as well as effective. It was important to avoid suturing the part of the bowel not protected by peritoneum.

Inoculation Tuberculosis.—Dr. Martin W. Ware presented an infant of nine months, born of healthy parents. There was no history of tuberculosis in the parents. When it was a few days old a midwife pierced the ears of this baby. This was followed by ulcers which did not heal readily. When the speaker had first seen the child, a few months ago, there had been small miliary abscesses in the course of a lymphangitis, starting from the site of the puncture. At present there was a large number of tuberculous glands, and this process seemed to have extended along the clavicle into the axilla. The case was unique as far as the method of infection was concerned. The clinical features were quite characteristic at the present time.

Fracture of Patella; Plastic Operation on the Quadriceps.—Dr. John F. Erdmann presented a man who, in October, 1896, slipped and fell, sustaining a transverse fracture of the patella. It was wired within two weeks after the accident, and after six weeks he was allowed to go out. About ten days afterward he again slipped and fractured the patella. It was again wired, and he went out after a number of weeks. Two or three weeks later he returned with a third fracture of that patella. Dr. Erdmann had seen him a few months after this fracture. At this time there was a large interval between the fragments, and one fragment was firmly adherent to the condyles of the femur. At the request of the patient he had operated, cutting off all the attachments of the vastus externus and internus, and of the lateral ligaments, and excising a V-shaped portion of the quadriceps. This enabled him to bring the posterior surfaces of the fragments thoroughly together, but the anterior surfaces were separated about one-eighth of an inch. The limb was hyperextended and put up in plaster-of-Paris, the patella being sutured with very heavy wire, and the section of quadriceps tendon with silkworm gut. The operation was done on October 6, 1897, and there had been no trouble since then from the suture. The man was kept in hospital about ten weeks. During this time he developed a peculiar range of temperature, without the slightest evidence of purulent formation. During the daytime the temperature was normal, but it rose quite high about 1 A.M. He was finally discharged from the hospital with a good functional result, and with the fragments absolutely in contact.

Fracture of Patella Treated by Massage.—Dr. George Woolsey presented a man to show the good result of this comparatively new method of treatment. The patient, a cab driver, forty-seven years of age, had fractured the patella on January 2d, and had been admitted to Bellevue Hospital on the following day. The left knee was swollen and painful, and there was crepitus between the lower and upper fragments. For two days the limb had been kept in a posterior splint and cold compresses applied, and then massage with passive motion had been used daily. On January 8th, or six days after the injury, the patient was able to lift the leg off the bed. Four days later he was allowed up with a light bandage about the knee. Twenty-four days after the injury, at his own request but against advice, he went home, returning several times for massage. At present he was able to bend his knee beyond a right angle, to straighten it, and to walk without crutch or cane. The case, it should be said, was a favorable one, as there had been no evidence of contusion over the knee. The separation was very moderate—only about half an inch. This was the quickest result that he had secured from massage. While he would not say that there was bony union, it was evident that the union, if fibrous, was very firm.

Dr. Woolsey thought the case presented by Dr. Erdmann a very successful one, and the procedure very ingenious. At present he had a man under observation who had had three fractures of the patella, two of which had united without operation. The last refracture had occurred two or three weeks ago, and had resulted in a tearing away of the fibrous union from the lower or smaller fragment. On operating he had found that this lower fragment was atrophied as well as small. No periosteal covering remained, and it was only after the division of the quadriceps that the fragment could be brought well together.

Dr. J. B. Walker said that some time ago he had had a case of fracture of the patella sutured with kangaroo tendon. The patient did well for ten days, and then had a chill and an elevation of temperature. On examination of the wound no evidence of sepsis was found. The patient then stated that he had had malaria previously. A few days of treatment with quinine dispelled all the unpleasant symptoms. On mentioning this case to Dr. Bloodgood, of Baltimore, the speaker had learned that in the Johns Hopkins Hospital there had been several cases in which after operations there had been chill and fever, and examination of the blood had shown the presence of the malarial plasmodium.

Dr. W. W. Van Arsdale thought that at present apparently just as good results were obtained from massage as from wiring, but the massage cases had not been kept under observation as yet for a sufficient length of time. That the fracture recurred after both methods of treatment could not be denied. In cases of long standing in which there was difficulty in approximating the two ends, he had known good surgeons to refuse to operate; hence the method brought out by Dr. Erdmann, of making a V-shaped incision in the tendon, without cutting through the quadriceps entirely, seemed to him a useful as well as a unique procedure. The remarks of Dr. Walker led him to say that frequently in the Mount Sinai Hospital they had noticed high temperature after operations for fracture of the patella—even as high as 105° F.—and yet there was no trouble in the joint, and the result was an excellent one. He, therefore, thought the surgeon should take courage and not needlessly interfere with the dressings under such circumstances.

Dr. Irving S. Haynes asked if massage had been used in the bad cases in which there were much swelling, separation of fragments, and laceration of the capsule—in short, in the cases in which there was evidence that a periosteal flap had fallen between the fragments.

Dr. Robert T. Morris said that in all the cases in which he had operated he had found the inversion of a large hood of periosteum, and this had been quite adherent. In most instances also he had found a firmly organized blood clot. Usually the lower fragment faced away from the upper fragment, thus offering another mechanical obstacle to bony union.

Dr. Erdmann remarked that four years ago in a case of multiple fracture of the patella he had encountered an unusually long and thick piece of tendon which was firmly wound around the fragments. In the case he had mentioned, in which there had been such a peculiar range of temperature, this was probably due to some personal idiosyncrasy, as it had not been influenced by quinine but had subsided under morphine.

Dr. Woolsey said that he had treated by massage such cases as Dr. Haynes had asked about, but without expectation of securing bony union. In his opinion the tilting of the fragment was due to the quantity of effusion and the presence of blood clots. The object of the massage treatment was to reduce these two factors. In certain cases it was possible and easy to get a good functional result even under such circumstances.

Dr. George G. Hopkins said that the pathology of fracture of the patella showed that half or three-quarters of an inch of tissue was necessarily thrown down between the two fragments. He had never seen a fracture which had not been wired in which ligamentous union with considerable separation had not occurred.

Dr. Van Arsdale remarked that the originators of the method of treating fracture of the patella by massage insisted that when there was much swelling there should first be puncture and evacuation of the effused blood.

Amputation of Arm for Evulsion of Forearm.—Dr. Erdmann then presented a man upon whom he had performed amputation of the arm for evulsion of the forearm. There had been a complete rupture of the pectoralis major muscle, so that there was an interval between the external and internal portions of this muscle into which the fist could be placed. There had been complete restoration of the function of the pectoral muscle.

Secondary Suture of Median and Ulnar Nerves.—Dr. John Roger exhibited a young man who had had the palm and the anterior surface of the forearm lacerated by a cogwheel. Both the median and ulnar nerves had been divided, but this had not been noticed by the physician first in attendance until the patient had severely burned his hand by placing it in very hot water. When the operation for secondary suture of these nerves was undertaken, it was found that their divided ends were separated about half an inch. The distribution of these nerves to the hand was well shown by the boundaries of the areas of anæsthesia.

Appendicitis; Fecal Fistula; Resection of Intestine.—Dr. Richard P. Francis reported the following case: A boy, aged fourteen years, had enjoyed good health except for frequent attacks of indigestion. In the spring of 1897 one of these attacks had been sufficiently severe to keep him in the house, but after that he had been in apparently perfect health up to October 19, 1897. At this time he was seized with general abdominal pain accompanied by nausea, and when he was seen the next afternoon by Dr. Francis there were pain and tenderness all over the abdomen, more marked in the right iliac fossa, and his temperature was 99° F. The next morning the pain was more severe in the left iliac region, but the other signs were unchanged. Nevertheless the patient appeared to be seriously ill. A diagnosis was made of probable perforative appendicitis and septic peritonitis. He was accordingly removed to the Mountain Side Hospital at Orange, and operated upon. The appendix was found lying over the brim of the pelvis. The wound healed steadily by granulation until two weeks after operation, when a swelling to the left of the umbilicus announced the development of a secondary pelvic abscess. This being incised, a quantity of foul pus was evacuated and a small spot of gangrene was discovered on one coil of intestine. The next day pus and fæcal matter were discharged into the wound. Neither flatus nor fæces were passed by the rectum, and the patient's general condition steadily failed. Dr. McBurney then saw the case in consultation, and advised against operation, on account of the bad general condition and the possibility of sustaining the patient by proper nourishment for a time. The wisdom of this advice was proved by the subsequent history. Fæcal matter was discharged from the bowel the next day, and the patient steadily improved after this time. At the time he left the hospital, on December 17th, a probe could be readily passed into the two openings in the bowel, and he had daily evacuations through the rectum. By January 1st, the fistula had contracted to the size of a lead pencil. On January 6th there was a sudden attack of vomiting with moderate abdominal pain. An enema produced a large normal fæcal movement. Subsequently nearly a pint of shreddy mucus was discharged from the rectum. On the fourth day there was more vomiting. There had been no discharge through the fæcal fistula since the beginning of the attack. He was readmitted to the hospital, and on January 10th, through a median incision, the colon was seen to be collapsed. The incision was extended in both directions freely, and the scar and knuckle of intestine were included in two elliptical incisions. Several other knuckles of bowel were also found to be adherent to each other and to the abdominal wall. The obstruction was evidently not due to the cicatricial contraction of this portion containing the two openings. This part of the bowel, for a distance of three or four inches, was excised, and an end-to-end anastomosis made. The operation was necessarily a very tedious one, and at its close the patient was in profound shock. Four or five hours afterward there was a fluid evacuation from the bowels. He was kept on a milk diet until the button was passed on the twelfth day. Three weeks from the day of the operation the patient left the hospital well.

Dr. Kammerer said that while he believed that perhaps the majority of the cases of fæcal fistula following appendicitis could be healed in the way described, and while, of course, freeing the intestine from its surroundings should always be tried, this method would occasionally fail, owing to the adhesions, the consecutive changes in the intestinal walls, and the impossibility of separating them sufficiently.

Dr. Morris thought that occasionally valuable time might be lost in trying to save portions of bowel that were not of much importance. It was often well to bring together the free ends of the bowel above and below the mass of dense adhesions, and then strip them out.

X-Ray Burn; Amputation of the Thigh.—Dr. J. P. Tuttle reported a case in which amputation of the thigh had been demanded after an *x*-ray burn. The man had been injured in the war. Dr. Tuttle and Dr. McBurney had together removed a floating cartilage from the knee-joint about four years ago, and, although the operation had been largely an experimental one, it had given the man relief from pain for three years. His sufferings had then returned. Accordingly, last September, the joint had been examined with the *x*-rays, the examination lasting over one hour. There was no pain at the time, but three weeks afterward the parts began to turn red, and in two days all of the skin about the joint, except on the posterior and internal surfaces, sloughed away. Portions of the surface healed and again broke down. Then skin was transplanted from two different individuals, and the first attempts in this direction proved so successful that the remainder of the surface was covered over in like manner. But at the end of five weeks both of these areas of skin grafting broke down. When the man came under Dr. Tuttle's observation three weeks ago, an area measuring six and one-half by five and one-half inches presented the typical features of an *x*-ray burn. In consultation with Dr. E. B. Bronson and Dr. V. P. Gibney, it was decided to try the effect of constant irrigation with carbolic-acid solution. Only for the first two or three days did this seem to act well; then the surface became more unhealthy. As the man's health was failing rapidly, and he was becoming addicted to morphine, a consul-

tation was held, and it was decided that the limb should be amputated. This was done on February 8th, and so far the patient had done well. The specimen was interesting as showing that the pathological condition found in the burned area extended down even to the capsular ligament.

Very Different from a Burn.—Dr. E. B. Bronson said he thought the term *x*-ray burn a misnomer, for the whole history of these cases pointed to a process entirely different from a burn. Instead of beginning from without it began within, and was reflected to the skin. The fact that these injuries did not make their appearance immediately after the exposure to the *x*-rays seemed to show that the condition was not comparable to an ordinary burn. Often two or three weeks elapsed before there was the slightest reaction. Sooner or later in these cases of so-called *x*-ray burn, a gangrenous process made its appearance, and was the outward manifestation of some inward process, probably connected with the nervous system. This gangrenous process was peculiar, in that the slough looked like chamois leather, and that it was associated with intense capillary congestion of the papillary layer. The specimen presented was an excellent exemplification of the statement that this process was by no means confined to the skin. In connection with the management of these very trying cases it was interesting to recall the fact that Dr. Seneca D. Powell claimed to have achieved better success from excision of the skin in the affected area than by the usual methods.

Dr. William Vissman said that sections from the centre of the specimen presented showed a mass of connective tissue, with the walls of the blood-vessels infiltrated with round cells. This extended up on to the intima of the popliteal artery. There seemed to be a gangrenous process, possibly due to an arteritis of some of the smaller blood-vessels. He had not yet had an opportunity to examine the whole specimen thoroughly. Whatever the process that had existed in the bone, it seemed to have passed from within outward.

Dr. V. P. Gibney said that he had known this patient for many years, and from an experience with one case of *x*-ray burn, which had healed only after eighteen months, he had felt satisfied that the only thing to do for this man was to amputate.

Dr. Van Arsdale asked if there was anything in the statement that had been made, that coating the part with vaseline before exposing it to the *x*-rays would prevent such unfortunate consequences.

More Liable to Occur with Induction-Coil Apparatus.—Dr. J. P. Tuttle said it had been stated that no such *x*-ray burn had been caused when the static machine had been used to generate the *x*-rays, and that it had always been observed in connection with the use of the Ruhmkorff-coil apparatus. It was worthy of note that in his patient the applications which ordinarily relieve the pain of burns seemed only to aggravate the man's sufferings. It had been suggested that thin pieces of aluminum should be placed over the part to guard against these burns.

Their Chronicity.—Very few of these injuries healed in less than nine months. Dr. Powell had told him that he had cut out several of these, and they had healed in six or eight weeks. Apostoli had tried this method of dissection in his case. It had healed up but broke down again subsequently. Dr. Tuttle said that he knew personally of three of these cases. One occurring eighteen months ago was now getting well; one of twelve months' standing had only been slightly reduced in size by grafting and all sorts of treatment; the third one occurred six months ago, and was now in practically the same condition as at first.

Intestinal Parasites in the Tip of the Appendix.—Dr. George Woolsey reported a case of appendicitis, in which the appendix had been removed last July from a girl, aged twelve years, operated upon in the interval after the second attack. The first attack had occurred in November, 1896, and the second in June, 1897. The tip of the appendix was found to contain some intestinal worms, apparently the ordinary pinworm, or oxyuris vermicularis. He had been unable to find any reference in the literature to such intestinal parasites as an exciting cause of appendicitis.

Dr. R. T. Morris said that he had reported two cases of this kind, and had seen one other. In still another, the appendix contained large round worms instead of the oxyuris. In all of these cases erosion of the mucosa had been the principal feature. The subsequent changes from infection were not so marked as after injury to the appendix. These worms by their presence seemed to cause a slow ulceration. He thought at least ten or twelve cases had been reported in which entozoa had been found in the appendix, but they had been recorded under an improper title, and hence had usually escaped notice.

Appendicitis and Localized Tuberculous Peritonitis.—Dr. Woolsey also reported a case of a man, twenty-five years of age, who had had a pulmonary hemorrhage two years before, and whose mother had died of phthisis. He had lost some flesh recently, but had been in fair health. The symptoms of appendicitis had developed suddenly, but had not been very acute. The operation was done on January 24th, and the incision opened into a small cavity containing a drop or two of purulent fluid. The tumor consisted of a greatly thickened appendix bent on itself, and in the concavity of the bend was the pocket which had been opened. The omentum was adherent to its surface. The omentum over the mesentery of the appendix and the lower end of the colon was studded with what appeared to be miliary tubercles. Some years ago he had seen a case in which a tuberculous appendix had been the starting-point of a large tuberculous abscess. He had been inclined to believe that in the case just reported the appendix had been the starting-point of a tuberculous peritonitis, but the pathologist's examination of the appendix did not appear to bear out this view.

Hypertrophied Kidney; Nephrectomy.—Dr. George G. Hopkins presented an enlarged kidney removed by operation from a patient who had been referred to him by Dr. Hewlitt, of Babylon. Five years ago the man had first experienced occasional pain in his right side, and at these times the urine had contained pus. During the past year these attacks had become more severe, and had recurred sometimes as often as three times in a month. They came without warning, and the pain was exceedingly severe. He had removed the kidney on November 3d, by the lumbar incision parallel to the twelfth rib. The kidney was so large that it had been necessary to make a perpendicular incision also. On removal it weighed thirteen and one-half ounces. The attachments were very short, so that the ligation of the vessels was difficult. The pelvis of the kidney was dilated and the organ hypertrophied, probably as a result of stricture of the ureter. Since the operation there had been no pus in the urine, and only one attack of pain. The man was again at his work.

Skiagraphs of Coxa Vara.—Dr. Willy Meyer exhibited skiagraphs of the femora of a healthy young man of seventeen years, a photographer. His occupation was not such as to predispose to a bending of the neck of the femur. He had pain in the right hip-joint, but the motions of the joint were all normal, save for a slight impairment of abduction. There was shortening of half an inch, due to a diminished length of the femur. The skiagraphs showed that the trochanter on the right side was decidedly turned forward.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 26, 1898.

T. Mitchell Prudden, M.D., President.

A Modification of Cullen's Method of Preparing Fresh Sections for Microscopic Work.—Dr. Eugene Hodenpyl read this paper. He said:

"It is frequently desirable at surgical operations, at autopsies, or in general laboratory work, to obtain quickly stained sections for diagnostic purposes. Fresh unstained sections, while they are valuable for the study of certain lesions, are open to so many serious objections that they cannot be made use of for the purposes indicated. Moreover, fresh sections cannot be satisfactorily stained unless they have been previously fixed or hardened by some preservative. Of the various hardening-agents which have been tried for rapid fixation of frozen sections, none had been found successful until Cullen ('Beschleunigtes Verfahren zur Färbung frischer Gewebe mittelst Formalins,' *Centralblatt für allgemeine Pathologie*, 1895, Bd. No. 11, pp. 448-450; also *Johns Hopkins Hospital Bulletin*, April, 1895, and May, 1897) suggested the use of formalin either before or after cutting, as a partial fixative, when fairly successful results were obtained.

"A serious objection to the use of this method I have found to be the shrinkage and consequent distortion which always occur to a greater or less extent. At times so great a shrinkage took place in my sections that they were entirely useless. At Dr. Prudden's suggestion, I have devised a scheme of fixing sections on cover glasses by means of albumen. This may be accomplished by impregnating sections with a solution of egg albumen, floating them on cover glasses, and finally coagulating the albumen. By this means shrinkage and distortion, which would otherwise occur from the subsequent action of alcohol, may be largely if not entirely prevented.

"This modification does not materially increase the time required to prepare stained fresh sections for the microscope. I have repeatedly cut sections of fresh tissues, fixed them on cover glasses, and have hardened, stained, and mounted them in as short a time as nine minutes. Furthermore, it permits the use of hardening-agents other than formalin. Fair results have been obtained with osmic acid, mercuric chloride, etc. For purposes already indicated this modified method seems to be a valuable one, since it enables one to determine the nature of new growths, or the lesions of viscera, etc., within a few minutes—a procedure which would otherwise require hours or days to accomplish by the ordinary hardening and impregnating methods. Cullen's method, as may be imagined, is not applicable for all tissues. The results obtained by the suggested modification have been entirely satisfactory for diagnostic work, but for fine structural details other methods are still to be preferred.

"The technique of the method is as follows:

"1. Almost any form of freezing-microtome may be used. The freezing-agent may be ether, carbonic acid, or rhigolene.

"2. Sections may be cut from perfectly fresh material, but more satisfactory and better results are obtained from material which has previously hardened one or two hours or longer in ten-per-cent. formalin. (It is convenient to drop bits of tissue into ten-per-cent. formalin at the time of the operation or during the post-mortem examination. By the time they reach the laboratory they are usually sufficiently impregnated to be cut and stained.)

"3. Tissues already hardened in formalin should be soaked in water a minute or two to remove the formalin before cutting.

"4. Sections as they are cut may be dropped directly into the albumen solution, where they remain until needed. A solution of albumen which has been found to answer the purpose is prepared by adding to 50 c.c. by volume of egg albumen 150 c.c. of distilled water and sufficient of a solution (usually about 50 c.c.) of salicylic acid (saturated), which has been rendered slightly alkaline with lithium carbonate, completely to dissolve the albumen. The solution may be kept unchanged several weeks by adding a little gum camphor.

"5. Unhardened sections should be placed in five-per-cent. formalin three or five minutes, after which they are soaked in the albumen solution two or three minutes.

"6. Float sections on cover glasses. Remove excess of fluid with filter paper when necessary. Blot sections evenly, taking care not to use pressure enough to cause them to bear the imprint of the cloth. (The best blotting-material seems to be washed cheesecloth used in several layers. The use of filter paper, towels, muslin handkerchiefs, etc., for this purpose has not been satisfactory.)

"7. Transfer immediately to alcohol, alcohol and ether (equal parts), osmic acid, or mercuric chloride, etc., in order to coagulate the albumen and to fix the section and complete the hardening.

"8. Sections may be stained on the cover slip in various ways. For ordinary diagnostic work staining with hæmatoxylin and eosin and mounting in balsam answer well.

"9. Stain from two to five minutes in hæmatoxylin (Delafield's or Gage's).

"10. Decolorize by passing rapidly through acid alcohol—hydric chloride, 1 part; eighty-per-cent. alcohol, 99 parts.

"11. Wash thoroughly in water.

"12. Dehydrate and stain in eosin alcohol. (Eosin which has been precipitated from a saturated aqueous solution by acid stains connective tissue more sharply and gives better results than ordinary eosin. It is prepared by Fischer by adding to a saturated aqueous solution of eosin hydric chloride in excess. Filter and wash the precipitate with water until the acid is removed. Dry the precipitate and dissolve in alcohol.)

"13. Clear in oil of origanum, oil of cloves, creosote, zylol, etc.

"14. Mount in balsam after having cleaned the upper surface of the cover slip."

Dr. J. S. Thacher said that it was exceedingly important to keep fresh sections from shrinking, and this method of Dr. Hodenpyl seemed to obviate the difficulty better than any other with which he was acquainted. Sometimes by fixing the edges of the cut sections they could be prepared quite successfully.

Dr. George P. Biggs said that when a hurried examination of a tumor was required, as during an operation, he had usually been able to make a diagnosis by staining with a watery solution of methylene blue, without hardening. Of course it was a crude process, but it had served the purpose.

The President also spoke of the great utility of Cullen's method, as modified by Dr. Hodenpyl.

Dr. Hodenpyl also presented to the society a microtome and a number of specimens of various organs for examination. Those hardened in alcohol, he said, were better than those hardened in alcohol and ether.

A Report on Four Cases—Rupture of the Uterus, Leukæmia, Hemorrhagic Pancreatitis, and Gaseous Emphysema—from which the Bacillus Aerogenes was Isolated in Culture.—Dr. Charles Norris presented this report.

Case I.—The patient, a multipara, was admitted to hospital at 8 P.M. on November 16, 1896. She stated that there had been a sudden discharge of about one pint of blood from the vagina on October 26th, but no further bleeding until November 8th. Since the latter date there had been slight hemorrhage every day. She had nearly reached the full term of pregnancy. As she was in poor condition, podalic version was performed. The patient at once went into a condition of shock, but no rupture of the uterus was made out and the organ was found to be well contracted. Death occurred five hours after delivery, apparently as a result of the shock induced by rapid extraction, as the quantity of blood lost was not more than thirty or thirty-two ounces. The autopsy was made by Dr. Ewing, twenty-four hours after death. The woman was large and fat, and distinctly anæmic. There was no œdema. The right broad ligament and the tissues of the right pelvic region, around the kidney, in the mesocolon, and over a considerable area of the mesentery, were very emphysematous and infiltrated with freshly clotted blood. The peritoneal surfaces were intact. There was a large, irregular laceration involving the entire right portion of the os, and extending from one inch to one inch and a half above the internal os, completely through the uterine wall and into the tissues of the broad ligament. Below it extended one inch into the vagina. The tissues of the uterus were flabby, but otherwise normal. The lungs were congested and œdematous. The heart chambers were empty and flaccid. Minute air bubbles were found beneath the endocardium. The spleen was extremely flabby and emphysematous. The liver was soft and pale, and its surface dotted with larger and smaller air vesicles. The inferior vena cava and hepatic veins were distended with frothy fluid. The kidneys were flabby, the surface was smooth, and the capsule was free. A few medium-sized air bubbles were present. The blood which exuded from the veins at the site of the saline infusion contained no gas. There was a marked diminution in the quantity of blood in the body. The anatomical diagnosis was rupture of the uterus, acute anæmia, and pulmonary œdema.

Cover-glass preparations from the organs showed large bacilli, with capsules staining by Welch's method. They retained the stain by Gram's method, and were non-motile. Pure cultures were obtained from the liver, spleen, and uterus. A rabbit was given intravenous injections of a pure culture, and then killed after a few minutes. It was next placed in the thermostat at 37° C. for twenty-two hours. At the end of this time there was extensive emphysema of the body and of all the organs. A guinea-pig, inoculated with one cubic centimetre of bouillon in which a bit of the liver had been squeezed died in four days, with a gaseous phlegmon.

In this case, the speaker said, the portal of entry seemed undoubtedly to have been the uterus. There was a rupture of the uterus, through which the bacilli could readily have obtained a foothold in the tissues during life. They need not have been introduced during the childbirth or version, but might have found the bleeding uterine cavity a suitable soil for growth, or at least existence, before childbirth. Dead tissues, such as blood clots, were an especially favorable medium for the growth of this bacillus. The presence of gas at the autopsy was especially marked around the uterus and in the mesentery and inferior vena cava, and less marked in the liver. This fact, and the delay in making the autopsy—twenty-four hours—pointed to a post-mortem invasion, and not to an entrance into the circulation during the death agony or before. Absence of more widely distributed emphysema, as in the subcutaneous tissues, and the appearances of the liver sections, confirmed this view. Around the masses of bacilli the liver cells were not degenerated, and their nuclei stained well. Around the gas blebs there were no changes except those due to pressure.

Case II.—In this case the previous personal history was negative. For the past three months there had been pains in the joints of the upper and lower extremities, slight fever, nausea, vomiting, and constipation. When the patient was admitted to Dr. Delafield's service in the Roosevelt Hospital on December 17th, the nutrition was fair and the pulse rapid but of good force. The right knee was a little swollen and tender. The temperature was 100° F.; pulse, 100; respirations, 26. The urine was negative except for a trace of albumin. In the third left interspace, near the edge of the sternum, there was a harsh systolic murmur and a roughening of the first sound of the heart. The examination of the liver and spleen was negative. On January 4th the patient had a chill and a morning temperature of 105° F. During the week the temperature ranged between 101° and 103° F., and signs of consolidation over the left lung were present. On January 8th, after an examination of the blood, Dr. Ewing reported the case to be one of splenomyelogenous leukæmia, the leucocytes outnumbering the red blood cells. Death occurred on January 10th. At the post-mortem examination, made twenty-four hours after death, it was found that the subcutaneous tissues over trunk and extremities crepitated, and the abdominal cavity was filled with gas which when ignited burned with a blue flame. The mesenteric veins and the vena cava were distended by gas. There were no signs of peritonitis, but there was a little bloody serum in the peritoneal cavity. In both lungs there were areas of broncho-pneumonia. The spleen weighed twenty-six ounces and was emphysematous, and the follicles were much enlarged. There was evidence of a recent perisplenitis. The liver weighed four and one-half pounds, and its cut surface was of a dark slate color and very emphysematous. The kidneys were enlarged and emphysematous; the capsule was not adherent; the surface was smooth and mottled with petechiæ. The pelvic mucosa was infiltrated with blood. The pancreas appeared to be much decomposed. There were petechial spots in the mucosa of the stomach. The inguinal, cervical, and axillary glands were enlarged and deeply pigmented. The marrow of the shaft of the femur was partly fatty and reddish in color. The brain was very anæmic, and there were a few small hemorrhages in the pia mater. The ribs were very fragile, and their marrow consisted of a waxy, homogeneous substance, no red marrow being present. The lingual tonsils were a little enlarged and deeply pigmented. The anatomical diagnosis was acute leukæmia and hyperplastic splenitis.

Cultures were made from the liver and from the contents of the small intestine. Pure cultures were obtained from both places. A smear made from the contents of the intestine revealed the gas bacillus in enormous numbers. On the aerobic plates from the liver numerous colonies of the staphylococcus pyogenes aureus developed. The aerobic plates of the intestine developed the staphylococcus and the colon bacillus. The pure cultures of the gas bacillus produced gaseous phlegmons in guinea-pigs, and intravenous inoculations in rabbits killed shortly after inoculation produced marked emphysema of all the tisues and organs. Intravenous injection into rabbits of the hemorrhagic fluid contained in the gaseous phlegmons of guinea-pigs produced death, in one rabbit in four hours, and in a second rabbit inside of twenty-four hours. Examination of the sections of the spleen showed loss of nuclear staining in the cells situated around the gas blebs, and diffuse protoplasmic staining. The liver showed areas of loss of nuclear staining around many of the masses of bacilli. In

the kidney the same appearances were present around the gas blebs as in the spleen and liver. There were likewise present areas of necrosis around many of the bacterial emboli, such as were present in the liver.

These signs of a vital reaction in the tissues before death, the general distribution of the bacilli in the body, as evidenced by gas formation, the fact of the body being kept before the section in a cold room, and the marked tympanites and tenderness of the abdomen, especially marked several days before death, all pointed to an invasion of the gas bacillus during life. It was significant that several days before and up to the death of the patient the diagnosis of peritonitis was considered probable.

Case III.—The third case was that of a patient admitted to Dr. Norris' service at St. Luke's Hospital, on February 6, 1897. He was markedly alcoholic. Three days before admission he had begun to vomit large quantities of dark, clear, and clotted blood, and to pass blood in the stools. Soon after admission he grew weaker, became delirious, and died with œdema of the lungs. The autopsy was made by Dr. Norris, twenty-four hours after death. All the subcutaneous tissues were tremendously inflated with a gas which burned with a bluish flame. A foul odor was present. A number of discolored blebs filled with serum were situated on the thighs and trunk. The face was much swollen and discolored, and gas and blood bubbled out of the mouth. The scrotum was also much swollen by gas. The heart was dilated, and weighed sixteen and one-half ounces. There was much post-mortem softening in all the organs. The liver weighed six and one-fourth pounds, and its surface was rough. All the organs were emphysematous.

Anaerobic plates made from the liver and the contents of the small intestine developed colonies of the bacillus aerogenes capsulatus, which were isolated in pure culture. From the aerobic liver plates was isolated a streptococcus which clouded bouillon. From the aerobic intestinal plates the same streptococcus and the colon bacillus were isolated. The gas bacillus from this case likewise produced gaseous phlegmons in guinea-pigs, and marked emphysema of all the organs and tissues of rabbits injected just before death. Intravenous injections of the hemorrhagic fluid from gaseous phlegmons likewise produced death in rabbits. Working with the dead bacilli, no results were obtained. A filtered sugar bouillon culture, grown for two weeks anaerobically, was employed to test the effect of the toxins produced by the gas bacillus in artificial culture. Intravenous injections in rabbits (eight cubic centimetres in one, and twelve cubic centimetres in a second rabbit) produced only a slight disturbance. In guinea-pigs a marked fall of temperature and toxic disturbance were noted. In one pig six cubic centimetres, subcutaneously injected, produced in one hour a fall of temperature from 101.2 to 96.8° F. The hair of the neck and shoulders stood erect; the abdomen was tender to the touch at the site of injection, and the animal lay down on its side and stroked its mouth with its paws. There was slight trembling three hours after the injection, and the temperature was 100° F. In twenty hours the animal had recovered. A second pig received twelve cubic centimetres of the filtered toxin intraperitoneally. One hour after the injection the temperature fell from 101.8 to 95.4° F., and the animal was weak, trembling, and lying on its side. In three hours the temperature was 96.8° F., and the animal trembled violently, but it had entirely recovered at the end of twenty hours.

Case IV.—The fourth case was one of gaseous phlegmon, developing after a compound fracture of the femur. The same bacillus was isolated from this case, during the life of the patient, cultures being made at the bedside.

Dr. W. G. Le Boutillier, in discussing this report presented by Dr. Norris, said that he would like to report the case of a man who had been admitted to hospital complaining of chilliness. He had an aneurism of the left femoral artery, about the size of an egg. Six days after admission he became delirious, and the temperature reached 102° F. On June 5th the respirations were between 22 and 36, the temperature was 105° F., and he suffered pain in the region of the aneurism. The latter was found to have increased enormously in size; the skin was tense and swollen, and there was some ecchymosis around the knee. On June 7th a ligature was placed around the femoral artery, with the intention of operating upon the aneurism and removing the clot. When a portion of the clot had been turned out, there was such a rush of dark blood that the only thing that could be done was to pack the large wound and return the patient to the ward. The next day the dressing was saturated with a foul-smelling discharge. Two days later the temperature was again high. The following morning the man began bleeding, and the morning after that gas and serum were forced out of the wound. The bacillus capsulatus was found to be present, but no cocci were found.

Dr. Le Boutillier also reported briefly two other cases. A colored man, who had received an injury to the arm in the region of the elbow, developed after a few days a small lesion near the elbow, and the arm became greatly swollen. Large quantities of serum and foul-smelling gas were discharged. No cultures were made, but smear preparations showed a very large bacillus. The other case was one of gaseous abscess of the scrotum and perineum, with a small necrosed area in the centre. On incision pus was evacuated, but no bacilli were found in the cultures.

Dr. Harlow Brooks said it had been his good fortune to see autopsies on four cases—three at Bellevue and one at Charity Hospital. Dr. J. G. Adami had reported two cases in which there had seemed to be pure infection—one from the tonsil and the other from passing a sound. He thought the cases were quite common.

Dr. James Ewing said this subject had been brought before the society two years ago, and since then it had proved an interesting study to some of the members. The leukæmic case reported by Dr. Norris was one of special interest. It was unfortunate that often there was no clinical history to aid in determining whether it was a case of ante-mortem infection or not. He believed that rapid putrefaction in such a case would indicate an ante-mortem infection, and that in cases of infection occurring after death the progress was slower and the bacilli were found more in the area of infection, and were not spread through the body as in the other class of cases. He was very desirous of learning what relation the bacillus capsulatus bore to the streptococci and other cocci. It was at least suggestive that infection with the bacillus capsulatus was often associated with ruptures of the uterus, of blood-vessels, or with the occurrence of profuse hemorrhage.

A Primary Carcinoma of the Kidney.—Dr. Harlow Brooks reported this case. He said:

"The patient was a maiden, forty-eight years old She was born in Ireland, but the greater part of her life had been spent in America, in the occupation of maid. She was always anæmic in appearance, and a peculiar tremor of the head has been present for several years, for at least over ten years back. Her general health, however, appears to have been good. In March, 1897, she is said to have had pneumonia, and she stated that at this time she had undergone an operation for pus in the lung. In September, 1897, she entered Trinity Hospital, to be treated for an injury of the thigh, and was shortly after seen by the attending sur-

geon, Dr. Nelson H. Henry, who made the usual surgical examinations of the injured extremity. Nothing peculiar in regard to her case was noted either before by the nurse, or at the time of the examination, though a general physical examination was not made at this time, as the patient made no complaint other than of the injury. A few moments after leaving the ward Dr. Henry was recalled and found the patient pulseless and cyanosed. Froth was exuding from the mouth. Artificial respiration and the usual stimulants were applied, with no apparent effect, and in a few minutes the patient was found to be dead.

"The autopsy was performed on the same day, while the body was still warm. I shall omit in this report all the details of the autopsy, touching only on those points which seem most noteworthy. Suffice it to say that extensive embolism of the left pulmonary artery was found, and its origin sufficiently accounted for by an endocarditis of considerable extent and apparently of quite recent origin; possibly this was a resultant of the previously existing pneumonia, abundant traces of which still persisted, together with a thickened pleura.

"The brain was poorly formed, showing considerable asymmetry in its contour. The convolutions were flattened, small, and irregular. A few convolutions showed a gelatinous degeneration of their substance. These changes no doubt account for the long-standing tremor and for the simple and child-like appearance of the face, as well as for the lack of feminine type in the form of the body. These lesions, coupled with their manifestations, are very interesting in themselves, but of course have no connection with primary carcinoma of the kidney, for which the case is reported. It seems proper, however, to state that no evidence of syphilis was found other than the possible relations to this disease found in the brain, though the autopsy was very thoroughly and carefully made.

"The right kidney was found of about the usual size and was normally located. The capsule was neither adherent nor thickened. The cortex was thick and regular, and all the markings were found to be distinct. The tissue was firm. The vessel walls showed no abnormalities, but the capillaries everywhere were greatly congested and the cut surface dripped blood and serum. The cortical portions of the kidney were somewhat cloudy, and a general cortical parenchymatous degeneration seemed to be present.

"The left kidney presented the most interesting feature of the case, and the one which I think justifies me in presenting the case to you. On the outer surface of the left kidney was found a globular mass, smooth, subcapsular, and of less tension on palpation than the remaining portions of the kidney tissue. The vessels of the capsule covering this mass were greatly congested, and this mass, indeed the entire kidney, was found surrounded by considerable inflammatory tissue, most of which was noted as being of probably rather recent formation. There was found one vessel of about 1.5 mm. calibre, which entered the tumor mass directly through the capsule. The kidney being opened, the tumor mass was seen to be sharply differentiated off from the kidney structure by a thin but well-defined and complete capsule of connective tissue. The tumor was spherical in form, and measured sixty-three millimetres in diameter. It had a centre of a white cartilaginous appearance, and from this radiated about in regular spoke-like lines a stroma of similar substance. Between these radiating and anastomosing whitish paths were found islands of brownish tissue, resembling that of the remaining and uninvolved portions of the kidney. The tumor may be said strongly to resemble a series of the pyramids of the kidney arranged about a common centre. Vessels were not numerous in the stroma of the tumor, though the capsule was found to be quite vascular. The tumor was so located in the substance of the kidney that its central point was situated at about midway in the kidney and about the middle line of the zone bordering on the pyramids, but its most internal diameter jutted into the pelvis of the kidney, while its external periphery, as is well shown in the specimen, projected outward from the normal kidney contour. A diagnosis of adenoma was made from the gross appearances of the mass, and, as already stated, no other nodules of neoplastic nature were found in any other part of the body. Neither was any glandular enlargement present. Microscopic examination of the section taken from various parts of the tumor give in all instances the same picture, that of carcinoma of the adenomatous type.

"I am induced to believe that the growth was originally an adenoma: First, from its shape and location, which are those indicative usually of kidney adenoma. Second, from the fact that, while the growth was evidently of some months' standing, as is indicated by the thick capsule of fibrous tissue about the tumor, yet no metastases were found. This would seem improbable in a growth originally malignant in character, the probable age of which is considerable, and at the same time growing in an organ with so extensive a lymph supply as is present in the kidney. Third, in certain parts of the sections of the tumor the structure is typically that of adenoma; this is especially true in those portions in which a connective-tissue stroma is abundant, as is the case near and in the limiting capsule of the tumor.

"Adenomata of the kidney are quite common, and as adenomata in other locations are quite prone to carcinomatous change, it does not seem in the least strange that it should take place here. We have, at Carnegie laboratory, a specimen of adenoma of the kidney, which shows in area quite typical carcinoma. Delafield, in speaking of adenoma of the kidney, says that when these adenomata take a malignant course they are spoken of as carcinomata.

"Carcinoma is among the more rare of the primary tumors of the kidney, numerous cases of it, however, are reported. Up to 1886 I have found one hundred and twenty-seven cases of primary cancer of the kidney reported, but among these are some congenital tumors and others in which the description is that more characteristic of the more common growth, sarcoma. It is more than probable that a considerable number of these growths were called cancer simply because they appeared to be of a malignant nature, and in many of these no microscopic examination was made. Dr. Shrady reported a case of primary carcinoma of the kidney before this society in, I think, 1881. Harrison states, in the 'Twentieth Century Practice,' vol. i., that carcinoma, when primary in the kidney, is usually confined to a single kidney, as is the case in the specimen I present.

"It seems unnecessary to speak of the impossibility of ante-mortem diagnosis in such a case as this, and the chief interest seems to centre in the rarity of the growth and in its probable origin from a pre-existing adenoma."

Hemorrhagic Pancreatitis with Fat Necrosis; Abscess of Liver; Infection by Bacillus Aerogenes Capsulatus.—Dr. John H. Larkin presented this case. He said:

"The family history of the patient was negative, and there was nothing of note about his personal history, except that he had gonorrhœa in the fall of 1896. His last illness began, one month before he came under observation, with shooting pains in the right foot, leg, and knee. These pains have recurred in severe attacks ever since, and have kept him from his work. On April 19th, after drinking ice water, he experienced terrible cramps in the right hypochondriac region, lasting all night. During this time he had chills and

fever, and the next morning he noticed that he was markedly jaundiced. The vomitus was dark colored, 'like mud.' The bowels have been regular until three days ago; since then they have been constipated. On admission his temperature was 104° F.; pulse, 78; respiration, 36. He was well nourished; the skin and conjunctivæ were yellow; the heart and lungs were normal. The liver extended from the fourth space to the costal border. The splenic dulness began in the seventh space mid-axillary line, and extended to the costal border. The abdomen was distended and tympanitic, and there was marked tenderness in the epigastrium. There was no œdema of the extremities. Over both forearms and hands, and over the lower part of the abdomen, there was an orange-colored, macular eruption, varying in size from that of the head of a pin to a ten-cent piece, irregular in outline and coalescent in places. The patient was delirious. The blood examination showed the red cells to be normal in shape and number, and 22,000 white cells per cubic millimetre.

"Autopsy: The autopsy was made six hours after death, by Dr. Ely, to whom I am indebted for the privilege of reporting this case. The body was well nourished, and the skin slightly jaundiced. When the peritoneal cavity was opened, a quantity of blood-stained fluid welled out, estimated to be about eight ounces. In the left hypochondriac region, behind and below the spleen, were some blood clots and fibrous adhesions. The whole heart was somewhat enlarged; there was an abundance of subpericardial fat; the muscle was somewhat hypertrophied; the valves and orifices were normal; and there was very slight atheroma of the aorta around the coronary openings. The lungs and stomach were normal. On passing the finger down the duodenum, a hard mass was felt in the region of the head of the pancreas. The gall bladder was moderately distended with thin, yellow bile, and contained about a dozen small gall stones. In the papilla, at the opening of the common bile duct, were lodged three small gall stones. The liver was slightly enlarged, and in its tissue were a number of small circumscribed necrotic areas, containing what looked like pus. There was one larger, ragged area of necrosis, containing red granular clots and detritus. The tissue surrounding this, and reaching nearly to the surface of the liver, appeared to be necrotic and somewhat soft, and was riddled with open canals, from which exuded frothy, blood-like fluid. The spleen showed parenchymatous hyperplasia and marked congestion. The head of the pancreas, on section, was firm, but contained areas of necrosis, hemorrhagic in appearance. The body of the organ was very largely disorganized, being bloody and soft, and below this, and lying behind and below the spleen was a large amount of soft, red, granular clot. Both the suprarenal capsules were necrotic. The kidneys showed parenchymatous degeneration.

"The following gives in detail the results of the microscopical examination of this case:

"Changes in the liver: There are chronic venous congestion of the liver, dilatation of the central vein and surrounding capillaries, with consequent atrophy of liver cells in the immediate vicinity. In the examination of many sections taken from different parts of the liver, one gets different pictures of the lesions present. There are many areas of focal necrosis scattered in the liver parenchyma. These areas are in some respects identical with many of focal necrosis seen in typhoid, diphtheria, and tuberculosis. They are immediately around the central vein, which is dilated. They are made up of liver cells alone, but as yet, for the most part, preserve their outline, are entirely devoid of nuclei, and stain faintly with eosin. The capillaries in the periphery of these necrotic areas are intensely engorged with red and white cells. The central veins in many places are empty; in other places they are filled with bacterial thrombi. Not all the central veins are surrounded by necrotic areas. In other portions of the lobules we have the same identical focal necrosis of liver cells, with and without the central mass of bacteria. In other sections examined there is no focal necrosis, but intense venous congestion; whole lobules changed into large blood lakes, with widespread disintegration of liver parenchyma. In still other sections, all one can see is a complete destruction of liver parenchyma from centre to periphery. There is loss of capillaries—a granular and fragmented nuclear mass, a condition not unlike the picture of acute yellow atrophy of liver. Again, in some sections there is a loss of liver parenchyma, these empty spaces or air-holes, irregular in outline, larger and smaller, with flattened, necrotic, and non-nucleated cells, making up their border. The constant presence of bacteria at their periphery, and of swarming masses of bacterial emboli in the capillaries and central veins, is not to be lost sight of. In other sections the principal lesion is abscess formation, both of the miliary and large variety. There are loss of liver cells and replacement by a broken-down granular debris, leucocytes, fragmented nuclei, with flattening of necrotic liver cells at the periphery. In the larger abscess cavities the central detritus had fallen out, leaving only a narrow band of leucocytes and granular detritus with necrosis of liver cells at the periphery.

"Changes in the spleen: The changes in the splenic tissue are, in a great many respects, identical with those in the liver, with the exception of abscess-cavity formation. The necrotic foci are, however, smaller and more numerous. There is little nuclear fragmentation. Other sections show intense venous congestion with atrophy of splenic pulp. The occurrence of gas blebs, œdema of trabecula, and a homogeneous, glassy condition of blood-vessels was at times noticed.

"Changes in the kidneys: There is no chronic productive inflammation. There is parenchymatous degeneration of the epithelium of the tubules. The capillary tufts in many places are plugged with bacterial emboli, which caused the subsequent death of the surrounding parenchyma.

"Changes in the heart muscle: There are interstitial myocarditis and some slight fatty infiltration. The heart-muscle fibres seem to be broken up into short rods, separated from one another perhaps by a dissolving of the cement substance. Scattered here and there are the same bacterial emboli, with the muscle fibres around broken down and necrotic, and entirely devoid of nuclei. Gas blebs in the myocardium are present in some sections, absent in others. We have the same focal necrotic areas, not attended by bacteria which could be stained in tissue, the necrosis consisting simply of a swelling and granular condition of muscle cells without nuclei, and the whole standing out sharply against the surrounding normal heart tissue.

"Changes in the pancreas and fat tissues: There is diffuse hemorrhagic infiltration of the interlobular and intercellular fat tissue, with atrophy and compression of the fibrous tissue. In the interlobular tissue in other sections, leucocytes and fibrin outnumber the red blood cells, while the fat cells, filled with red blood, make large irregular blood lakes in which can be distinguished the faint outline of the fat cell. The areas of necrosis in the peripancreatic fat are in places oblong; in other districts of irregular, spade-like form the whole mass is made up of a granular detritus devoid of cells or nuclei. The outline of the fat cells is lost or indistinct, the island with irregular borders shading off into the surrounding fat tissue. These

necrotic areas stain faintly with eosin; some have a limiting zone of leucocytes and small round cells, with many yellowish-colored and irregular shaped crystals in the periphery. In other sections the replacement of the fat tissue by polynuclear leucocytes, small, round, spindle, and large mononuclear cells, is the predominating feature, together with numbers of smaller and larger rounded, needle-shaped crystals—some staining faintly or not at all with eosin, others having affinity for the nuclear dyes. These spherical bodies are in the fat cells at the periphery of the necrosed area, and are perhaps nothing but fatty-acid crystals. In the interlobular tissue, in other sections, instead of the above lesions being presented, there is simply necrosis of the connective tissue, the interlobular necrosis leading to the large areas of fat necrosis in other parts. In still other sections the fat tissue is normal, but shows productive inflammation of the interlobular fibrous septa, while the peripheral portions of fat show large, irregular, diffuse patches of small, round, and spindle cells with delicate-walled blood-vessels, and not a few giant cells. These areas look as if there was evident replacement of some of the necrosed portions by what appears to be a fibrocellular tissue. The foregoing changes are those which have taken place in the peripancreatic fat tissue, and are perhaps secondary to those changes to be described in the pancreas; but that the lesion could be primary in the peripancreatic fat tissue and secondarily invade the pancreas is, I think, an undeniable fact. The lesion, after all, amounts to nothing more than an extension by continuity.

"Pancreas: Some portions of pancreas are perfectly normal; in other places the fibrous tissue between the lobules and acini is considerably increased in amount; in still others the fat tissue predominates. In many sections there is extensive fatty infiltration, both in and between the lobules. There are numerous islets of focal necrosis in the parenchyma, with scattered cells not arranged in definite acini. The interlobular connective tissue shows œdema and diffuse hemorrhagic infiltration, the infiltration going in between the lobules to a considerable degree. The interlobular spaces in other places are simply filled with clumps of dark-brown material, containing many hæmatoidin crystals. The parenchyma cells in these areas are necrotic and devoid of nuclei; in other lobules, especially in the districts of the intralobular fat necrosis, the regularity of the acini is lost, the whole lobule being made up of a confluent mass of degenerated cells and clumps of protoplasm devoid of nuclei.

"That the process in the pancreas shows both old and recent hemorrhage, I think, is certain. Many of the lobules show entire replacement by dark-brown fragmented masses, with occasional hæmatoidin crystals, while the more recent hemorrhages are simply diffuse hemorrhagic areas of red blood cells and leucocytes. Fat tissue taken from the regions of the kidneys and suprarenal glands shows a lesion identical with that of the peripancreatic fat. On account of the abscess formation in the liver, with subsequent infection by the bacillus aerogenes capsulatus, portions of the viscera, including the heart, lungs, liver, spleen, kidneys, and pancreas, together with specimens of fat tissue, were hardened in absolute alcohol. These sections were utilized for staining bacteria in tissue.

"In all the tissues examined a bacillus was found which stained quite readily with Gram's, Weigert's, and Loeffler's method. The bacilli were in clumps and clusters in the capillaries and blood-vessels, and the centres of necrotic foci. It occurred in short chains having square-cut edges, the individual ones showing rounded ends and staining diffusely throughout with aniline dye. While for the most part the necrotic foci in the liver, heart, and kidneys contained a central mass of bacteria, yet there were many other focal areas of necrosis, especially in the spleen, liver, and heart, in which no bacilli could be demonstrated by the above stains.

"The bacteriological examination was made by Dr. Charles Norris. He was able to isolate two species of bacteria—one, the bacillus aerogenes capsulatus, which he obtained in pure culture; the other, a bacillus whose morphology is similar to that of the bacillus coli communis. It is non-motile, and decolorizes by Gram's stain; on lactose-litmus-agar acid is produced; no indol is formed after three days; invisible growth on potato. No gas is produced in grape-sugar-agar, and there is no coagulation of milk after four days. Although the exact nature of this bacillus is not known, a further study of it will undoubtedly be most interesting."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CANCER DEBATE—IMMUNIZATION OF ANIMALS AGAINST STREPTOCOCCAL INFECTION—OBSTETRICAL SOCIETY—MESSRS. CARTER AND HORSLEY—MERCER'S HOSPITAL—MR. ENSOR—THE LATE MR. LUND.

London, February 11, 1898.

The discussion on immunity and latency after operations for mammary cancer was resumed on Tuesday by Sir T. Smith, who deprecated dogmatic conclusions being drawn and said that little more was known of the nature of the disease than when it was discussed by the Pathological Society in 1874. The newer operation he feared had been adopted somewhat hastily in this country, and its advocates spoke with a kind of pity of those who practised the older method. They held that cancer was a local disease and that a patient was "cured" if there was no recurrence in three years. It needed a very strong belief in its purely local nature to justify some of the more formidable procedures that had been practised. He could not allow that cases were merely local when the glands beneath the clavicle were involved and all the growth could not be got away without removing the arm. He thought the growth had ceased to be a local disease long before it was tangible, and he regretted the use of the term "cured" as it misled the public and in the present state of our knowledge was premature. He had removed glands from the axilla twenty-four years after the removal of the breast, no recurrence having occurred in that period, and in a case quoted by Mr. Cheyne hard glands left in the axilla did not need removal for fifteen years. He always removed all visible diseased tissue and generally the whole breast, and mentioned some cases in which there was no recurrence for more than seven years after removal of the nipple and areola.

Mr. Hutchinson was a believer in cures in the sense that recurrence did not take place, and he had known patients quite well twenty years after operation. At one time he used to clear out the axilla, but now he did not meddle with it unless he could feel something. The old operation gave a fair chance of cure if done early, and even if some general infection had occurred the removal of this large focus of infection was beneficial. He attributed the improved results of the present time to earlier operations rather than to their greater extent.

Mr. Nunn also held that the surgeon should operate early rather than widely. In some cases cancer seemed to be an affection of the lymphatic system, when no

operation could be "adequate." He thought eight per cent. of patients lived from ten to twenty years after operation.

Mr. Howard Marsh always removed the entire breast and opened the axilla, as it was often impossible to detect enlarged glands through the skin. He did not remove the pectoral muscle, as he knew of no case of recurrence in muscular tissue. But the skin and the fascia with its lymphatics were seats of recurrence and should be removed.

Mr. Barker said for the last twelve years he had always cleared out the axilla, taking away all fat and glands up to the clavicle and stripping off the fascia from the pectoral muscle. This plan he did not consider increased the risks, while it lessened intercurrent troubles and added to the comfort of the patients. He had had only one death from this operation. He thought removal of the glands was the chief factor in improved prospects. He agreed with Mr. Hutchinson that the least promising cases often turned out the best. In one case he removed a mass of cancerous glands from the axilla and a large tumor from the breast, and the patient was quite well nine and one-half years afterward.

The discussion was then again adjourned.

The immunization of animals against streptococcal infection was brought forward in the Pathological Society is a paper by Dr. Bokenham. His culture medium is fresh veal broth with peptone and salt solution boiled for several hours under pressure and kept for three weeks or more. The virulence of the organisms he finds to be increased by passing through rabbits. The filtrate is highly poisonous to these animals, producing glomerulo-nephritis and hemorrhages into the alimentary canal. In horses and asses it causes a reaction and rise of temperature followed by tolerance to subsequent injection. Repeated inoculations are necessary to obtain an immunizing serum. If taken too soon, before all reaction has subsided, the serum is apt to cause local reaction when injected into another animal; but taken later there is no disturbance. It may be doubted whether there is a true antitoxic action, but marked increase of phagocytosis can be demonstrated. Dr. Bokenham has had many opportunities of seeing the effect of the remedy in streptococcal infection in man. He always observed speedy loss of the headache and restlessness, the patient getting drowsy and the skin moist. The temperature might rise at first, but it soon came down and could be kept down by repeated injections. In erysipelas the erythema may disappear in twenty-four hours. He begins with ten cubic centimetres and this dose may be repeated several times. In animals immunity seems to last six weeks or more. In two cases of ulcerative endocarditis one patient recovered after one hundred and fifty cubic centimetres had been injected altogether; in the other there was only temporary relief. It was remarked by the president that the specimens of nephritis resembled those seen in scarlet-fever cases. Dr. Bokenham's paper was well illustrated by charts and lantern slides.

The annual meeting of the Obstetrical Society was held on the 2d inst. The retiring president in his address said the alteration in the certificates given to midwives in deference to the Medical Council has in no degree diminished the number of candidates, which continues to increase. He also said that the work of examining midwives was taken up as a temporary duty (!) when the society could not induce the government to move in the matter. It would be a strange thing if every one dissatisfied with a government were to take his own course. The society has no authority whatever and its certificate confers no privilege. It is a pity the Medical Council "climbed down" from the sensible position it once took toward the society.

The fight between Mr. Brudenell Carter and Prof. V. Horsley has, as I anticipated, been transferred to the press. The logomachy is amusing to those of us who know both parties, but will be of less interest perhaps to you, so I must deal with it briefly. Mr. Carter came out with a series of paragraphs contradicting Mr. Horsley's statements about the Medical Council. Each of these paragraphs began with "It is not true." Mr. Horsley replies to each of these assertions, "It is true," and adds the "proof," which for the most part consists of extracts from the published minutes of the council. He preserves a dignified attitude as to the shower of personalities to which Mr. Carter treated him. It is a disagreeable point in Mr. Carter's controversies that he is so fond of reminding opponents of his age and his knowledge of English. To talk of having studied medical politics before Mr. Horsley was born is surely a sign of weakness. To suggest that the grammar of his opponent's sentences might be improved only shows his own self-consciousness. No one doubts that Mr. Carter can write English; but he is not the only medical man who can do so, and the possession of that accomplishment is no guarantee that his views are correct. But this is not the first time that Mr. Carter has imputed youth and faulty English to opponents and smiled over his own age and grammar, as if they settled all controversy.

The managers of Mercer's Hospital have obtained a surgeon. The old story—some one is always ready to take a vacancy, whatever the honor or dishonor attaching to the appointment. So it is at Newport—a candidate has already been found for the vacancy created by Mr. Ensor giving up the ophthalmic surgeoncy for the honor of the profession. All honor to men like Mr. Ensor. Their supplanters should be sent to Coventry.

Mr. Edward Lund died last Friday, aged seventy-five years. He settled at Manchester fifty years ago, and has been for most of the time associated with the medical school there. He took an active part in the union of the school with Owens' College, and became professor of surgery to that institution. As surgeon to the infirmary he had a great experience and he possessed a remarakble power of teaching. Those of your readers who have read his contributions will have been charmed with his lucid style and apt illustrations. He adopted the antiseptic system from its commencement. He has been examiner, Hunterian professor, and member of the council of the Royal College of Surgeons.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE INFLUENCING OF SEX IN THE EMBRYO—THE NEW TUBERCULIN—TRAUMATISM AND PARALYSIS—SOME RARER AFFECTIONS OF CHILDREN—THE GONOCOCCI QUESTION.

BERLIN, January [illegible], 1898.

This new year, like 1896, began with a sensational announcement. Then it was the Roentgen rays; now we have the publication of Professor Schenk, of Vienna, regarding the influence upon the sex of unborn children, to excite the medical profession and the laity. In practice, he says, he has had repeated opportunity of testing his theory, and has often given advice as to what measures should be adopted to gain the desired result, and has met with success. But more than this he has refused to say, and not even the most skilful interviewers have been able to "draw him out." We must therefore patiently wait till the fall, when he has promised to publish an extensive treatise upon the subject, and to place it before the Imperial Academy of Sciences.

In the Gesellschaft der Charitéärzte, results of

tuberculin TR were reported and discussed. Dr. Huber had four non-tuberculous and fifteen tuberculous cases, and of these four fell fully within Koch's severe indications. Huber concluded from his results that tuberculin TR was generally neither harmful nor beneficial; the good results sometimes attained might well be attributed to the improved hygiene and diet. Burghart arrived at the same conclusions. His experiences were with five pyretic and five apyretic phthisical cases. As a rule, there was a gain in weight. He regarded the reaction as more severe than that from the old tuberculin, and yet not so characteristic, for persons in good health as well as sufferers from other affections may react with fever. Huber at the same time experimented with guinea-pigs, with the following results. The injections were made in part before, in part after the inoculation with tuberculosis. Those animals who received tuberculin TR usually died earlier than those not receiving it. Thus the conclusion arrived at after trials upon man and animals was thoroughly unfavorable to the new tuberculin.

Dr. Kaplan reported his investigations upon the relation between progressive paralysis and traumatism to the Psychiatrische Verein zu Berlin. Among five hundred and forty-six patients he found a history of trauma but twenty-four times, equal to a percentage of only 4.4. In but 1.5 per cent. was there a seeming connection between the traumatism and the disease. In twelve cases in which the first symptoms appeared after a traumatism, a history of syphilis was obtained. Kaplan therefore believes that traumatism is never a cause of paralytic dementia. Usually syphilis is the cause. It matters little that frequently a history of syphilis cannot be obtained, for often in unmistakable cases of syphilitic manifestations, as, for example, gummatous processes, no positive history is to be obtained. He holds, and his views were supported by several other authorities, among them the celebrated Möli, that the psychical depression following trauma is to be looked upon as simple and not progressive dementia. These views are naturally of the greatest importance from a medico-legal point of view.

At the first meeting this year of the Berliner medicinische Gesellschaft, Beckmann showed a child with a healed abscess of the brain. Previously but ten cases have been reported. The patient was six years of age. At first the mastoid process was trephined, but as the symptoms, viz., fever, dizziness, headache, rigidity of the nucha, and vomiting, reappeared within two days, a portion of the posterior region of the skull was chiselled away, the dura slit open, and four or five cubic centimetres of thick, yellow, odorless pus discharged. Thereupon the case went on to recovery. It is remarkable that, in spite of the abscess developing within a few weeks, no damage to the brain substance itself resulted. There were no motor disturbances. Recovery at such an early age has been observed in but one other case heretofore. As another rare affection of childhood Professor Heubner demonstrated a case of bronchiectasis in a patient three years of age. Remarkable and interesting about the case was that after measles there developed a tuberculosis about and upon the bronchiectatic areas. The secondary infection with tubercle bacilli could be very clearly demonstrated. Professor Virchow declared the case to be one of greatest rarity; there were changes in the parenchyma of the lung such as are met with in the extremest cases only of bronchiectasis. In connection with this case Hausemann reported a similar one of bronchiectasis with secondary tuberculous infection. Although the pus in the bronchiectatic cavity gave almost pure cultures of tubercle bacilli, no trace of either caseous degeneration or tuberculous infiltration could be found in the neighboring parts. At the same meeting Virchow demonstrated a series of cholesterin cysts of the spleen and upper portion of the abdomen.

There was also a protracted debate upon the treatment of gonorrhœa in prostitutes. The chief speaker, Dr. Behrend, who has been medical director of the local institute for the treatment of diseased prostitutes, and who therefore possesses an extensive experience in his department, stated that but little weight is to be attached to the presence of gonococci or to their absence. Often they are present in large numbers in a case in which at other times they are absent, and men as well as women may be infectious even if the most careful examination fails to reveal the presence of any gonococci. Behrend therefore advises that the treatment be guided by the clinical manifestations. The microscopical demonstration is of positive value only in cases in which it is really superfluous; in other cases it is so unreliable that one may dispense with it entirely. As for the treatment of prostitutes, Behrend has had the speediest results with vaginal douches of alum, cauterizing the cervix with ten-per-cent. solutions of chloride of zinc, and when the vaginal epithelium was destroyed through eczematous processes dusting these places with iodoform powder. He scarcely ever treats the urethritis, vulvitis, and Bartholinitis, for these heal spontaneously. In fact he warns against any local treatment of the urethra, for there is danger of thereby causing extension of the inflammation to the bladder and kidneys. Furthermore, he declares that beyond a doubt many cases of chronic gonorrhœa in women are never entirely recovered from, even though there may be periods in which they cease to be infectious.

SCHLEICH'S SOLUTION FOR GENERAL ANÆSTHESIA.

To the Editor of the Medical Record.

Sir: In experimenting with Schleich's solutions for general anæsthesia, my friend, H. P. Weidig, Ph.D., according to a letter received from him under date of January 12, 1898, has found that only a part of the sulphuric ether—one of the components of Schleich's solutions—is in real combination. Analysis has shown that:

No. 1 contains 53.76 per cent. in volume of free ether; No. 2, 46.64 per cent.; No. 3, 36.96 per cent.

Or, the same expressed by weight percentage: No. 1 contains 44.06 per cent.; No. 2, 37.12 per cent.; No. 3, 28.41 per cent.

This condition explains the possibility of the appearance of asphyxia during narcosis, as it has been meanwhile observed by a number of colleagues, and particularly in those cases, I believe, in which the new anæsthetic solution was not administered by the rapid drop method. It also enables us to understand how it could happen that now and then some or marked cyanosis and even broncho-pneumonia (one case) set in.

Dr. Weidig and myself have since experimented with an anæsthetic solution which contains chloroform and ether "in molecular combination," and shows no free ether whatsoever. We have called it "Schleich's improved solution for general anæsthesia" ("M. S." = molecular solution). With the help of a petrolic ether of a lower boiling-point, the improved solution can also be adapted to the temperature of the body (100.4° F.), to 104° F. (Schleich's solution No. 2), as well as to 107.4° F. (Schleich's solution No. 3).

A more detailed account of these interesting facts will be found in my article, read before the last meeting of the New York County Medical Society, December 27, 1897, and which, according to mutual arrangement, will soon appear in the columns of your esteemed journal.

I believe that these improved solutions will be void of the little annoyances that have still proven a drawback in the administration of Schleich's original solutions. Experience must demonstrate whether this expectation will be verified by clinical facts.

WILLY MEYER, M.D.

NEW YORK, February 16, 1898.

EARLY VIEWS OF APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is not to lessen the estimation in which Dr. McBurney is held by the medical profession, but for the sake of historical truth, that the following is published:

Traube, in his classical work ("Gesammelte Beiträge zur Pathologie und Physiologie," Berlin, 1871, 2d book, 1st section, p. 55), publishes a case under the headline, "Inflammation of the Connective Tissue and the Peritoneum around the Cæcum Accompanied with Fæcal Obstruction," and gives the following history:

"W. L——, hired man, thirty-two years old, received into the Charité Hospital, March 22, 1850. The disease commenced with a pain, which manifested itself in the lower part of the abdomen, about in the middle, between the right anterior iliac spine and the navel, first in a moderate degree, but after a few hours it grew in vehemence, and up to yesterday noon continually increased in intensity.

"March 24, 1850, abdomen very much distended, tense, and sensitive all over to pressure, on the right side more so, and in the highest degree at the point mentioned between the iliac spine and the navel [*ibid.*, page 56].

"March 25, 1850, abdomen equally distended, but soft and only sensitive to pressure in a small place above Poupart's ligament. Besides, there is to be felt in the designated place a deep-lying small cord, two inches long, which seems to run parallel to the extreme outside part of Poupart's ligament."

This is sufficient evidence, but some may object, claiming that he did not realize the importance of the inflamed and perforated appendage in these kinds of troubles. We will therefore cite a case which he observed in the year 1857 (*ibid.*, page 358).

"Perforation of the Processus Vermiformis with Fæcal Vomiting." The history of the case is of the usual type, but the post-mortem is very interesting, showing conclusively that modern writers have not improved on his "Pathologie." It reads as follows:

"In detaching the blind end of the intestinal coil—cæcum—a small quantity of pus showed itself. By looking closer, it was evident that the pus was escaping out of a cavity the size of an apple, which cavity was formed by the peritoneum itself, and which was situated in the right part of the small pelvis and completely filled with pus. Into this cavity protruded the vermiform process, extraordinarily distended and very rigid.

"The appendix, close above the yellowish-colored opening, was perforated, and it contained in the distal end beyond the place of perforation two egg-shaped stratified fæcal stones of a pale yellowish color, easily cut, and, on cross-section, of a brown and striated appearance. On the peritoneal lining of the intestinal coils which formed the walls of the abscess there had been already previously seen a few yellowish-colored, small, and crumbled particles, evidently the remainders of a fæcal stone which got through the mentioned opening."

And, finally, to show how intimately Traube knew the clinical and pathological finest details of appendicitis, I shall quote a review by him of thirty cases of peritonitis consecutive to perforation of the appendix (*ibid.*, page 360).

"Among the thirty cases of peritonitis following perforation of the process vermif. [leaving out the unessential], in close consideration of our cases, there manifests itself yet a second, for the diagnosis very remarkable deviation from the usual type of the disease, namely, that neither the pains nor the morbid sensibility to pressure present themselves in the right iliac region the most. It is rather difficult to account for the cause of this phenomenon. If we wanted to derive it from the supposition that the focus of inflammation is at a great distance from the abdominal wall, and therefore not very amenable to palpation in the right iliac region, then pain on pressure could so much less be produced in the left iliac region.

"But whatever the cause may be, it seems to be a fact that a peritonitis depending upon a perforation of the process vermif. can be present, and yet the pain and the morbid sensitiveness to pressure may not have the main seat in the region iliac dextra."

I do not like to be critical, but it would be hard to suppress the opinion that quite a few of our modern writers could afford to imitate this fair example of how sincerely Traube admits that he does not know. How many theories have been brought forward, since Traube, to explain these peculiar phenomena? And none of the writers of to-day had even an inkling that this phenomenon was known to Traube. In the same way, I presume, Dr. McBurney has detected a thing which was found by Traube fifty years ago.

ADOLPH ROSENTHAL, M.D.

100 STATE STREET, CHICAGO,
February 12, 1898.

"A MODIFIED INCISION AT THE OUTER BORDER OF THE RECTUS MUSCLE FOR APPENDICITIS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your last issue a criticism of the anatomical data contained in my article of December 11, 1897, appeared. I shall be as brief as possible in my reply. I had devoted some time to the study of the innervation of the rectus, before I wrote my paper, but I must frankly confess that I was unable to arrive at definite conclusions so rapidly as your correspondent has done. No doubt, the lower intercostal nerves mainly supply the rectus, and this I distinctly state. The question at issue is whether or not the ilio-hypogastric supplies the lower portion of the muscle. In support of this view I might mention that the ilio-hypogastric is a direct continuation of the first lumbar. It follows a course very similar to that of the twelfth dorsal, and its hypogastric branch is not infrequently joined with that nerve (Quain). It perforates the sheath of the rectus, according to the late Henle, of Gottingen, no mean authority. In making the modified incision for appendicitis we always expose a nerve which has perforated the sheath of the rectus and which I have taken for the ilio-hypogastric and not for the twelfth dorsal. That this nerve supplies the rectus I have sufficiently demonstrated to myself and my assistants in about fifteen dissections *in vivo*. Any handling of the same will immediately cause circumscribed contractions of the rectus. I might, furthermore, quote William H. Flower, who in his "Diagrams of the Nerves," London, 1881, figures the ilio-hypogastric as supplying the rectus (Plate IV.). As regards the lineæ transversæ of the muscle, I am acquainted with their number and position, and do not think they are "scattered at random" throughout the muscle. I have assumed that there is generally present a fourth linea transversa between the umbilicus and the symphysis, and in speaking of atrophy of part of the rectus I had

in mind that portion lying between the third and fourth intersections, which I think can be easily inferred from the text of my publication. The question of the exact situation of the temporary muscular atrophy is really, I think, one of very little importance. I think ilio-hypogastric and ileo-hypogastric are both correct. The late Professor Hyrtl, of Vienna, who was not only an eminent anatomist but also a great classical scholar, uses ileo-hypogastric. English writers use the term ilio-hypogastric, but that, I fancy, does not make the spelling of ileo-hypogastric incorrect.

F. KAMMERER, M.D.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending February 26, 1898:

	Cases.	Deaths.
Tuberculosis	201	102
Typhoid fever	8	1
Scarlet fever	157	20
Measles	427	10
Diphtheria	159	26
Laryngeal diphtheria (croup)	10	5
Chicken-pox	20	0
Cerebro-spinal meningitis	1	11
Pertussis	3	0
Parotiditis	2	0

The Number of British Doctors.—The issue for 1898 of the invaluable Medical Directory shows, it is true, that there has been an increase in the number of registered practitioners over the number for last year, but the increase of 1898 over 1897—namely, 619—is less than the increase of 1897 over 1896, which was 958. The whole number of practitioners spread throughout the empire for 1898 is 34,903, as against 34,284 in 1897, and they are distributed as follows, the numbers given in brackets being those of 1897. for comparison: Number of practitioners in the London list, 6,081 [5,992]; in England, excluding London, 15,400 [15,081]; in Wales, 1,081 [1,062]; in Scotland, 3,412 [3,369]; in Ireland, 2,615 [2,598]; practitioners resident abroad, 3,770 [3,652]; naval, military, and Indian medical services, excluding those which appear also in other lists, 2,521 [2,510]; too late list, 23 [20]. During last year 599 members of the profession died, as against 497 in 1898.—*Lancet.*

The General Medical Council of Great Britain and the Medical Profession.—There are dissensions in the camp of the British General Medical Council. Mr. Victor Horsley, the latest recruit to the ranks of that august body, has indeed proved a firebrand. He is a thoroughly earnest man, and believes that by judicious action on the part of the council the lot of the general practitioner can be rendered much more endurable than it appears to be at present. However, that this much-to-be-desired object may be achieved, Mr. Horsley contends that the members of the council must bestir themselves and take steps to insure that the existing regulations are fulfilled to the letter. *The Lancet*, while agreeing with Mr. Horsley that alterations in the methods of conducting medical affairs by the council would be highly beneficial to the profession at large, is still of the opinion that the present acts are not efficient to protect the medical profession, even if properly administered, but thinks that they require amendment before they can be made to do what is expected of them. Mr. Horsley is regarded as the champion of the general practitioner, and some little time ago broke a lance with Sir Richard Quain in defence of his cause. Now Mr. Brudenel Carter has taken up the gage, on behalf of the corporations and those prosperous members of the profession who are satisfied that things should remain as they are. As the London correspondent of the MEDICAL RECORD remarks, both gentlemen have been at issue in the General Council itself, and since then have descended into a more popular arena. At a meeting of the Southwest London Medical Society, Mr. Carter delivered a vigorous attack on the policy advocated by Mr. Horsley, but his speech was marred and its effect greatly diminished by personalities. In consequence of this and of Mr. Horsley's dignified reply, there can be no doubt that he has gained the first point. From the tenor of the correspondence which has flooded the pages of *The Lancet* for the last two or three weeks, it would appear that the majority of medical practitioners in England are on the side of Mr. Horsley and reform. Nevertheless it is extremely difficult for an outsider to pass judgment on the merits of the situation; the wisest plan will be to venture on no opinion, but merely to express the hope that the conclusion arrived at may be the one best calculated to benefit the greatest number.

Maisonneuve.—T. Chalmers Peebles, in an article entitled "A Cursory Visit to the Hospitals of Paris and a Near View of Some of Her Doctors in 1867" (*The Charlotte Medical Journal*, January, 1898), says: "M. Maisonneuve was also treating some cases of suppurating wounds of the extremities by suction. Stumps, after amputation, were inclosed with a rubber cap or cylinder, which was connected by a rubber tube to a pump, and as fast as the pus formed it was sucked into a glass jar. The students used to call Maisonneuve the 'butcher,' for at times he was very rough. On one occasion I saw him take hold of a young woman's forearm and shake the wrist-joint and hand violently until the ankyloses cracked and gave way, the patient screaming all the time. At another time he applied Chassaignac's écraseur to a hemorrhoidal tumor and proceeded without an anæsthetic; in the mean time the patient was suffering torture, while the surgeon only cursed his restlessness. I think in these two instances he justly earned his title."

[We should be slow in making accusations of cruelty against one who has done so much for the relief of suffering humanity, and should consider the time in which he lived.—ED.]

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended February 26, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Georgia, Griffin	February 23d	2	
Kentucky, Butler	February 8th to 24th	1	
Massachusetts, Greenfield	February 7th to 22d	1	

SMALL-POX—FOREIGN.

Bohemia, Prague	January 30th to February 7th	7	
Cuba, Matanzas	February 2d to 16th	..	6
England, Liverpool	February 3d to 10th	1	
Gibraltar	January 14th to 30th	1	
India, Bombay	January 11th to 25th	..	2
Russia, Moscow	January 22d to 29th	6	1
Odessa	January 30th to February 5th	9	1
St. Petersburg	January 22d to 29th	14	4
Spain, Corunna	January 30th to February 5th	..	1

CHOLERA—FOREIGN.

India, Bombay	January 11th to 25th	..	12
Calcutta	January 8th to 15th	..	2
Madras	January 15th to 21st	..	16

YELLOW FEVER—FOREIGN.

Brazil, Para	January 30th to February 12th	..	12
Cuba, Manzanillo	January 17th to 31st	..	4

PLAGUE—FOREIGN.

India, Bombay	January 11th to 25th	14	85

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Original Articles.

MEMORIAL ADDRESS ON JOSEPH O'DWYER, M.D.

BY W. P. NORTHRUP, M.D.,

AN ASSOCIATE OF SIXTEEN YEARS AT THE NEW YORK FOUNDLING HOSPITAL.

JOSEPH O'DWYER, M.D., the inventor of intubation, died at his home on Lexington Avenue, New York, January 7, 1898, in the fifty-seventh year of his age. He was born October 12, 1841, in Cleveland, Ohio; spent his boyhood near London, Canada, in which city he went to school; and took his first studies in medicine with Dr. Anderson. He began his lectures in the New York College of Physicians and Surgeons in 1864, graduating in 1866. Just at this time the staff of the Charity Hospital on Blackwell's Island was made a separate body, and as the result of competitive examination Dr. O'Dwyer took first place, and was thereby constituted sanitary superintendent of the institution. It was his duty to inspect the plumbing, the wards, the kitchen, and the food supplies. Dr. J. Lewis Smith was fond of saying to the younger men connected with the Foundling Hospital that he well remembered examining Dr. O'Dwyer for the staff appointment, and that he—O'Dwyer—passed an excellent examination. Among the internes were Dr. Le Roy M. Yale, Dr. F. A. Castle, and Dr. Peter Inches, now of St. John's, N. B. The visiting staff of the Charity Hospital was practically the same as that of Bellevue Hospital, and included Drs. J. Lewis Smith, A. L. Loomis, Austin Flint, Van Buren, L. A. Sayre, and Frank Hamilton.

A few cases of diarrhœal disease had been observed in the city but had not been recognized as cholera. One night a severe case of so-called cholera morbus was announced at the workhouse, was suspected, and was isolated. Fifteen days later sixteen persons came down with true cholera in one night, "and," to quote the words of one of the staff, "it came down the island pell-mell." Two hundred cases broke out in the workhouse. Dr. O'Dwyer, being sanitary superintendent, had charge of all arrangements for fighting the epidemic of cholera.

The fever hospital was located on the island, and to this were sent typhoid and typhus fever patients. During 1863-64, cases of typhus occurred sporadically in the city, and about the time of Dr. O'Dwyer's service cases broke out on the island and typhus became epidemic. Many before me remember that period, and the younger men are familiar with the marble slab of the lower lecture room, upon which were inscribed the names of the "ornaments" of the profession who succumbed to the fever while in discharge of their duty. Dr. O'Dwyer contracted the disease.

As sanitary inspector he had visited the workhouse on an urgent call, finding a patient early in the morning in the first onset of the disease. The patient was in a close, unventilated cell. Dr. O'Dwyer often said he knew the moment when he contracted the disease. It was while examining that man in that stuffy cell, before having had his breakfast. Promptly at the end of the usual period of incubation he was seized with the well-remembered pains in the head and back. Deliberately he finished his work, wrote out his wishes as to the disposal of his things, left letters for his friends, and went to bed. He remembered examining his eruption: assured that his case was a genuine one, he made his estimate of its severity, and shut his eyes to wait. Then followed days of which he could never give any account. His recovery was complete, without complications or sequelæ, and without impairment of any of his powers.

Dr. O'Dwyer chose what was called long service or full time on the staff, and the next we know of him (1868-69) he was examining physician of patients applying to the hospitals under the board of charities and corrections. He was examiner and distributor of patients, sending some to Bellevue, some to Charity. About this time also he opened an office with Dr. Warren Schoonover, on Second Avenue between Fifty-seventh and Fifty-sixth streets. He worked into a large practice in obstetrics, reaching ultimately the number of three thousand cases, including miscarriages.

In 1872, Dr. O'Dwyer moved to Lexington Avenue near Sixty-fifth Street, in close proximity to the New York Foundling Asylum, which had likewise moved up town and was about to open its new building (1873). Upon the new staff of this institution were Drs. Reynolds, J. Lewis Smith, and Joseph O'Dwyer.

From 1873 to 1880, tracheotomy was on trial in this institution, without a recovery. In 1880, Dr. O'Dwyer "began thinking" on croup, and some method for providing a channel through the larynx for the passage of air and secretions, without the complication of an open wound. How to hold apart the swollen false and true vocal cords till the disease should run its course, and the stenosis be thus relieved—this was his first thought. The most natural resource was a skeleton wire spring. This, however, soon gave way to a small bivalve speculum, formed on the model of a bivalve vaginal speculum. It was fitted with a spring to force the two valves asunder when placed in position. To keep the valves together during insertion, the introducer or handle curved on a right angle passed down through the hinged end, then through an eyelet on one valve; then, the valves being approximated, the pointed handle passed through a second eyelet on the other valve. Thus the valves were held close together until released by withdrawing the handle, when they sprang apart.[1] This laryngeal spring, or speculum, served to keep the air passages open, but had important faults. The interval between the open valves allowed the swollen mucous membrane to crowd in, and ultimately to cause stenosis again. It did not sink too low in the larynx, because of a rubber collar — gutta-percha dissolved in chloroform, applied layer on layer.

A great deal of experiment was required to get the spring of the proper strength. If too weak, it would not separate the blades; if too strong, it would cause ulceration from pressure. The mouth gag had not been devised at this time. The index finger of the

[1] Delivered at the New York Academy of Medicine, March 3, 1898.

left hand wore a shield in operations. It consisted of two metal discs, about the size of a silver quarter of a dollar, bent to fit the shape of the finger on the proximal phalanx, the dorsal and palmar discs being held together by rubber elastics.

The following is the first intubation recorded in the dead book of the New York Foundling Hospital:

"October 21, 1882, Dr. G. M. Swift, H. P——, female, aged four years. October 20th, severe croup; pseudo-membrane in pharynx; dyspnœa urgent, temporary asphyxia; relieved by introduction into larynx by Dr. O'Dwyer of one of his 'springs.'

"Eight hours later, spring having been removed, the child again became asphyxiated. The subsequent history is: treacheotomy, death.

"Autopsy: Pseudo-membrane in pharynx, larynx, trachea, and bronchi to finest bronchioles—continuous, tenacious, thickness of wet blotting-paper."

Third recorded intubation: "January 26, 1883. Diphtheria—larynx. Under chloroform, O'Dwyer, at 1:40 A.M., introduced his spring. Relief followed. In about ten minutes, after a cough, there was complete obstruction to respiration, and the child was apparently dead. Spring plugged with a piece of membrane, one and one-fourth inches long, the lower end being cylindrical. Removed; artificial respiration restored child. A larger spring, introduced seven hours later, gave relief. Five hours later the spring was removed, but immediately there were restlessness and cyanosis; spring reintroduced and dyspnœa relieved. Tracheotomy was refused by its mother, and the child died."

Thus far two points had been demonstrated: first, that the larynx would tolerate a tube; second, that air could gain entrance and the secretions find exit. Note that his only idea at first was to keep a channel temporarily open for the short distance between the false vocal cords and the beginning of the trachea. If this could be accomplished for five days, ordinarily the storm would have passed.

The bivalve laryngeal speculum or spring, with all its faults, had a recovery to its credit. This was the first operated case of membranous croup to terminate in recovery, in the thirteen years the Foundling Asylum had been in existence.

However, after three years of experience the idea of accomplishing the desired result with a bivalve laryngeal speculum was abandoned. With the instrument there was also difficulty in feeding, the same that so much embarrassed the success of later tubes.

About this time Dr. O'Dwyer learned of the work of Bouchut, of Paris, in tubage of the larynx. Nothing could induce him to inform himself fully on this man's work. All he knew was that the tube was like a thimble and was never pronounced a success. He resolutely shook his mind free, for he said that unless he worked out his own ideas alone that would be the end of his work. After some time, studying the larynx healthy and the larynx swollen and lined with pseudo-membrane, O'Dwyer appeared one day in the dead house with a new tube—a tube this time longer than the speculum, narrow, oval, or flattened laterally, having a collar at its upper end. To use his own description, it was "a tube of plain oval form, about an inch in length." The first mention of a "tube" occurs in a recorded history in the dead book, April 25, 1884. "Dr. O'Dwyer put in 'tube' at night; dyspnœa relieved; breathing fairly good till death, sixteen hours later."

In connection with this case a footnote to the history states that the question whether the lungs were in collapse or pneumonic was of much interest to O'Dwyer. He and Dr. J. H. Ripley, who had been for years very good friends, discussed at great length this question, Dr. Ripley contending that the lungs in such cases did not show pneumonia but collapse. One thing is certain—Dr. O'Dwyer was much pleased with the continued relief for sixteen hours afforded by this tube, and it was not coughed out.

The second trial with this tube resulted, after certain vicissitudes, in recovery. The patient was a girl, four years old. The tube was removed after sixty-seven hours, but required reinserting after five hours. The patient shut her teeth tightly upon the metallic shield upon the finger, and imprisoned the doctor until chloroform relaxed her jaws. The tube was then inserted, coughed out in three days, and not again required. This was the first recovery in intubation, and I may mention that about this time the name "intubation" was adopted for the operation. Here was a patient recovering from intubation. The next inquiry was, what would be the condition of the vocal cords? Would the voice return? Several weeks passed, and the child was aphonic. The cough, however, had an explosive quality which meant that the cord had not ulcerated away. The voice ultimately returned.

A new need was presented by this four-year-old patient—a mouth gag must be devised. The first gag was much like that now in use, except that the handles, or levers, were curved on a right angle, hanging down by the child's neck, and a clip, by gravity following along down as the levers approximated, held them together. The child in hitching up its shoulders occasionally dislodged the gag, and the modification made by Dr. Denhard, of continuing the handles out toward the ear and using a spring clip, was adopted and is still in use.

The pathologist at the Foundling Hospital during these years had many interesting friends about the autopsy table; many interesting discussions warmed that lugubrious underground cell. The autopsy book contains, for instance, two full pages devoted to the history of a case, with autopsy, the main points of controversy between Drs. O'Dwyer and Ripley, microscopic findings of the specimens, etc. It was the old discussion of pneumonia or collapse following croup and operation. This case was specially referred to me, as pathologist, to decide, Dr. Blodget, house physician, being witness to the points under discussion. Fortunately, this chosen case furnished abundant evidence of both collapse and beginning pneumonia, the verdict being confirmed by Dr. Delafield's examination, and the question was not settled. A little sidelight may be thrown upon this scene. Tracheotomy, of which Dr. Ripley was a great champion, was probably to have in intubation a competitor.

Difficulties were still to be met. This tube, for instance, which was retained and afforded relief, contained a little slit into which the extractor hooked in removing the tube. Into this likewise the mucous membrane hooked and held it fast, not without harm to the soft tissues when it was being removed—so the slit must be dispensed with. The tubes must be made longer to reach to the bifurcation. These, it was thought, would not be coughed out, and so they were not, because, having ridden up to the vault of the pharynx, they could go no farther, and an ever-present nurse could push one down again. Then came a second shoulder below the contact of the vocal cords—an abrupt shoulder above, a vanishing wedge below, the cords resting in the interval between the two shoulders. This tube remained too well; it was almost impossible to get it out, *i.e.*, to get the cord out of the groove. This was abandoned. Then came a long period of thinking, of measuring larynges, of modelling putty upon the middle of the tubes, and putting them into specimen larynges, of taking plaster casts. The result came at last in the form of the retaining-swell, which was a fusiform enlargement of

the middle portion of the tube lying within the trachea. Within the trachea was plenty of room. The cricoid ring (and this was rather an incidental discovery of Dr. O'Dwyer's) is the narrowest place in all the respiratory ways. These tubes caused pressure and ulceration at these places, at the base of the epiglottis, within the cricoid ring, and at the lower end of the tube. The epiglottic ulceration was obviated by giving the upper portion of the tube a backward curve, thickening and rounding the portion which pressed against the epiglottis in deglutition. The cricoid ulcers were difficult to overcome, and all final success depended on one thing. Unless a child could breathe through a tube much smaller in calibre than would seem possible at the first glance, intubation could never take its place as a successful operation. Here, consequently, began the process of thinning the tube's walls and reducing the calibre. After reducing pressure to the point of safety to the mucous membrane, it was found (what has been the marvel of every one viewing the tubes for the first time) that a child could breathe perfectly through an exceedingly small tube.

Few had occasion up to this time to reflect, I believe, as to how much motion the parts about the larynx take on in every act of swallowing. With the new tube held firmly in the larynx and cricoid ring, every act of swallowing pressed the tongue hard down upon the epiglottis, and it upon the tube's head; at the same time the lower end of the tube rode up and down for half an inch upon the mucous membrane, and, with the early tubes, dug its way in, leaving bare the tracheal rings. To obviate these drawbacks, the lower extremity was thickened and rounded into a smooth knob. Let us bear in mind that the backward curve, the blunt rounded head of such odd shape, the knobbed lower end, with the thin-walled, laterally compressed upper end (of the tube) were the results of long painstaking study and experiment, measurements and casts, trials of models, changing and changing for six years.

The earliest specula, springs, and tubes were made by a German, far down town, who was clever enough in his way, but his way was troublesome. To meet him O'Dwyer had to go to his shop, when, finding it vacant, he would hunt the nearest gardens and saloons. Sooner or later he would find him and sit by him till the work was done. He was the only man who he knew would do what he wanted and do it in his way. Later he had better fortune in the instrument maker he employed for years, and who alone still continues to make O'Dwyer's tubes—that is, tubes as he wished them.

After all the six years of thinking, trying, and changing, what happened the moment the tubes were put before the public? There was no patent to restrain any maker. He could make O'Dwyer's tubes, as many as he liked; and never a maker who looked at them admitted for a moment but that he could make them—yes, make them exactly, just a copy of them, faithful to the model. What did these complacent makers do? They never took a thought of such a thing as a backward curve. As for the head being that odd shape, what difference if they make it a trifle more simple? Even the rounding of the edges did not appeal to them. As for the swell, that was satisfactory; and the lower end of the tube—why, they left it sharp. At O'Dwyer's request, I picked up in London and different places samples of tubes that their best makers were selling, and tubes made from models sent out from New York with O'Dwyer's approval. They were a travesty. They embodied every vice. There was only one way they could be made worse, and that was by indenting the cutting edges like a buzz saw. They would be ludicrous, were they not cruel. The English made the worst possible intubation instruments. Little wonder they were not pleased with their first results. This was to O'Dwyer one of his secret grievances in life. "Bad tubes!" he would say; "bad tubes!"

The perfect intubation tube of to-day is made of hard rubber. Upon it lime salts do not form to tear the mucous membrane; it does not corrode, does not require replating; it is boiled and disinfected with the utmost freedom; it can be worn indefinitely without removal. The hard-rubber tube, children's size, is the latest improvement from the hand of the inventor—O'Dwyer.

Difficulty in feeding was one of the great drawbacks to the success of intubation. Diphtheria patients must be fed these five days of tube wearing. Finally, the Casselberry method was a great relief. Dr. Casselberry, of Chicago, fed a patient who had lost his epiglottis through tuberculosis, by making him swallow up hill. If fluids entered the trachea, they instantly gravitated out. This method he applied to intubated patients, with great joy to Dr. O'Dwyer.

Two years after intubation was given out fully to the public, and half a year after the first ovation to its inventor at the International Medical Congress in Washington,[1] Mrs. O'Dwyer died. For those who knew the man, it is not difficult to understand how much he needed all that is comprehended in the word "home." He was a retiring man, of few words; always thinking, sensitive, conscientious, diffident. If any near friends were asked what was the one thing most necessary to a man of Dr. O'Dwyer's disposition for his contentment and happiness in life, the answer would be, "A congenial home atmosphere." If asked what kind of a wife was required to produce such congeniality, they would say one who was hopeful, sympathetic, encouraging. If we add to these qualities beauty and absolute devotion, we have a fair picture of Dr. O'Dwyer's chosen companion. No published report on intubation, no fleeting gossip, no current views and criticisms escaped her. No friend who called ever missed an opportunity of telling Mrs. O'Dwyer any favorable experience or report on intubation. To see her drink it in, to see her handsome face and eyes light up, were ample recompense for a little trouble. Equally entertaining was the doctor's quiet chuckle and remonstrance. Her visit to Washington, when intubation had its first ovation, at the International Medical Congress, was an occasion of the highest degree of wifely pride and rejoicing.

Dr. O'Dwyer was a poor sleeper from the time he began thinking on intubation. The thoughts of the day clung to his brain at night, and sleep was at first broken, and at length absent, for the greater part of consecutive nights. After the death of his wife followed the years in which intubation became popular in New York, and his doorbell rang much at night. Even though he did not go out, he could not sleep again. Once a tube was inserted in a child's larynx, his anxieties began. The operation was new; the accidents were all reported to him from the whole world. These worried him. Not to dwell too long upon the subject, his whole tranquillity of mind was destroyed, and sleep was gained only with greatest difficulty. Another point I wish to make is that with all this struggle to sleep, and frequent recourse to sleeping-medicines, he never was bound by any drug habit. To my mind, watching him as I have for months and years, the strength of character shown in this respect is unequalled by any other example. Intubation de-

[1] Referring to the above, I have received the following:

"DEAR DOCTOR: You made a mistake which you will be glad to correct, in speaking of the "first ovation to Dr. O'Dwyer at the International Congress of Washington." The first public appreciation of his work, amounting to an ovation, was that of the State Medical Society, February, 1887.

"Very sincerely yours,

"A. JACOBI."

stroyed his ability for good sleep, it broke his health, it made him prematurely old.

If I were asked what was the chief characteristic of Dr. O'Dwyer's medical excellence, I should say his habit of thinking and his good logic. He had a good medical mind, good medical judgment—that quality which allows a man to grow after the age of forty. Physiological subjects connected with respiration interested him much. Why a lung expands after an empyema is operated upon was one of his night cogitations. He was a man of few words, but a short conversation with him was sure to set one thinking. He wanted to ask everybody some question—if a laryngologist, he had numerous questions; if a neurologist, orthopædist, ophthalmologist, he had questions for all. Some question had come to him in the night, or in the street car, and he saved it until by chance he met the specialist who could answer it. In later years his vision was not good and he read less. Again he was reduced to thinking. He was a recluse, and reflection was his refuge.

To the New York Foundling Hospital, with which he was connected for twenty-five years, Dr. O'Dwyer was everything. To the maternity service he was the expert obstetrician; in intubation, he was the teacher; in general service, his was the constant consulting mind; to the Sisters of Charity, he was the physician, the friend, the general regulator of the household. All adored him.

Few know that Dr. O'Dwyer had attended three thousand confinements. Dr. Henry Blodget, one of our internes, who had taken a special and extended course in obstetrics in Vienna, one day exclaimed: "In his own way Dr. O'Dwyer has come to practically the same methods and results as those of my Vienna teachers, and there's nothing he has not seen!"

Of Dr. O'Dwyer's last illness, Mr. President, I have not the heart to write. He longed for sympathy and friendly encouragement, and so would be pleased with this meeting; but the one paper which he would beg to have suppressed is the one to which you are now listening. As to the rest of the papers, they would be a pride to his boys.

In his early life Dr. O'Dwyer was taken with pulmonary hemorrhage. For three years he lived in the woods of Michigan, a member of a surveying-party, and ever since counted himself a case of consumption cured. For several years he had been rather feeble. His walk suggested effort. In the morning he was languid and dull. His only good sleep came to him about the time that early callers were liable to pull his bell. He was fatigued easily, and had but little resiliency. With all this sleeplessness, languor, and easy fatigue, reflect upon his record of things accomplished! Thinking was left to him, even when his eyes weakened.

Whatever forces wrought it, whether a combination of physical weakness, the mellowing influences of religion, the chastening of affliction, and the constant devotion to his motherless boys, Dr. O'Dwyer's was the most godlike character I have ever seen in man. There was an abundance of spirit. He could be very angry—a sort of justified indignation—but this feeling found only temperate expression. He was ambitious, but scrupulously careful to recognize the contributions of others. His ambitions were, after all, largely to have his boys think well of his achievements.

O'Dwyer was as peculiarly sensitive to every criticism on intubation as though it were his bride or his baby. It worried him that such imperfect and cruel instruments should be made and sold. The unfavorable criticisms when intubation was first made public cut him to the heart. They were much of this manner: "The larynx will not tolerate a tube" or "a foreign body; the calibre is too small; it will drop into the trachea; it will become plugged." Medical men had many inspirations concerning the dangers. Strange to say, they all thought the operation easy—any one could do it. Then came modifications, so-called "improvements." Every green graduate saw improvements at once. These improvements promptly appeared in print, with a cut and the name of the callow youth. Then the instrument makers made tubes. They made them cheap. Why? It was obvious to them that they could be cast in a solid piece, not made in halves and put together. They smiled in a superior manner at the tilting back of the head; they improved its shape, they took little thought of the retaining-swell, and overlooked entirely the knobbing of the lower end. Their tubes fitted the larynx much as false teeth would be expected to fit the œsophagus.

Mr. President, and friends who really knew Dr. O'Dwyer, I am speaking for you. Hear me, and witness. What the world knows of this man are his genius as an inventor, his achievement in adding to the equipment of the profession a great operation; he made the most conspicuous real contribution to medical progress within fifty years. That the world knows, that the world has acknowledged. To us there is another and a pleasant duty—to testify that with this genius there was all that goes to make a man. His home life, his religious life, his civic life, his professional relations to colleague and patient, his hospital relations were such as befit a high-principled man. Wherever he moved in the daily routine of life, he left little groups who delight to tell of O'Dwyer the man. Those of us who were accustomed to go to him for advice, or those who wished simply to be in his presence for the nameless pleasant influence of his personality, have lost a part of our lives; there is left to us a daily-recurring impulse, as to one in a light sleep, to rise up and seek him out. Finally, highly as we here present, all friends of this good and great man, highly as we esteem him as an inventor and genius, highly as we rate him as a practitioner of wide knowledge, much as we valued his superior medical judgment, there is one feature we would place high above this all. We would write upon his monument his achievements, his general knowledge, his medical judgment, but above them all we would write: "O'Dwyer, the Man."

EXTRAGENITAL LESIONS OF SYPHILIS.[1]

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The intensely infectious nature of the poison of syphilis, the very extensive territory over which this malady extends, are always of interest; but so thoroughly established are the cardinal facts relating thereto that additional evidence may be considered unnecessary. We all agree that as a venereal disorder syphilis is widespread. We rarely dispute the belief that the chancre or initial lesion both marks the beginning of the malady and is very frequently the chief source from which the infectious material is disseminated. The recognition of the initial lesion is but too frequently mistaken; not until some of the pronounced secondaries have appeared, not until many opportunities for infecting the innocent have occurred, do we make the correct diagnosis and institute precautions for the protection of the innocent. This delay in diagnosis is not because of inherent difficulties, but merely because our attention is seldom directed

[1] Read at the semiannual meeting of the Medico-Chirurgical Faculty of Maryland, at Ocean City, Md., September 16, 1897.

to the fact that, no matter where the initial starts, it will still preserve its dominant traits. When it is located on or about the genitals we almost intuitively begin the differentiating process, while when it is encountered in exceptional localities we seem to act with the reserve meted out to a new acquaintance. The points for diagnosis here as elsewhere are the same. An ulcer is by far the most common lesion, though a moist papule is often seen, or the sore may present as a mass of fungoid granulations. The amount of secretion is rarely great; infection with the staphylococcus or streptococcus sometimes impresses more destructive features upon the local ulceration than is normal, and may lend thereby an element of some uncertainty. This point was well marked in one of the following cases, in which the lesion was located upon the lip. Microscopic examination of the secretions will be of aid in suggesting the requisite local treatment appropriate. Induration of the sore is rarely wanting; it may be but slight in some cases, especially the moist papules, but its entire and complete absence I have rarely seen. Generally the degree of hardness is sufficiently marked to form a special feature. The nearest lymphatic glands are those most frequently found enlarged. When the lesion is upon the face I have found the glandular disturbance very decided, often unsightly, causing more distress of mind to the patient than the sore itself. Deductions as to the nature of the sore dependent upon the incubative period, while of great value when the lesion is genital in location, are seldom of service with the extragenital lesions, owing to the difficulty in locating the time, mode, or manner of infection. Attention to the sore, its induration, scanty secretion, and associate glandular involvement furnish the necessary data.

Treatment.—It seems to me best to delay the administration of mercury until after the cutaneous eruptions are positive. Undoubtedly, however, this rule can often be violated advantageously, and should be when the lesion is menacing to the interest of others; and yet even in such cases it is best to suspend this drug just as soon as the local sore has been brought under control. Black wash, after the sore has been carefully cleansed as for surgical work, has given me more satisfaction than have any and all other topical applications. Nitrate of silver is often serviceable. The dry powders, taking up some of the secretions, will at times assist in comforting the patient.

Case I.—Chancre of finger. I. T. W——, a physician of rather irregular habits, aged forty-seven years, was referred to me by my colleague, the late Prof. O. I. Coskery, November, 1879. He had been annoyed for five or six weeks by a sore on the left index finger. Examination showed an ulcerated surface, secreting but little, not specially painful, and surrounded by a decided area of induration. Lymphatic enlargement of cubital, axillary, and postcervical glands was well marked. The doctor stated that under the impression that the sore finger was a mere "runaround" he had poulticed it for days, without relief; that he then considered the trouble to be the result of some local poisoning, and had cauterized it freely, following this with poultices. When Dr. Coskery first saw the case he believed it due to a post-mortem infection, and had on two occasions thoroughly cauterized it, but as improvement did not take place he had referred the case to me. The patient on being questioned recalled an attendance upon a syphilitic woman who aborted at three and one-half months some three weeks prior to the development of his sore finger. She at that time had vulvar condylomata and other lesions. The diagnosis of syphilis was one he was unwilling to accept. In a few weeks an extensive pustular syphilide appeared, followed by mucous plaques in the throat and mouth. Mercury was liberally used with great benefit, the local sore healing' eruption and patches disappearing. His irregular, dissipated habits favored a malignant type of syphilis, and in eighteen months a severe sore in his mouth was followed by perforation of the hard palate. He died in 1883 from some brain and visceral troubles, probably syphilitic, for he had abandoned practice and removed from this city.

Case II.—Chancre of lip. G. A. C——, aged twenty-four years, a variety actor, was seen May 2, 1882. He complained of a sore located on the lower lip, which had been there for about four weeks. Sore greatly indurated and but slightly ulcerated; sublingual and submaxillary glands much enlarged. When the nature of the lesion had been explained to him, he accounted for it by stating that one of the girls in the troupe with which he was engaged had some kind of rash on her face and body, and that he frequently kissed her. On examination of the girl a papular syphilide was found over her body, with mucous patches on the tongue and the side of the mouth. Within a few weeks the usual secondary eruptions, followed by loss of hair, sore throat, etc., developed. Under a careful treatment the disease was brought under control. The patient followed up his treatment for four years, then married, and has suffered no bad results. He was seen and examined in 1894.

Case III.—Chancre of nipple. Mary W——, aged thirty years, consulted me for a sore located on the right nipple, August 9, 1885. She attributed the sore to the bite of a mosquito. The sore in question was on the side and base of the nipple, ulcerating in type, secreting feebly, decidedly indurated, with great glandular enlargement—mammary, axillary, and postcervical. It had been first noticed in the early part of July. After the nature of the sore had been explained to her she admitted that a young man to whom she was betrothed had taken some liberties with her, and had several times sucked her nipples. She brought him to see me. In his mouth were mucous patches and a typical pustular syphilide was over his body. In October a macular eruption, with loss of hair and eyebrows, appeared. She was married in January and in May aborted a three-months' fœtus.

Case IV.—Chancre of nipple. Mary C. B——, aged twenty-two years, single, was employed at the Nursery and Child's Hospital as a wet-nurse. According to her statement her family history was good. She had never suffered from any severe illness and was of robust physique. She was confined with an illegitimate child on August 10, 1887. Three weeks later, after careful examination, she was received into the nursery as a wet-nurse, but a foster child was not given her until September 15th, at which time a newly born babe, apparently but a few days old and in perfect health, was assigned her. She was advised to nurse her own child always from one breast and give the other to the foster child, which she did. On December 7th, she complained of some soreness of the nipple used by her foster baby. A small superficial excoriation was noticed along the side and base of the nipple; its appearance was that of a moist papule, and some simple ointment was ordered her. December 16th, she complained of increased soreness in that breast; the axillary glands were found enlarged, sensitive, and stony hard; the sore upon the nipple had extended somewhat and had become thoroughly indurated. General lymphatic enlargement was now made out. General pustular syphilide developed in February. Careful examination of the foster child was now made, which resulted in the finding of several mucous patches on the side of the tongue and buccal membrane; the buttocks, too, were chafed and excoriated. The child was placed upon Gray powder. Black wash was ordered for the mouth, and in a few days some

improvement began; the amount of change in nutrition was unsatisfactory. In February the mother was placed upon a rigid mercurial course, with rapid improvement and disappearance of all active symptoms. The foster child died in May, from meningitis syphilitica. Her own child remained free from all signs of the disease; it was seen some two years later and was still free from all evidences, though the mother had suffered from sore mouth and an attack of iritis after leaving the institution.

Case V.—Chancre of anus. F. H. W——, aged thirty-two years, single, of spare build, consulted me for supposed hemorrhoids, November 7, 1890. Family and previous history unimportant. On examination I found an ulcerated sore involving the external sphincter, area around sore indurated, some mucopurulent secretion, sphincter rather relaxed, and anal orifice patulous. The trouble was regarded as an irritable fissure. The patient had been complaining of this rectal disturbance for over two weeks. A simple ointment was ordered and he was directed to report on November 10th. At this time the condition of the sore showed more decided induration; the inguinal glands of both sides (unnoticed at the first visit) were enlarged, movable, non-adherent, and stony hard. November 15th, the glandular enlargement was more decided and could be now classed as general; there was no improvement in the local sore; over the abdomen a slight macular eruption could be made out. November 20th, eruption decided and general. Some soreness of the throat was complained of, due to tonsillar patches. The patient was now placed upon proto-iodide-of-mercury pills, one-fourth of a grain, the dose increasing rapidly. December 1st, decided improvement. January 3, 1891, anal sore healed, body free from eruptions; hair falling out: an occasional mucous patch about the mouth the only annoyance. After a rigid cross-examination the patient confessed that he had for several years been in the habit of indulging in abnormal sexual relations; that even since he had been under my care he had indulged in the bestial practice.

Case VI.—Chancre of lower lip. J. H——, colored, female, married. Entered City Hospital, August 30, 1892; was discharged, October 24, 1892. Family history negative; previous history good. Husband healthy. About the 1st of July, the patient says, she struck her lip against the mantelpiece. There was an ulcer in the left corner of the mouth and lower lip, nearly two inches across externally. Base decidedly indurated; secretion from ulcer not very great. Submaxillary, suprahyoidean, and general cervical glands greatly enlarged and of stony hardness. Local treatment with antiseptics, etc., then with the black wash soon brought the ulcer into a healthy condition of granulation. October 7th, a pustular syphilide was made out over the trunk and extremities. She was then placed upon a mercurial course (inunctions). An operation was attempted, looking toward the restoration of the lip, but resulted in only a partial success, owing to the low vitality of the tissues. Granulations, however, closed the wound. She was supplied with medicines and ordered to continue treatment. She reported in January, at which time she was found to be about seven months advanced in pregnancy. She was delivered of a child at term. The child when seen last (one month old) did not show traces of syphilis. The mercurial treatment had been faithfully attended to from October. No definite information could be secured as to the source of actual infection.

Case VII.—Chancre of hard palate. Stella H——, aged twenty years, single; common prostitute; mother of a child now nine months old. Applied for treatment at City Hospital, November 5, 1892. Family history negative. She stated that about one week ago a small sore, which had become so painful as to interfere with her eating, had made its appearance in the roof of her mouth. An indurated sore, about the size of a ten-cent piece, was found about the middle of the hard palate. No genital lesions could be made out. The auricular and anterior cervical glands were enlarged. We learned that this patient was known as a common "sucker." She claimed that a man with a sore mouth stuck his tongue in her mouth during intercourse. Black wash was ordered. She reported again about Christmas, with a coppery-colored eruption over the chest and abdomen, buccal mucous patches, etc., and was then placed upon proto-iodide of mercury. She reported again in July, laboring under the effects of a miscarriage at the fourth month. She had syphilitic condylomata around the anus and labia, with laryngeal lesions, and was placed under rigid treatment. In April, 1895, she was seen again and seemed free from all active symptoms.

Case VIII.—Chancre of tongue. George H. B——, aged thirty-two years, civil engineer; consulted me, November 5, 1893. He had always enjoyed the best of health (a statement more than corroborated by his appearance); had had gonorrhœa five years before. He claimed that the sore tongue for which he consulted me began in the last week of August. Examination showed an ulcerated sore on the left side of the tongue, one and one-half inches internal to the tip, about the size of a nickel. The sore was much indurated; the submaxillary, sublingual, and suprahyoidean glands were greatly enlarged. On his body there was a decided pustular syphilide; the hair and eyebrows were falling out, etc. The nature of his disease was carefully explained to him in detail. He accounted for the lesion as one contracted by smoking a pipe belonging to a friend who had been camping with him during the summer. His friend had syphilis. He was placed upon constitutional treatment, which he carried out faithfully. When last seen, January, 1896, he had no active trouble, and was still continuing treatment.

Case IX.—Chancre of lip. C. O——, aged twenty-two years; white: prostitute by occupation. Admitted to City Hospital, June 29, 1893; discharged, October 21, 1893. In April, 1893, her upper lip became chapped; some time afterward she noticed a marked hardness about the fissured lip, which increased the swelling and deformity until she came to the hospital. When she was examined, on the left side of the upper lip an ulcerated sore, about the size of a dime, was found. Its edges were prominent, hard, with scanty secretion; there was submaxillary, cervical, and epitrochlear glandular enlargement; a coppery-colored papular syphilide existed over the trunk and extremities. She was in the third month of pregnancy. The patient was placed upon proto-iodide of mercury; locally black wash was used. Under this treatment the ulcer healed rapidly and the eruption disappeared. She was sent to the Maternity Hospital, October 21st. Her child died in April, from a syphilitic meningitis. The mother, under continuous treatment, has shown no recent symptoms. No history as to the mode of infection could be made out.

Case X.—Chancre on hand. John T——, aged twenty-two years, laborer. Admitted to City Hospital, September 21, 1894; discharged, November 22, 1894. Previous history good. Present condition: Lungs, heart, kidneys, and general condition show an excellent state of health. No marks of syphilis about the body except the sore hand. At the base of the middle finger of the right hand is an ulcer, one-half inch in diameter, slightly elevated, with thoroughly indurated base, ending abruptly in the surrounding tissue; there is only slight secretion. Epitrochlear and axillary

glands enlarged. This sore had existed since August 21st, and was believed to have been produced by striking a man in the mouth. October 1st, several sores, mucous patches, were found in the mouth. October 5th, a diffuse roseola appeared on the back and abdomen. The patient was placed upon one-fourth of a grain of proto-iodide of mercury three times daily, the dose being increased till physiological symptoms were induced, and then this drug was continued in reduced doses. November 15th, the sore on the hand had healed and all other lesions disappeared. He was discharged on November 22d, but was at once employed in hospital work and so remained under treatment and observation until February, 1895. No further syphilitic lesions developed.

Case XI.—Chancre of lower lip. W. F. M——, white, aged thirty years, widower. Admitted to City Hospital, February 2, 1894; discharged, April 15, 1894. Family and previous history good. Without any assignable cause, he says, the sore upon his lip made its appearance some two months ago (December, 1893). When admitted to the hospital the patient had an ulcerated sore upon the left side of the lower lip, about three-fourths of an inch in diameter. It had only a scanty secretion, was indurated and cartilage-like in its feel, and ended abruptly. The glands of the left side, submaxillary and suprahyoidean, were particularly enlarged, though a general glandular enlargement existed, and a macular syphilide over the entire body. The patient had been living with a prostitute for over two months. He said she had had a sore mouth and objected to his kissing her. Mercurial inunctions were prescribed. March 1st, one-fourth of a grain of proto-iodide six times each day was ordered; much improvement. March 31st, ulcer healed; mucous patch on inner surface of lip. April 15th, no lesions. Discharged.

Case XII.—Chancre of lower lip. James G. W——, aged twenty-five years, single. Applied for aid at the dispensary of the College of Physicians and Surgeons, July 10, 1895. Patient had been spending some two weeks in the camp of the State militia and had used the camp drinking-cup. Ten days after returning home an ulcer, the size of a dime, appeared on the margin of the lower lip. The surface was covered with a slight purulent discharge. The lymphatics were much enlarged, especially the submaxillary of the affected side. The ulcer was moderately indurated. No signs of syphilis could be made out on any other part of the body. The sore was treated simply pending the evolution of secondary symptoms. The patient transferred his attentions to a neighboring hospital, from which source we learned that in August pronounced constitutional symptoms of syphilis had occurred.

Case XIII.—Chancre of upper lip. Henry G——, aged twenty years, applied for treatment at the dispensary of the College of Physicians and Surgeons, February 27, 1895. For the past six months the patient had been keeping company with a prostitute, who had, according to his statement, an eruption on her body and a sore mouth. One month ago (January, 1895) a sore appeared on the margin of the upper lip, and one week ago a sore was noticed on the lower lip. Present condition: Patient is in good health save for his local condition. There is an indurated sore on the upper lip, the size of a copper cent. Similarly located on the lower lip, there is a sore not quite so large, not indurated, which he says came from a chap. Cervical and auricular lymphatics enlarged. No eruptions or lesions on mucous surfaces; genitals show no lesions. Sores upon both lips, covered with purulent secretion. Patient was ordered black wash for the sores but no constitutional treatment, and to report in one week, which he failed to do. He was seen at his home three weeks later, suffering from marked secondary symptoms, mucous patches, and a papular syphilide. At this same visit his mistress was examined, and found to have mucous patches in the throat and on her lips. Both were placed upon constitutional treatment, given advice as to the contagious nature of their maladies, and urged to continue treatment. They failed to report for further advice.

Case XIV.—Chancre of face. William R——, aged twenty-one, single. Applied for treatment at the dispensary, March 20, 1897. Family history negative. Previous history: Had gonorrhœa last October, and was now suffering from posterior urethritis. On the night of December 7, 1896, the patient slept with a prostitute who had been treated at the City Hospital for syphilis. At this time the patient had a small pimple on the left side of his face, which the woman bit and sucked. Three weeks after this he consulted a doctor for this sore, which was then about as large as a dime, very hard, and was discharging a small amount of pus. The sore did not improve, so on March 20th he applied at the dispensary. The sore at this time was one inch in diameter, greatly indurated, red, and covered with granulations. Submaxillary and cervical glands much enlarged; mucous patches in mouth; falling of hair; a papulo-squamous syphilide over the body. He was placed upon mercurial inunctions and proto-iodide pills. Improvement was decided. The sore on the face was soundly healed by May 10th, though a deep red spot marks the site of it. May 28th, the body was free from all signs of active syphilis.

Case XV.—Chancre of tongue. Sarah S——, aged thirty, dressmaker, single. Admitted to City Hospital, February 19, 1897. Family history negative. Previous history: Six or seven years ago was treated for gastritis; two years ago had nervous prostration. In December, 1896, developed rheumatism, for which she was treated at the City Hospital; was discharged February 12th, and was readmitted February 19th, complaining of a sore on the left side of her tongue. The patient said she noticed this soreness of her tongue before she was discharged, but supposed it was due to her medicines. Present condition: On the left side of the tongue is a single sore the size of a nickel, decidedly indurated, with little or no secretion; the submaxillary, sublingual, suprahyoidean, and cervical glands are enlarged. Over the chest, back, and inner side of the arms and thighs is a decided papular syphilide. She states she used the same drinking-vessel and towel used by a syphilitic patient who occupied the bed adjoining her own. She denies all sexual relations, cannot recall kissing any one, nor can she give any clew to the source of contagion, save that of the syphilitic above alluded to. Under rigorous constitutional treatment all lesions disappeared. She is still under treatment.

Case XVI.—Chancre of lower lip. Mary E——, housewife, married, aged thirty, mother of three healthy children. Previous history negative. Came to dispensary of college February 12, 1897, with the following history and symptoms: Her husband had for some time past been treated for a sore mouth. About the last of January the patient noticed a swelling on the lower lip, which had been getting larger, had ulcerated, and from which there was but little pain. Present appearance: On the right side of the lower lip near the angle of the mouth is a somewhat elevated, moderately indurated, circumscribed sore, one-half inch by one-fourth inch in diameter, with brownish-red, polished, clean, ulcerated surface. On the corresponding side the sublingual and submaxillary glands are much swollen, round, and hard; the cervical glands are involved to a slight extent. The buccal mucous membranes, etc., are normal. Her husband was seen and examined. On the buccal mucous membrane and tonsils were numerous patches; over

the abdomen was a fading macular syphilide. There was general glandular enlargement. Owing to the great cosmetic defect and the danger of infection to others, she was at once placed upon strict constitutional treatment. In ten days the sore was covered with epithelium, induration was much less, and glandular enlargement was reduced, when treatment was discontinued to await development of secondaries. After a month's delay it was learned that she was about two months pregnant, so constitutional treatment was again pushed. On June 5th the patient's appearance was about normal; there were a small mucous patch on the hard palate, some huskiness of voice, etc. Treatment was ordered to be continued. She reported the last week of August that she had stopped all medicine and had miscarried. A general pustular syphilide covered her body, and there were mucous patches in the mouth, much loss of hair, and marked physical debility. She is now under active treatment.

Case XVII.—Chancre of thigh. Kate M——, aged two years, was brought to the dispensary of the College of Physicians and Surgeons, November, 1896. Family and previous history negative. On the inner side of the left thigh, upper part, was a clean-cut ulcer, three-fourths inch in diameter; the sore was thoroughly indurated, cartilage-like, and secreted but little pus. The inguinal glands were stony hard, and enlarged on both sides, but more markedly on the left. A papulo-squamous syphilide was found over the trunk, back, and extremities. The mother has two other children, both healthy. She herself showed no evidences of syphilis. She told us the sore upon the thigh was of more than two months' duration: that the eruption over the child's body was of one week's only. No positive mode of infection could be made out. Treatment was ordered. The child never reported again, and when looked up could not be found.

The location of these seventeen lesions, summarized, were: Anus, 1; cheek, 1; fingers, 2; lip, upper, 5; lip, lower, 2; hard palate, 1; nipple, 2; tongue, 2; thigh, 1; total, 17. The consideration of these and similar cases occurring in the practice of almost every physician raises at once a most important question, viz.: Can anything be done by us in our capacity as physicians which may prevent, or, failing that, minimize the spread of this and similar affections? The first duty of the physician should be to disseminate knowledge — to his patients as regards any special lesion he may have; to the public at large as regards the nature, manner, and mode of infection of this as well as of all other infectious disorders. There is a rather widely spread belief among the laity that only the initial lesion of syphilis is capable of producing that disease; that when once this sore has disappeared, not only are the victims not liable to distribute their disease, but that they are absolutely well. If, while the initial lesion is present, some form of mercury has been administered to them, the usual delay in development of the secondary phenomena dependent thereon often induces the conviction that they have never had the disease. Indeed, I have seen a number of medical men who rejected their first carefully made diagnosis, only on account of the fact that the secondary phenomena had not developed within the time limit expected by them. Such patients, lulled to fancied security, become dangerous in the extreme to the innocent as well as to themselves. It is upon this class that the essential facts pertaining to the contagious lesions of syphilis should be firmly impressed. No half-way views should be tolerated. The truth, even with its horrors as we physicians see them, should be made a subject of general information. The community at large has always shown, as is but natural, the greatest desire to escape disease, and by wise legislation to avoid or reduce to a minimum the chances for its contraction whenever the dangers and facts pertaining to it have been carefully brought to its notice. The spreading of knowledge concerning syphilis and venereal disorders has been opposed by most of the rigid moralists and clerical classes, rather, I desire to believe, from ignorance of the essential facts, than from any hope of ever freeing humanity by any system of morals. They do not believe in giving such protection and countenance to immorality as belongs to a well-regulated licensing-system, because they labor under the belief that these disorders are invariably contracted in a venereal manner. While we cannot but admit the greater frequency of their venereal dissemination, we must not fail to impress upon all that there are other modes; that the innocent are often accidentally infected and become agents for the scattering of this social pest. These cases, just reported, are indeed valueless, if they fail to impress one with this deduction.

No matter how rigid our moral ideas may be upon the subject of licensing prostitution, we must not allow prejudice to obscure facts. We must recognize the sexual passion as one of the strongest impulses of our nature; that wherever men and women cohabit promiscuously there will be found the whole class of venereal maladies, and that some of the innocent must fall victims to the prevailing disorders. To protect and save even the few is an imperative duty. The regulation of prostitution by law is neither new nor yet an untried experiment. In 1863 the experiment was made at Nashville, Tenn. Medical Director Gihon, of the United States navy, reports that the amount of venereal disease was markedly lessened: that the women, who at first were rebellious, not only became quite reconciled to the system, but often voluntarily came to the hospital for examination for suspected disease. In 1872 the legislature of Missouri passed a law requiring registration of prostitutes and medical examinations at regular intervals. When found diseased they were sent to and retained in a hospital until they were cured. Under this system the number of prostitutes as well as the amount of venereal disease decreased. In the *Medical News* of June 12, 1897, Assistant Surgeon Crandall calls attention to the impairment of the United States naval service through the prevalence of venereal disorders. In the London *Lancet* of January 30, 1897, the condition of the army in India since the repeal of the "cantonments acts," relating to the medical inspection of prostitutes, is vividly shown. More than one-third of the entire army is reported invalided from venereal disorders, and fully one-half of the army is unfit for marching-service.

So long as human nature remains unchanged, so long will venereal maladies exist. The sexual appetite must and will be gratified; it is devoid of a conscience. Wise legislation and the regulation of prostitution by license have afforded protection to many, have improved the morals of the community, and have afforded the means through which many prostitutes have been redeemed and have been restored to lives of usefulness.

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Gastro-Intestinal Antisepsis.—At present we are groping in the experimental stage. The list of so-called antiseptics is all but unending. Successes are not so common as failures, and yet enough has been accomplished to warrant still greater effort. The way to fame through the field of bacteriology, like the maddening rush for wealth along the mighty Yukon, must, expectedly, be impeded by error, disappointment, and failure; but neither individual error, disappointment, nor failure can stay the onward march or detract from those who succeed.—Dr. A. J. Pedlar.

THE NON-RECOGNITION AND ERRONEOUS DIAGNOSIS OF LOCOMOTOR ATAXIA.[1]

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THE pathological process underlying the disease known as "locomotor ataxia" is a parenchymatous degeneration terminating in sclerosis, which principally involves the sensory neurons. The peripheral motor neurons are also frequently implicated. In other words, it may be looked upon as a degenerative disease affecting various parts of the entire nervous system, while the most pronounced and extensive lesion is found in the posterior columns of the spinal cord. The morbid process may attack the cranial nerves and their nuclei as well as the peripheral nerves in the extremities. The brain cortex does not always escape. In the vast majority of cases there is an antecedent history of syphilitic infection. It is therefore considered by many as a metasyphilitic process, *i.e.*, a sequel of syphilis. The time of life at which it usually appears is between thirty and fifty years of age, affecting males oftener than females. The disease is insidious in its origin and slow in its progress. These facts although briefly mentioned are of much diagnostic value.

The appearance of a classical case of the well-advanced disease, as described in the text-books, is familiar to all. When such a case has once been seen it will always be remembered, and therefore requires no special description here. There is a superabundance of convincing proof to establish the fact that this, probably the commonest form of organic nervous disorder, often remains unrecognized for months or years during its early stages, although ample evidence of its presence may be discoverable by proper methods of investigation. To the most sanguine neurological mind the approach of the medical millennium does not imply the restoration to life and normal function of sclerosed and destroyed nerve structures; but, if our modern therapeutic methods are to prove curative in this disease, they must be utilized before organic changes are too far advanced.

We will all probably agree that our only hope of success in its treatment, rests in a correct diagnosis at the earliest possible moment. It would therefore not be exaggerating the importance of this subject to say that a periodical repetition of the data herein contained may ultimately lead to an earlier recognition of the disease. In the limited time at my disposal I shall dwell only upon its salient clinical characteristics, endeavoring to direct the earnest attention of the general practitioner to the diversification in its symptomatology, and to point out several of the affections with which tabes may be confounded.

The early diagnosis of a disease which, so to speak, is chronic from its very beginning, is of incalculable value, inasmuch as it saves the patient much misdirected and useless medication. When unrecognized tabes has existed for some time, various pronounced symptoms may appear and, although a part of the disease, may conceal its true character. Its presence is frequently unsuspected by the attending physician until the signs are so conspicuous that they almost speak for themselves. The symptoms occurring in the early stage, or at any time during its course, which may lead to its recognition, may be divided into two classes, and are grouped for convenience in the following order:

I. Symptoms Recognized by the Patient.—(*a*) Pains, cutaneous hyperæsthesia, and paræsthesiæ. (*b*) Slowness or difficulty in micturition. (*c*) Diplopia, ocular paralysis, failing or defective vision. (*d*) Transient loss of power in the lower extremities. (*e*) Inco-ordination in walking. (*f*) Visceral symptoms, known as "crises" affecting the gastro-intestinal tract, bladder, or rectum, and occasionally laryngeal crises. (*g*) Disturbance of sexual function.

II. Objective Phenomena Discovered in the Physical Examination.—(*a*) Absence or weakness of the knee jerk. (*b*) Pupillary signs, ocular paralyses, optic atrophy. (*c*) Areas of anæsthesia and retarded conduction of sensation. (*d*) Inco-ordination. (*e*) Insensitiveness to pressure over the ulnar nerves at the elbow in some cases. (*f*) Affections of the bones and joints.

It is not meant to imply that such an array of symptoms is found in every case. That would indeed be very hard lines for the sufferer. It is well, however, to be aware of the probable appearance of one or more of them during the course of the malady. In almost all diseases, as a general rule, relief is sought from the annoyance or discomfort caused by some obtrusive symptom, while many other existing but less troublesome symptoms, although known to the patient, are looked upon by him as trivial or unimportant. Pain, difficulty in walking, bladder trouble, failing vision, or ocular disturbances are the common symptoms that lead the tabetic patient to seek medical advice. The paroxysmal pains, the difficulty in micturition, the rigidity of the pupils, the absence of the knee jerk, and the disturbances of sensibility are the essential elements of the disease and constitute its clinical picture. As tabes is the most common chronic organic disease of the nervous system, the practitioner should always be on the alert for evidence of its presence.

Incontinence or retention of urine is frequently an early symptom. Considerable effort is required in micturition, the urine flowing slowly. Quite often the bladder is not completely emptied and the residual urine may undergo decomposition and thus set up a cystitis. These patients are often treated for a long time for supposed urethral stricture or enlarged prostate, without relief, the surgeon not suspecting the true nature of the trouble.

Pain is often one of the first symptoms in tabes. The character of the tabetic pains is as a rule pathognomonic. They are irregular in their distribution, "sharp," "piercing," "cutting," or "stabbing," being rapidly repeated at the same spot, which often becomes extremely sensitive to the slightest touch. Although they differ essentially from true neuralgic, muscular, or periosteal pains, they are often thoughtlessly considered as being of such origin. Hence it is a common experience of the neurologist to receive such patients with their announcement that they have previously been under treatment for rheumatism or neuralgia. In order fully to appreciate the significance of these pains, it is necessary to study this symptom carefully and minutely. It may surprise some to hear that they are not always confined to the lower extremities. I have records of a number of cases in which the pains were limited to the inframammary, intercostal, dorsal, or lumbar regions. On the other hand in some patients pain is either entirely absent, or only a slight, dull, circumscribed, and aching pain is complained of. In the majority of cases, however, the pain most frequently affects the lower extremities. Indeed, the pains are known to attack almost any part of the body. They may appear in the form of trigeminal facial pain or be located in the scalp.

In some instances the rectum may be the seat of severe pain that is remittent in character. Not being relieved by ordinary means, its true nature being overlooked, surgeons have been led to the fruitless opera-

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tion of forcibly stretching and paralyzing the anal sphincter and removing any hemorrhoids that perchance are present. At almost any stage suddenly recurring paroxysmal attacks of severe gastralgia may take place, accompanied by exhaustive vomiting, which resists all ordinary methods of treatment but seems to subside spontaneously. Instead of these "gastric crises" there may be severe and unaccountable diarrhœa, associated with violent colicky pain that may sometimes simulate an attack of renal colic. Ignorance of the occurrence of these visceral symptoms is a common source of error in diagnosis.

Sometimes persistent gastralgia may be the only symptom complained of. In such a case careful examination will often reveal an area of cutaneous anæsthesia in the epigastric region, thus leading to further investigation which determines the underlying cause of the pain.

Many tabetics, on account of their various paræsthesiæ and transitory symptoms, have been treated for years as neurasthenics, without their true condition being recognized. This would not occur if the general practitioner was sufficiently familiar with the symptomatology of the disease, and the method of demonstrating its principal objective signs. It is not expected that all general practitioners should be experienced neurologists, but it is a duty they owe to their patients as well as to themselves to avoid such common errors of omission as have just been mentioned.

One of the earliest and most constant objective signs of tabes is the loss of the knee jerk. As a rule it does not disappear suddenly. I can now recall a number of cases in which the pains existed for a long time before the knee jerk disappeared. In the study of a large series of cases the knee-jerk symptom is found to be variable in its character. In quite a number of instances of undoubted tabes I have seen both knee jerks active, but they usually disappear as the disease advances. This occurs when the upper portion of the cord is first affected. In others the knee jerk may be well marked on one side and lost on the other. Again they may be apparently absent, but demonstrable only upon so-called reinforcement. Both may be equally feeble, or differ in degree of weakness. It has been claimed that in about one per cent. of healthy people the knee jerk is absent. The correctness of this assertion is questionable. Such an anomaly is so rare that its possibility need only be remembered. The writer has tested over one thousand healthy children from three to fourteen years of age, and the knee jerk was demonstrable in every case. Its absence is due to an interruption in the so-called reflex arc in relation with the corresponding centre situated in the lumbar region of the cord. Thus it is lost from a pathological process, such as tabes involving the posterior nerve roots or the posterior columns in the lumbar cord, or from a transverse myelitis or poliomyelitis in the same region, or from neuritis or degeneration affecting the anterior crural nerves. It may also be lost in diabetes, in some cases of cerebellar tumor, and in a few other rare lesions. Owing to the absence of the knee jerk, several of the conditions above mentioned are often mistaken for tabes, especially polyneuritis in which the anterior crural nerves are implicated.

On the other hand, I have repeatedly had patients sent to me with the diagnosis of tabes, based upon the alleged absence of the knee jerks, in whom I have had occasion to demonstrate that the knee jerks were not only present but active. Much patience is often required in satisfactorily determining whether the knee jerk is present or absent. The ordinary and customary method of testing for the knee jerk while the person's legs are crossed, or the feet resting on the floor, will suffice when the knee jerks are quite active. Under such circumstances the position of the limbs is immaterial. The utmost care, however, is necessary when there is any doubt as to the presence of the reaction. It will then be advisable to have the patient sit upon a high chair or upon the edge of a table, so that the feet are free from the floor.

As a rule, both sides should be examined. In many instances the anticipation of the tap upon the tendon occasions involuntary rigidity of the flexor group of muscles, thus producing sufficient opposition to overcome the action of the quadriceps. Before and during the examination the patient should close his eyes, and his attention should be directed from the purpose of the examiner, either by conversation or rapid interrogation. Or he may be directed to make some muscular effort with the hands, such as forcibly interlocking the fingers, or elevating the arms, etc. (This is known as "reinforcement.") With this object in view any other similar expedient may be resorted to that suggests itself to the examiner. It is never safe to state that the knee jerk is absent, unless repeated and varied tests have been made with the clothing removed.

Another early and most important evidence of tabes is the loss of the reflex action of the iris to light. This is familiarly known as the Argyll-Robertson symptom. It is present in about eighty per cent. of all cases. Being a phenomenon somewhat analogous to that of the knee jerk, it is found to be just as variable in the extent of its manifestations. Its absence, however, does not exclude the diagnosis of tabes. The longer the duration of the disease, the more likely are we to find this sign. When present it is generally bilateral. In rare instances it is unilateral, *i.e.*, affecting only one eye, or the degree of reaction may differ in the two eyes. It is usually unaccompanied by any disturbance of vision. As a rule, the pupils react in convergence of the optic axes. In some cases of tabes the pupils are absolutely rigid, and do not react to light or in convergence. They may also be unequal, partly dilated, or contracted.

This inaction of the pupil when exposed to light is not indicative of a lesion in the spinal cord, as was erroneously supposed by many before tabes rested upon a firm pathological basis, but is the result of interference with the reflex conducting path in its course between the optic nerve, corpora quadrigemina, and oculo-motorius. It is therefore due to a lesion within the brain, and may be looked upon as an almost infallible sign of central nerve degeneration when the eyes are otherwise apparently normal. This pupillary condition is frequently present in paretic dementia and is not uncommon in cerebral syphilis.

The examination of the pupils for reaction to light requires the closest observance in its performance. This apparently simple procedure is deserving of careful attention, and certain precautions are absolutely essential in order to avoid erroneous conclusions.

The following method should be pursued: Place the patient in a position facing a window. Daylight is always preferable. Instruct him to gaze steadily upon some large object, at least twenty feet distant, and to keep both eyes open. The eyes are then covered or shaded either with the examiner's hands or with two pieces of dark card board. The patient in the mean time must continue gazing in the direction just mentioned. In a few moments one eye is suddenly uncovered and exposed to the light, when in the normal state the pupil (which always dilates in darkness or subdued light) immediately contracts. The other eye is then tested in the same manner.

The next step is to note if the pupils contract in convergence or accommodation. After the patient has been looking in the distance for a short time, with both eyes uncovered, he is suddenly told to look at

the examiner's finger, or some small object held within two inches of the patient's nose. In the normal condition the eyes converge and the pupils contract. The pupillary reactions should not be tested before a gas flame, as the patient is apt to and, in fact, generally does "fix" upon the flame, thereby causing contraction of the pupils in accommodation and convergence, which may easily mislead. A very common source of error to be guarded against, which is similar in its result, is the failure to bear in mind the natural tendency of the patient to look at the examiner as soon as the eye is uncovered.

I have thus entered into a detailed description of the method of eliciting these two objective symptoms on account of their paramount importance. Incorrect conclusions are too often based upon apparent demonstration of physical signs that do not exist in reality.

Another objective symptom of considerable corroborative value is the circumscribed areas of cutaneous anæsthesia which are often found distributed over the trunk, particularly over the thorax and back.

Paralysis of an eye muscle, which may be either transient or permanent, or primary optic atrophy with failing vision, are among the early manifestations of tabes. This leads the patient to consult the ophthalmologist, who is justly suspicious of the presence of tabes in the latter condition, while the former is often incorrectly attributed to cerebral syphilis. In a large proportion of cases the disease is first discovered through this channel. The transitory character of an ocular paralysis should lead us to suspect the presence of tabes. On the other hand such patients may have central vision preserved for a long time, and yet optic atrophy may be well advanced. It is therefore advisable to examine the visual field in all cases of suspected tabes. When atrophy is present, the field for form will often be found irregularly contracted—sometimes to a remarkable extent—without any interference with the patient's comfort.

Sexual impotence, or the painless enlargement and disorganization of a joint, is occasionally the first obtrusive symptom that prompts the patient to seek medical advice.

The popular designation of this disease as "locomotor ataxia" is objectionable, although the common use of this name seems to be sanctioned by a custom which is rapidly losing ground. The term "locomotor ataxia" is virtually descriptive of a symptom which in itself is not characteristic of the affection. It is gradually being replaced by the term "tabes." The symptom of ataxia in locomotion or in standing may either be entirely absent or may not appear until late in the course of the disease. It is present, however, in greater or lesser degree in a large proportion of cases, but is rarely an early manifestation. On the other hand, an erroneous diagnosis of tabes has often been made from the presence of ataxia in standing. To tell a patient to put his feet together and stand with closed eyes is a simple matter. Should he sway from side to side or fall, we call this static ataxia. Although it frequently occurs in tabes, it is by no means pathognomonic. The fact that a slight swaying is of common occurrence in healthy individuals should always be borne in mind.

Static inco-ordination is often present in hysteria or pronounced neurasthenia, during convalescence after prolonged illness, in transverse myelitis, and in polyneuritis resulting from diphtheria, alcohol, lead, arsenic, etc.

Some forms of alcoholic polyneuritis are commonly mistaken for tabes on account of their resemblance to that affection. Upon superficial examination the presence of static ataxia with anæsthesia and absence of the knee jerk, all point to tabes. But as these symptoms are usually associated with tenderness on pressure over the affected nerve trunks, diminished muscular power or actual paralysis and decrease or loss of faradic irritability in the affected muscles, we are enabled to exclude tabes. The absence of the knee jerk in these cases is due to involvement of the motor fibres of the anterior crural nerve or its branches, and is usually an accompaniment of weakness or diminished resistance in the quadriceps. The loss of the knee jerk in uncomplicated cases of tabes, however, is attended as a rule with preservation of muscular power in the extensor group, even when the disease is well advanced and there is pronounced inco-ordination. This peculiar feature of tabes can be easily demonstrated, and in my experience is of extreme value.

When the peripheral sensory nerves are especially affected, as in certain forms of toxic polyneuritis, particularly from arsenical poisoning, the disease has been termed pseudo-tabes. On account of the presence of well-marked ataxia, absence of the knee jerks, and anæsthesia, it closely resembles the true disease. A consideration of the antecedent history, mode of onset, and development will generally enable us to reach a satisfactory conclusion as to the nature of the trouble.

At times the differential diagnosis between tabes and some atypical forms of polyneuritis is attended with much difficulty. On the other hand, in some tabetic patients the peripheral nerves of the lower extremities may undergo degeneration, and thus lend confusion to the otherwise stereotyped picture. I have repeatedly seen transverse dorsal myelitis mistaken for tabes, owing to pain in the lower extremities, inability to stand with closed eyes, and cutaneous anæsthesia. Such an error must be ascribed to gross carelessness or neglect in the examination. The exaggerated knee jerks with probable ankle clonus, and the loss of muscular power sometimes with atrophy, should serve to make the diagnosis clear. Some cases of cerebro-spinal syphilis so closely simulate genuine tabes that their differentiation can be accomplished only after a careful study of the development and course of the symptoms. Paretic dementia and tabes are sometimes found associated, but when the mental symptoms predominate, such as changes in the patient's character, diminution of the intellectual functions, speech disturbances, attacks of unconsciousness, etc., we must favor the diagnosis of the former.

It will thus be seen that the most important subjective symptom is the peculiar paroxysmal pains, while the two principal objective signs of tabes are the absence of the knee jerk and the loss of the pupillary light reflex. It may be safely said that the coexistence of the latter is equivalent to the diagnosis of tabes. It rarely happens that both are absent at the same time, yet such cases do occasionally occur. We must then depend upon the association of other symptoms and watch for further developments. The presence of either one, in conjunction with the fulgurating pains, or bladder disturbance, or the areas of anæsthesia over the back, is sufficient evidence to warrant the diagnosis. When a man, over thirty years of age, with a history of ancient syphilitic infection, complains of the pains characteristic of tabes, we should at once suspect its existence, whether other signs are present or not. Should these typical pains be associated with one or more of the objective symptoms, the diagnosis may be made with confidence.

It is a fact well known to all neurologists that among physicians in general the failure to recognize the presence of tabes is more common than its diagnosis. On the other hand, an incorrect interpretation of phenomena which resemble those of tabes is of frequent occurrence. Such conditions can be obviated only, first, by a clear conception of the clinical peculiarities of the disease; second, by a practical famil-

iarity with the method of examination, combined with its application to the individual case.

In such a brief paper the writer has necessarily refrained from the introduction of illustrative histories, and has attempted only to outline the most important diagnostic features of the disease.

THE RELATION OF SOME FORMS OF CONSTIPATION TO DEGENERACY.

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STIGMATA of degeneration are seen so frequently upon so many organs of the human anatomy that there is justification of the supposition that almost every organ may be sometimes affected. Such stigmata upon the ear, palate, or jaw are so conspicuous and so easily examined that they have naturally attracted closer attention than those affecting the internal organs; but there is reason to believe that the alimentary tract comes in for its share of these marks of degeneracy. There is no good physiological reason why the ear, for example, should be selected by nature rather than the liver, as the organ upon which to stamp her mark of degeneracy; and, while at present there may be little positive evidence that such stigmata are often found in the liver, there is certainly little evidence that would negative such a supposition.

The study of the known stigmata is so comparatively new that the subject has not yet been threshed over and over, as has almost every disorder of the internal organs. The result is that there is a tendency to account for a malformed palate with the single word "degeneracy," while some obscure disorder of the alimentary tract, which may be just as much an effect of degeneration, is christened as an "itis," so many forms of which have been handed down for generations in medical literature. For it is much easier to adapt almost every obscure disease to one of the multitudinous "isms" or to call it an "itis," than to trace through obscure ancestral lines and intricate paternal and maternal anatomical anomalies in search of proof of degeneracy, with little prospect of sufficient requital in the end.

The condition of chronic constipation so frequently found existing among classes of well-recognized degenerates seems sometimes to be a congenital defect; but this condition is seen also in cases that are apparently free from the marks of degeneration. In such obscure cases, however, a careful examination will sometimes reveal other conditions which point to degeneracy. In institutions for the treatment of abnormal mental conditions—that is, for insanity, idiocy, and epilepsy—chronic constipation is a universal complaint, and cathartics and laxatives play an important part in the medical treatment given in such institutions. And while large numbers of the inmates of these institutions show characteristic maxillary, palatal, or other recognized stigmata of degeneracy, there is usually no organic disease detectable in the organs of the alimentary tract. As far as can be ascertained, the liver, pancreas, spleen, kidneys, and all the intestinal glands are, organically at least, in a normal condition. Of course functionally some of them must be abnormal, and between this condition and mental abnormality there is apparently some connection, since they so frequently exist together.

Occasionally, however, cases are seen in which there are no mental abnormality and no conspicuous stigmata of degeneration, but in which a chronic constipation has existed from childhood and which cannot be accounted for except as a congenital defect. If a thorough examination is made in such cases it is often surprising to find how many stigmata do really exist, and how narrow an escape from degeneracy some most intelligent and "well-balanced" people have had. A careful examination of ancestral records, when they exist, often throws a new light upon an otherwise obscure picture, as in the following cases of two brothers. These two brothers were men of exceptional intelligence, and also of unusual size and muscular development. Instinctively of a scholarly bent, they were also athletes as well, and apparently as nearly normal men, mentally and physically, as are found in any walk of life. But both of them were troubled with a tendency to constipation which had existed since their earliest recollection. Even when in the pink of condition as college athletes this tendency still asserted itself, necessitating the constant use of mild laxatives. It was this anomalous condition which led to a careful examination for stigmata of degeneration and a search of the ancestral records. In both brothers I found a slight but significant anomaly in the upper maxilla. The older brother had a supernumerary tooth in the upper jaw, there being two instead of one lateral incisor on the left side; but the tooth alignment was so perfect that even intelligent dentists had failed to notice the extra incisor. The central incisors were perhaps an eighth of an inch to the right of the median line, but straight, and the entire arch and all of the teeth were beautifully formed. In the upper jaw of the younger brother I found that the first bicuspid on either side was absent. It was apparently from defective dentition, there being no spaces for them, the hard palate showing corresponding constriction. The alignment, however, was almost perfect.

On examining the ancestral records, which fortunately were unusually complete, some significant data were found. The father had been a professional man who came from a long line of cultured professional men. He was a man of considerable ability, but lacking in the push and stamina which characterize men of a vigorous race. In stature he was rather above the average, but he was of poor muscular development. He was apparently one of those men so frequently seen in aristocratic lineages, who, while not degenerates themselves, are close to the border line, and whose children are likely to be degenerate unless intermarriage with some vigorous and less ancient line acts as an extenuating factor. In this instance the marriage had been a most fortunate one. His wife, a highly intelligent and unusually vigorous woman, came from a race of hardy Scotch Highlanders, who, three generations before, had immigrated into one of the frontier territories of America and there produced a race as vigorous as the original stock. With few exceptions the members of this family had been of unusual muscular development and energy. From this union of degenerate aristocracy and vigorous Highland stock came the two brothers, partaking of the refined tastes of the paternal branch, and having combined with it the athletic vigor of the maternal branch. In going over the ancestral records of both branches of the family, I found that the father's mother (who, like her husband, was descended from a long line of highly cultured ancestry) had a peculiarity in jaw formation. The upper jaw was much constricted, with absence of several teeth and marked irregularity of the others. The lower jaw was either actually protrusive, or apparently so from the undeveloped condition of the upper. Her mother had had a supernumerary incisor tooth almost identical with the condition spoken of in the tooth formation of the older brother, except that the upper jaw was not fully developed, the alignment of the teeth being imperfect on account of this constriction.

The chronic constipation so persistent in both

brothers seemed to be due largely to a lack of "tone" in the alimentary tract; and by careful observation a peculiarity of the muscular systems was discovered which might be regarded as akin to the intestinal inertia. By careful comparison with other athletes, both in and out of training, it was found that the muscular systems of both brothers tended to lose "tone" when not in training very much more rapidly than is customary with ordinary athletes. They were able to get into "condition" in an unusually short time, and when trained showed unusually strong and active muscular systems; but the muscular "tone" left them rapidly when not in training. This apparently paradoxical condition of the muscular system was perhaps due to the inherited disposition of both paternal and maternal ancestry, the characteristics of the muscular Highland stock predominating during activity, and the more æsthetic lineage being represented at other times.

In this connection it should not be forgotten that victims of inebriety often give a history of chronic constipation which existed long before they became addicted to the use of alcohol; and there is almost invariably a neurotic taint in the direct ancestry of such cases. And it is often found that the progeny of such inebriates have a tendency to constipation, even when not having a strong tendency to inebriety. The inference which may be drawn from such cases is that there is some congenital defect, which may perhaps be a manifestation of the same force that produces a Morel ear or a deformed palate, but is exerted on the muscular and glandular systems instead of the osseous or fibrous structures.

A NEW, RAPID, AND ACCURATE METHOD OF ESTIMATING URIC ACID.

By R. HARVEY COOK, A.M., M.D.,

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MANY patients with nervous disorder, varying from the mildest neurasthenia to the most marked cases of melancholia, are brought to our sanatorium each year, who could have been successfully treated at home had the physician examined for a plus excretion of uric acid The belief that the failure to make such an examination was due, not to neglect, but rather to an inability on the part of the attending physician, has led me to give my method of estimating the amount of uric acid.

All previous methods with which I am familiar not only consume time but require a thorough knowledge of chemistry. In my experience with physicians, however competent they may be in chemical work, but few are provided with the apparatus and solutions required in quantitative analyses. All former quantitative estimations of uric acid with which I am acquainted have been made either by a process of weighing or by a trituration method. If uric acid is estimated by Salkowski's method, the following objections can be found: first, several hours are consumed in making the test; second, a very delicate scale is necessary in order to obtain an accurate estimation. Such a scale is not only of but very little use to the physician, but is an expensive item.

Several titration tests are advised. The most generally used is probably Haycraft's. The greatest objection to this test is that it is not accurate. The percentage of urate of silver is apt to be lost in the filtering and washing process. Again, a discrepancy is often due to having a solution of ammonic thiocyanate which is not standard; moreover, this test necessitates a technique essential in all quantitative analyses. Another objection to the Haycraft test is that, in order to do the work in anything like a satisfactory manner, a water pressure is required to operate the vacuum pump; this alone renders the test practically useless to the majority of physicians in the smaller towns. Several other titration tests are advised by chemists as being accurate in the estimation of uric acid, but the time required, the essential technique, and the apparatus necessary render all previous tests impracticable to physicians.

My method is chemically the same as Haycraft's, in that the uric acid is thrown down as urate of silver. The method which I propose is rapid, accurate, and easily carried out. The following apparatus is necessary: a centrifugal machine, four graduated tubes of a capacity of fifteen cubic centimetres each, and a pipette holding one cubic centimetre. Assuming that the majority of physicians have a centrifugal machine for the examination of blood, sputum, and urinary sediment, the only additional apparatus needed is the graduated tubes. These tubes must be fifteen cubic centimetres in capacity, but need be graduated only to ten cubic centimetres, the essential feature being an accurate graduation.

Method of Procedure.—Place in the graduated tubes 10 c.c. of urine; add to this from 0.5 to 1 gram of sodium carbonate and from 1 to 2 c.c. of ammonium hydrate. Shake until the sodium carbonate is dissolved; this precipitates the earthy phosphates. Separate this precipitate with the centrifugal machine and decant the supernatant urine into another graduated tube. It will be found that the earthy phosphates are readily separated and adhere to the bottom of the tube; this allows the clear urine to be readily poured off into another tube. To the clear urine now free from phosphates add 2 c.c. of ammonium hydrate and 2 c.c. of ammonic silver solution (made by dissolving 5 gm. of silver nitrate in 100 c.c. of water and adding ammonia until the solution becomes clear). The addition of the silver solution causes the uric acid to be precipitated as the urate of silver, a translucent slimy substance. Separate this precipitate with the centrifugal machine and pour off the supernatant urine. Add to the precipitate an excess of ammonium hydrate, at least 5 c.c., and mix thoroughly. By this last step any of the chlorides that may have been precipitated are redissolved, leaving only a pure urate of silver. Lastly, precipitate this urate of silver until the lowest reading is to be had.

Each 1 c.c. as marked on the graduated tube indicates 0.001176 gm. of uric acid in 10 c.c. of urine. For example: if 0.5 c.c. be the lowest reading, you then have $5 \times 0.001176 = 0.00588$ gm. of uric acid in 10 c.c. of urine. In order to obtain the percentage, multiply this result by 10. If the number of cubic centimetres of urine passed in twenty-four hours is known, the total uric acid can be easily calculated. It will be found advantageous to carry two specimens through the examination at the same time; thereby the centrifugal machine is equally balanced.

For the causes influencing the excretion of uric acid and its relation to urea, as well as the clinical manifestation of an excess of uric acid in the system, I refer the reader to Haig's work on "Uric Acid in the Causation of Disease."

Flatfoot.—I believe that pronation, with or without flattening of the arch, is the factor to study, and that its prevention and its cure are the prevention and cure not only of flatfoot, but of the painful affection without breaking down of the arch which I speak of as pronated foot: that the selection and use of proper boots will cut down very much the use and need of mechanical appliances.—LOVETT, *Canada Lancet.*

THE MEANING OF THE WORD PHOSPHATURIA.

BY GEORGE FREDERICK LAIDLAW, M.D.,

NEW YORK.

IN Foster's Medical Dictionary (New York, 1894), phosphaturia is defined as "a state in which an excessive amount of phosphates is excreted in the urine." In the "Twentieth Century Practice of Medicine" (New York, 1895), Fenwick defines phosphaturia as a "symptom" consisting of "the persistent and excessive elimination of alkaline and earthy phosphates in sterile urine."

It needs but a cursory glance over recent medical literature, however, to learn that the term phosphaturia is frequently employed to indicate an entirely different condition, namely, the ready precipitation of the earthy phosphates from the urine, either spontaneously or on the application of heat; or, on the other hand, a high percentage of phosphates in a given specimen. It is in this latter sense that the word is used in such recent and authoritative works as Loomis and Thompson's "Practice of Medicine" (New York, 1897), Wood and Fitz's "Practice of Medicine" (Philadelphia, 1897), Anders' "Practice of Medicine" (Philadelphia, 1897), Hare's "System of Therapeutics" (Philadelphia, 1892), Purdy's "Practical Urinalysis" (New York, 1895), Tyson's "Guide to the Practical Examination of Urine" (Philadelphia, 1886), and others too numerous to catalogue. It is true that most of these writers warn the reader that a quantitative analysis of the total phosphates excreted in twenty-four hours is necessary for the diagnosis of phosphaturia; but in the next line they themselves offend by confusing phosphatic precipitation with excessive elimination, shifting aimlessly from the one to the other and rehearsing diagnostic tests that are not only worthless but are also misleading. I defy any physician to gather from these articles on phosphaturia any reliable method of diagnosis and differentiation. Verily, it would have been better for these authors to have followed the example of Tyson in his recent "Practice of Medicine" (Philadelphia, 1896) and ignore the subject as a thing that has never been. Fortunately the disease is neither common nor fatal.

The cause of all this confusion seems to be the lack of some word to express that state of the urine in which it easily precipitates its earthy phosphates. In the absence of such a word authors have taken the word phosphaturia, to which a totally different meaning has been given by the authorities (Foster's and other medical dictionaries). In this "attempt to put new wine into old bottles," the articles on phosphaturia in our best text-books are hopelessly muddled.

Let it be understood that in the urine there are phosphates and phosphates; there is the easily soluble sodium phosphate, forming about two-thirds of the entire amount, and there are the two less soluble earthy phosphates, forming the remaining third. In urine of acid reaction these salts are held in solution. Either boiling or putrefaction diminishes the acidity of the urine and the slightly soluble earthy phosphates are apt to be thrown down, but one cannot judge the total excretion of phosphates by the amount of this sediment, because a much larger and uncertain quantity of sodium phosphate remains in solution, unmeasured and unknown. Nor can one learn anything of the phosphatic excretion by precipitating all of the phosphates with magnesian fluid and estimating their abundance by the height of the column in a test tube, as in the method of Vogel. This absolutely worthless procedure has been copied from one text-book to another without criticism (Tyson, Purdy, Hoffmann and Ultzmann, and others). To appreciate this error, one has but to reflect upon the urine of acute nephritis, which often shows a large percentage of urea (ten, fourteen, or even eighteen grains to the ounce), whereas, owing to the small quantity of urine passed in a given time, the total excretion is far below the normal; and, in like manner, one who interprets a large percentage of phosphates as an absolute increase, or *vice versa*, will remain in profound ignorance of the true state of the urine. Precipitation from a sample of the accumulated urine of twenty-four hours, as recommended by Tessier, gives a fair basis for calculation of the total phosphates, but this procedure does not give so accurate results as the equally simple quantitative analysis of the phosphoric acid by titration with uranium nitrate.

In his article on phosphaturia in the "Twentieth Century Practice of Medicine," Fenwick grapples with this question, and here at last we find a sharp distinction drawn between, first, a true phosphaturia, *i.e.*, an actual increase in phosphatic elimination as determined by chemical analysis, and, secondly, that condition in which the urine easily deposits its less soluble phosphates. On one page Fenwick calls this latter condition "functional phosphaturia" and on the next page "transient phosphatic urine;" but it seems to me that neither term is well chosen, for the following reasons: The words "transient phosphatic urine" mean nothing; for all urine is phosphatic. The word "transient" is inapplicable, because the condition is sometimes persistent. "Functional phosphaturia" is still more objectionable. The word "functional" is misleading because it implies a phosphaturia unconnected with organic lesion as distinguished from an organic phosphaturia; but "true phosphaturia" has never been associated with an organic lesion and, for all we know to the contrary, may be functional too. Moreover, by the terms of Fenwick's own definition, this "transient" or "functional" phosphatic deposit has no right to the name phosphaturia; for it does not involve any increase in the elimination of phosphates. Again, as in Dickinson's cases, the two conditions of excess and precipitation sometimes coincide; in which case, by Fenwick's nomenclature, we should have a phosphaturia at once "true" and "functional" or "transient" and persistent—a manifest absurdity.

To facilitate accuracy and precision in this chaotic literature of the urinary phosphates, I would propose the use of the word "phosphaturoptosis," indicating simply the precipitation of the phosphates from the urine. Though of somewhat Teutonic proportions, I prefer to regard this word as possessing Hellenic grace and fitness. It has the advantage of meaning just what it indicates and nothing more, leaving such compromising adjectives as functional, transient, neurotic, or other designations of unknown characteristics for future study and verification.

That this condition of phosphaturoptosis is of no importance I do not admit; for from such urines calculi of calcium phosphate are sometimes deposited, and I maintain that phosphatic calculus, or any other calculus, is a matter of much importance, and that the urinary condition that favors it, though not a "true phosphaturia," is at least worthy of a name and a place in medical records.

In the only case of true phosphaturia that has come under my notice, out of a series of nearly two thousand urinalyses for all causes, the urine was strongly acid in reaction and the earthy phosphates were held well in solution; but cases are recorded in which both phosphaturia and phosphaturoptosis were present.

Fenwick's classification of the fermenting alkaline urines of cystitis, with their accompanying phosphatic deposits as "secondary phosphaturia," seems to me a good one but for the repetition of that unlucky word "phosphaturia." Here, again, there is no increase

in phosphatic elimination but only a precipitation, a phosphaturoptosis. A secondary or putrefactive phosphaturoptosis is readily distinguished from a primary phosphaturoptosis, in which the urine deposits its phosphates while freshly formed; and by the use of this word both conditions are separated distinctly from phosphaturia, thus embodying in our terminology the distinctions that we must make in practice.

Clinical Department.

DILUTE SULPHURIC ACID IN SURGICAL DRESSINGS.

By H. C. MANSFIELD, D.D.S.,

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In stepping from a passenger train, moving at the rate of twenty-five miles an hour, recently, being out of practice somewhat, I was thrown violently forward. The ground was of the nature of hard-packed sand, and I could not help sliding about my length on hands and knees. When I finally stopped, the concussion on the ball of one thumb and the grinding of the back of the left hand along the space mentioned caused some pain and the parts instantly began to swell. I bathed the parts with a solution of permanganate of potassium and then washed them with dilute sulphuric acid, which was all I had on hand at the time, to make sure of having the surface aseptic. What was my surprise next morning to find a firm leathery scab over all the wounds, and it seemed very grateful, especially on the palm of the hand and ball of the thumb, where the wound was as large as one's fingernail in size. The swelling gradually subsided the next day. No other dressing was required and everything healed nicely in a few days, leaving, however, a sort of a drawn eschar on both hands. The point I wish to make is in regard to the value of dilute sulphuric-acid dressing as being simple and fully equal to and possessing advantages over iodoform and the newer remedies that are said to be taking its place. It is also quite as safe and convenient to use. This may prove of value to some one when the more costly remedies cannot be had.

PYÆMIA IN A BOY THIRTEEN YEARS OLD.

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The boy in question was an inmate of the asylum for over six years, always having enjoyed perfect health. His father and mother are living and in good health. On September 3, 1897, he presented himself at the infirmary, with a small pustule in front of the ankle-joint, which resulted, he thought, from pressure of the shoe. The pustule was incised and dressed with iodoform gauze, after evacuation of the pus. The following day he was admitted to the hospital, with a chill and headache. The latter improved after the administration of two and one-half grains of calomel. The pustule had almost entirely healed.

September 6th, chill at 10 A.M., followed by profuse sweating. Faint pericardial friction sound, heard loudest over the base of the heart. Complained occasionally of severe frontal headache.

September 7th, former symptoms increased; delirium; pericardial murmur louder and more diffuse.

September 8th, symptoms of collapse at 12 M.; profuse sweating. Nausea at 6 P.M. Pleuritic friction sound along left axillary line at junction of sixth to eighth ribs. The patient complained of severe stitch pain in this side. Short, hacking cough. Precordial region greatly enlarged and prominent; flat on percussion. Appearance of small vesicles, resembling those of varicella, along legs and soles of feet.

September 9th, all symptoms more severe in character. Pain in left groin. Urine loaded with albumin, pus and blood cells, hyaline and epithelial casts. Troublesome cough and dyspnœa. Feet icy cold. Body hot and bathed in profuse perspiration. Crepitation over several spots of the chest.

September 10th, stiffness of limbs; marked delirium; bronchial breathing instead of the previous crepitation; enlargement of the spleen and liver.

September 11th, partial paralysis of entire right side of the body. Speech thick, difficult, and incoherent. Slight perspiration. Unconscious most of the time. Pericardial sounds markedly fainter.

September 12th, 13th, 14th, general condition seemingly a little improved.

During the whole illness the patient took plenty of nourishment and never vomited. Paralysis of the sphincter ani was manifest on the 11th. The temperature varied from 105° to 107° F., and was not intermittent in character. This would seem to be opposed to the teachings of most text-books. The pulse corresponded with the rise and fall of the temperature; it averaged 130 a minute, and presented nothing peculiar. The respiration changed with the development of the complications. It averaged 50 per minute. On September 9th it stood above 70 for over six hours.

Examination of the blood, undertaken three times during the ten days of illness, showed nothing abnormal except an increase in the number of white blood corpuscles, and on one occasion two diplococci were found lying in or upon a red blood corpuscle.

September 15th, the patient developed pulmonary œdema and died.

Post-mortem examination six hours after death: Body well nourished. Signs of decomposition on the face and chest. No rigor mortis. Precordium very prominent. A small incision made in this location gave exit to about one and one-half pints of purulent, fibrino-sanguinolent fluid. The heart was enlarged and darker than normal. The pulmonary valve was perforated, and upon the edges were seen yellowish-white vegetations. Vegetations were also present below the aortic valve and upon the endocardium. There was a purulent exudation upon the surface of the pericardium, which was firmly adherent to some portions. Pericardium adherent to the pleura. The liver was congested and greatly enlarged; very small pustules covered the surface, and purulent foci were found along the portal branches. The spleen was much enlarged, blackish-red in color, mushy, and almost liquid. Kidney.—A large number of small abscesses, the size varying from one to two pinheads, were found scattered chiefly in the cortex. They were yellowish-white in the centre, surrounded by a distinct, bright red area. The organ was enlarged and more flabby in consistence than normal; the markings were obscured. The capsule was partly adherent, and when it was separated from the underlying tissues minute drops of pus were seen to exude at the points where the abscesses were located. Lungs and pleura.—There was a very extensive exudation over the pleura, which adhered to the surface of the lungs. On section, numerous wedge-shaped foci of consolidation, deep red in color, were found scattered throughout the lung substance, principally near the pleural surface. The bases of these foci were directed toward the pleural surface. The brain could not be obtained; but, judging from the partial hemiplegia, the presence of diseased foci could justly be surmised.

Cultures and microscopic slides were taken from the vegetations upon the heart valves and from the kidney

abscesses. In both cases the staphylococcus pyogenes aureus and streptococcus pyogenes were found. The latter bacterium was predominant in the cultures obtained from the heart vegetations.

The etiology of the case in question could be traced only to the small and apparently insignificant abrasion at the ankle-joint; for the patient was otherwise in excellent condition. It is difficult to understand why so many larger, dirty wounds in patients with broken-down constitutions escape infection, while this trifling injury proved to be the source of death to the robust boy: moreover, as the wound was entirely healed at the beginning of the disease, the temperature was certainly extraordinarily high.

Another peculiar feature of this case was the absence of any signs of derangement of the cardiac valves, notwithstanding the marked lesions found there at the necropsy.

The observation that this case was a result of streptococcus and staphylococcus infection fortifies the recently advanced opinion that the antitoxins of these micro-organisms ought immediately to be employed in pyæmia with obscure etiology. The fatality of this disease under other methods of treatment, and the encouraging results obtained from the administration of the antitoxins, certainly speak favorably of the latter. At all events, the latter method of treatment is certainly to be recommended.

One Hundred and Fiftieth Street and Eleventh Avenue.

A METHOD TO DETERMINE THE PRESENCE OF SMALL EFFUSIONS INTO THE KNEE-JOINT.

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The patient assumes the standing posture, the knee-joints being fully extended. The patient then bends forward at the hip-joints, resting both hands on the anterior surface of each thigh about the mid-third, extreme extension at the knee-joints being maintained. This is really a position of ease for the patient, and by this position of examination we have the structures posterior to the knee-joint rendered tense, while the structures anterior, including the capsule, are relaxed. The patient, bending forward at the hip-joint and pressing downward with the hands on each rectus femoris, relaxes this muscle to a marked degree. Any fluid which may be present sinks at once and settles behind the patella; that is, by this method we obtain the benefit of gravity. The examiner, standing beside the patient, locates accurately the centre of the patella and gives it a smart tap. If fluid be present, we obtain the patella tap.

The position of the patient, *i.e.*, one of ease and anterior relaxation, combined with gravity, are the features of this test. The muscular spasm or anterior rigidity, often present during the ordinary examination of a knee-joint, is absent. In striking the patella the pressure must be applied at its centre and directed toward the femur. If either extremity of the patella be struck, we obtain a tilting which is deceptive; also we must guard against a lateral sliding, very easily obtained in this position of extreme anterior relaxation. No manipulation of the joint is necessary, and, in fact, should be avoided in making this test.

Many cases which have been considered doubtful as regards the presence of fluid have by this method of examination been correctly diagnosed. A slight injury to the structures about the joint without an accompanying synovial effusion might very well be treated by local application and massage, while the presence of a very small joint effusion indicating an accompanying synovitis might if appreciated cause the surgeon to employ other methods of treatment—such as absolute fixation, counter-irritation, or compression. Again, in a knee-joint which has been the seat of an acute serous synovitis and where the effusion has almost subsided, the subsequent treatment as regards protection or use might very well depend on the presence or absence of fluid. In such cases this test is of value, as it demonstrates even a very small effusion.

In the examination of many joints where the amount of fluid present was slight, I have found this an accurate and delicate test.

Progress of Medical Science.

Pericardotomy and its Anatomical Basis.—Dr. A. Worintsch-Sjanoschenski (*Annals of Russian Surgery*, 1897, Bk. 3-5) has come to the following conclusions: Normally the anterior intrapleural space varies considerably; to the left of the sternum its boundaries are more fixed than to the right. In studying this question upon the cadaver, the operator must be very careful, since many pathological processes change the boundaries of the intrapleural space. In pericarditis with effusion, an exploratory puncture gives valuable information; it is only as the result of such exploratory puncture that the operative procedure can be decided upon—aspiration or pericardotomy.

Enchondroma of the Cervical Vertebræ.—Dr. O. Föderl (*Deutsche Zeitschrift für Chirurgie*, Bd. xlv., p. 154) describes the above extremely rare condition, occurring in a thirty-five-year-old woman. For three years her neck had gradually grown larger, attended with anterior displacement of the larynx and trachea. The patient came under observation suffering from severe dyspnœa, which necessitated a tracheotomy. She died two days after operation. The autopsy revealed a large enchondroma, hyaline in structure, originating from the seventh cervical vertebra; in places the tumor showed mucoid and calcareous degeneration.

Acute Pleurisy.—The vocal resonance is usually diminished or absent. The whispered voice is said to be transmitted through a serous but not through a purulent exudate (Baccelli's sign). There may, however, be intensification bronchophony. The voice sometimes has a curious nasal squeaking character, which was termed by Laennec ægophony, from its supposed resemblance to the bleating of a goat. In typical form this is not common, but it is by no means rare to hear a curious twang-like quality in the voice, particularly at the outer angle of the scapula.—William Osler, "Principles and Practice of Medicine," page 562.

The Tetanus-Antitoxin Properties of the Normal Central Nervous System.—A. Wassermann, of Berlin, and T. Takaki, of Japan, claim to have proven by means of experiment that the normal brain and spinal cord possess an antitoxic effect against tetanus, whereas no other organ has this peculiarity. The tetanus-antitoxic effect of the brains of normal guinea-pig is such that one centimetre of brain emulsion neutralizes ten times the fatal dose of the tetanus poison. The antitoxic effect of the spinal cord is weaker than that of the brain, inasmuch as one centimetre of its emulsion neutralizes but three times the fatal dose of tetanus. The authors believe that the antitoxic power of the brain and cord is to be traced to an inherent peculiarity of the cells.—*Wiener klinische Rundschau*, January, 1898.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PROPOSED DEPARTMENT OF PUBLIC HEALTH AND ITS LEGISLATIVE ASPECTS.

ON a former occasion, in calling attention to the obvious necessities for a national system of quarantine, we strenuously urged the amplification of the present Marine Hospital system as the most desirable and practical means to such an end. We are quite well convinced that the more thoroughly this great question is studied in its broadest signification the more readily can it be seen that there is but one conclusion to be arrived at. The opposition to the Marine Hospital bill by the advocates of the Spooner bill, if effective at all, will result in no compromise whatsoever, and the fundamental questions involved will be as far from a final settlement as ever. In other words, unless we can get the Caffery bill passed, no other measure will be seriously entertained by Congress. The legislators are inclined quite properly to view the matter in the very practical light of the end justifying the means.

Among the first questions that would be asked by the average legislator before whom such a proposition was placed would be: "What interests require this enactment, and what are the reasons for it?" The legislator seeking information on these points would naturally be guided in his judgment by the character of the persons seeking to engraft such an addition upon our governmental system; and rightly, too, because, however much the plan might have theoretical merits, yet there are many things which are good in the abstract which are not practical in their application or timely in their consideration. If the legislator should ascertain, after a public hearing, that but three gentlemen appeared in behalf of such a bill, and that those three gentlemen were local officials who would be personally benefited by its enactment, he would be justified in coming to the conclusion that whatever sentiment had been drummed up in its favor was tinged by immediate self-interest or prospective personal advancement.

As a practical legislator, his next question as a conservator of the public interests would be: "What will such a department or commission cost annually to the taxpayers?" This question at this particular time is more likely to be asked than at any other, because this is a time when the finances of the government must be carefully nursed, and every attention paid to the economical administration of affairs. This is not a time when the public revenues are so ample that a department of public health with forty-five new and indefinitely expensive officials can be viewed with other than serious concern by a careful and conservative servant of the public, who has the expenditure of the country's money given to him as a trust by the people.

These considerations appeal to us as they have appealed to members of Congress when they have taken under advisement the proposition to establish a commission or department of public health, as proposed by the Spooner bill. No one of the gentlemen active in that propaganda has offered an opinion as to the ultimate cost of this project. It is a scheme so immature that even its promotors have not yet settled to a definite conclusion what they want or how much they want; and at the public hearing before the house committee on interstate and foreign commerce, the chairman of the subcommittee, Dr. U. O. B. Wingate, who drew it up, gravely announced that sections 14 and 22 of the bill, which give it its national character, would probably be withdrawn. It has undergone so many modifications that this latest move on the part of the committee leads one to suspect that any modification would be accepted, provided it could get Congress to indorse its position. No one seriously attacks the proposition to secure national supervision of health matters, in some form or other. It is not only largely a question of form, but also of means and the practical features involved in obtaining them. A good idea may be killed in dressing it up, and it seems to us that the desire of so many gentlemen to be identified with a proposed department consisting of forty-five advisory chiefs will render it obnoxious to Congress. Any such irridescent dream as this will not appeal to practical legislators. The very first expression that rises to the lips of the average congressman in connection with this matter is to refer to the excellent work already being done by the Marine Hospital service, and to desire to understand what things are necessary to be added to its powers to make it all that is sought in the Spooner bill. It is the prudent view of every reasoning man in Congress to use existing instruments in this bureau as the basis of any legislation, and uniformly to consider how this bureau can be developed for the purposes named. The action of the New York Chamber of Commerce and the Academy of Medicine in indorsing the Spooner bill seems to us to have been taken without a consideration of these important facts. No department of the government has ever been made at one sitting of Congress. Departments are the developments of bureaus, and the failures heretofore on the part of the medical profession in seeking an ideal have been due to the fact that it has not been in touch with the practical views of legislative conditions. While it has aimed at the stars it has fallen into the mire. It seems to us not an example of professional etiquette, professional fraternity, for any medical association to array

itself officially against members of the profession already engaged, as the officers of the Marine Hospital service are, in professional work, by endeavoring to condemn them or obliterate them by hostile legislation. There is no recorded evidence of their failure or neglect to perform their duties properly and efficiently with the means at hand; and while certain persons have, for one reason or another, whose motives we do not care publicly to criticise, sought to humiliate and injure them by the advocacy of the Spooner bill, such opposition must be accepted for what it is worth. It seems plain to us that this corps has the confidence of Congress and the people with whom it is brought in contact. The evidences of this are so numerous that it seems trite to refer to them. We need only instance the hue and cry raised about the management of Ship Island, when it was claimed that a great and indignant public would demand its being removed from the face of the earth and the management consigned to everlasting obloquy. Two independent investigations were had—one by the senate of the United States and the other by the legislature of Mississippi, both of which bodies not only unanimously approved its existence and continuance, but applauded its management. That which was to be the great rallying-point of the opposition has vanished into thin air. So we regard the position assumed by the Chamber of Commerce and Academy of Medicine as a mistaken one: whereas, had they joined hands in support of the movement to develop the Marine Hospital service by gradual growth into the national health organization, which is desirable, better results would undoubtedly be seen at this time.

Gentlemen may cry that no harm is intended to the Marine Hospital service in the enactment of the Spooner bill; yet if any one will read it and observe how everything, from the building to the waste baskets, is turned over to the proposed new organization, he will get a faint idea as to the real meaning of the measure.

THE HEALTH-BOARD BILL.

The Brush bill, amending certain provisions of the charter as to the board of health, is still delayed in the senate cities committee, the impression being that the only objection now urged to the passage of the bill is the announced policy of the administration not to pass at this session any bills amending the charter. Such a general policy may be a wise one, but exception ought to be made in favor of this health bill. Among other things of imperative importance, the bill in its present form seeks to repeal sections 1,248 and 1,249 of the charter. No practising physician in the city who takes the trouble to read these sections will hesitate for a moment to exert all his influence urging an immediate repeal of such extraordinary and unjust and unwise statutory provisions. Section 1,248 empowers the department of health to require of any physician, not less than three hours after service of a demand therefor upon him, an affidavit, stating therein whether he has or has not any patients who, in his opinion, shall then be sick of a pestilential, contagious, or infectious disease, and, if he has any such patient, to state in such affidavit his or her name and the house or place in said city where he or she shall then be, and the nature or name of such disease, to the best of his knowledge and belief. Section 1,249 makes the refusal or neglect to comply with the foregoing provision a misdemeanor, and subjects the physician to a penalty of $250, and furthermore makes it the duty of "each visiting, hospital, and consulting physician" to make an immediate report to the health department of the name of every practising physician by whom he shall have reason to believe the provisions of section 1,248 have been violated; and the law then reads: "And if such physician shall neglect or refuse to perform his duty, the department shall order him to be suspended from any office he may hold, and he shall moreover be liable to such further penalty, and to such prosecution for his violation of this law and of his duty, as the board of health shall determine." Probably no such extraordinary delegation of legislative power as this has ever before been attempted in any American State. An executive department is empowered by the legislature to impose any penalty it may see fit! The consideration that such a provision is probably incapable of enforcement if resisted is no sufficient reason for permitting it to stand as part of a statute. Despotic as must be, for emergencies, the powers of health boards, such powers should not be rendered nugatory when the emergency does come by being plainly and flagrantly unconstitutional; nor should physicians be subjected to the humiliating position of being compelled to act as spies upon the professional conduct of those who call them in consultation.

It is quite true that great difficulty has been experienced on the part of the health board in getting full and adequate reports as to the existence of contagious disease. The same thing can be said of the difficulties which generally attend governmental departments in getting adequate proof of the commission of crime. Substantially all the arguments which can be urged in support of a law compelling physicians to disclose confidential information acquired by them in the treatment of their patients would apply to a law enabling the police department to require affidavits from priests and ministers of religion setting forth the information got by them in the course of their ministrations, as to the commission of crime. This subject has long and frequently been a matter of discussion, and long ago it was found to be for the public welfare that confidential communications of this kind should be sacred. The code of civil procedure still contains the provision prohibiting a physician from disclosing information acquired by him in the treatment of a patient, except with the consent of the latter, or, after his decease, with the consent of his legal representatives. Wholly apart from any statute, the honor of the profession has long made such matters sacred. Such information as the interests of the public require to be given to governmental officers can be given, for all purposes of sufficient efficacy, without disclosing the particulars called for by section 1,248. Every physician knows that there are very many ailments which

are undoubtedly technically contagious, but which are not ground for apprehending anything like an epidemic. Every physician knows that there are multitudes of patients who will seek no medical advice, but will trust to the ministry of quacks and charlatans, if they know that the particulars of their physical conditions are liable to be spread upon the records of the city government. The information conveyed in such an affidavit would be a fruitful temptation to blackmail. It is probably safe to assume that of reputable physicians nine out of ten—indeed, we are inclined to say, ten out of ten—would take their chances of prosecution, by declining to furnish an affidavit of this description if called upon to do so. After all, the public health depends vastly more upon the aggregate individual efforts of physicians in preventing disease and in curing disease than it does upon any public or executive agency. It is a great mistake for health laws to create antagonism between the medical profession and the health boards. In the long run, the latter must depend for efficient service upon cordial co-operation from the rank and file of the profession. Senator Brush's bill should therefore be expeditiously passed, even if it contained no other features than the repeal of such obnoxious provisions as the two sections of the charter above referred to.

THE STATE MEDICAL SOCIETY AND LOCAL MEDICAL LEGISLATION.

Among the objections raised to the Brush bill, the following letter, contained in the brief of the health board, deserves more than passing notice:

"New York, February 8, 1898.

"*Nathan Straus, Esq., President Health Department.*

"Dear Sir: Notwithstanding the indorsement of the Medical Society of the County of New York, of which I am a member, I believe the majority of medical men are opposed to Senate bill No. 5. That I am opposed to it personally I am free to admit, and if I can aid you in securing its defeat I trust you will consider me, in my official capacity, as yours to command.

"Very truly yours,

[Signed] "Frank Van Fleet, M.D.,

"*Chairman of Committee on Legislation, Medical Society of the State of New York.*"

We feel that the matter is one to which public attention should be called, especially the attention of the officers of the Medical Society of the State of New York. Either Dr. Van Fleet is acting under the authority of that society, or he is not. If not, it would seem to us that the president of the society should curtail his activity; but if he has the sanction of the State Medical Society, it certainly appears to us to be a little derogatory to the dignity of the society thus to place itself subject to the command of the health department of this city. And why should the State Society meddle with legislation that affects our county only and which has received the approval of our County Society? We await an explanation.

MORE SANITARY LEGISLATION.

Assembly bill 969, introduced February 18th by Mr. Mullaney, reads:

"An act in relation to the inspection of cold-storage warehouses by boards of health in cities of the first class.

"Section 1.—The board of health of a city of the first class shall appoint not more than four inspectors of cold-storage warehouses, whose duty it shall be to inspect and examine all buildings used as cold-storage warehouses in such city, and all food supplies stored therein which are perishable, such as meats, poultry, eggs, butter, and cheese. Such inspectors may be removed for cause. Their compensation shall be fixed by the board, and shall be paid in the same manner as are other charges against such board."

Sections 2, 3, 4, 5, and 6 refer to manner in which these inspections should be carried out.

The bill, as a whole, is ridiculous. Meats are rarely put in cold storage, while game and fish, which are so stored, are omitted from the provisions of the bill. None of these articles, however, can be properly examined in cold storage, and the regular inspectors are amply capable of taking care of articles improperly offered for sale, whether they have or have not been in cold storage. The whole purport of the act seems to be simply to provide four additional officials to draw money from the public purse, or help to build up a political machine.

Mr. Haight on February 23d introduced into the assembly bill No. 1,060, entitled:

"An act to protect the public health by forbidding the sale of goods in second-hand packages," the first section of which reads as follows:

"It is hereby declared to be unlawful for any vendor of goods to put the same up for sale, offer for sale, or sell the same put up, in any bottle, can, box, or other package that has before been used as a package or covering for the same or other goods. But this act shall not prohibit the use by farmers and gardeners of crates or other receptacles for conveying their products to market."

This, if it became a law, would prevent the housewife from sending her oil can to the grocer for a fresh supply of kerosene, for surely kerosene is goods that are held for sale and the oil can is a second-hand package.

Many salt dealers purchase large sacks of salt from the manufacturers, and repack the salt in smaller bags, returning the old ones to be refilled. This would also be prohibited, and if new packages were required it would add from two to three dollars a ton to the cost of the goods. Fertilizers for farmers' use are also frequently packed in sacks which have been used before, and so of many other articles. This is certainly a piece of fool legislation which it is sought to enact under the plea of looking out for the public health.

Duke Charles Theodore of Bavaria is reported by cable to be operating for cataract upon all the Arabs of the desert in the neighborhood of Biskra in Algeria, where he is passing the winter.

News of the Week.

A Bequest to the Jefferson. — The will of Dr. Francis W. Shain, late of Jersey City, filed for probate in Philadelphia recently, bequeaths $7,000 to Jefferson Medical College in that city, $3,000 as a fund for prizes, and the remainder as a fund for two scholarships open to competition by white male graduates of the Philadelphia public schools.

Removal of the Stomach.—A telegram to the daily papers from San Francisco announces that a surgeon of that city made a complete excision of the stomach, on February 25th, of a female patient suffering with cancer. Thirty-six hours after the operation the woman was reported to be resting comfortably, with almost a normal pulse and temperature.

A Change in the New York Board of Health.—Mr. Nathan Straus, who was appointed president of the health board by Mayor Van Wyck on January 1st, resigned the office a few days ago, alleging as the reason for his act the pressure of private business. The resignation was accepted immediately, and the mayor appointed Michael C. Murphy, a Tammany district leader, to be Mr. Straus' successor.

The Skin and Cancer Hospital.—The new building of the New York Skin and Cancer Hospital was dedicated on Saturday afternoon, March 5th. Addresses were made by Drs. A. Jacobi and L. Duncan Bulkley, and a prayer was offered by the Rev. Dr. William Grosvenor. The building is on the northeast corner of Second Avenue and Nineteenth Street, and is a four-story, fire-proof, brick structure. In the basement are all the appliances necessary for the carrying out of hydrotherapeutic measures, and also the laundry, kitchen, and dining-rooms. On the first floor are the consultation-rooms, dispensary, reception room, and office. The men's and women's wards for skin diseases are on the second floor. There are six beds in the former and fourteen in the latter. There are also two private rooms on this floor. On the third floor are the cancer wards. The children's ward is on the fourth floor, and there are also six private rooms on this floor, beside the operating-room. All of the latest and most approved appliances for hospital work are provided in this building. There is room for about one hundred beds in the building. The doctors' and nurses' quarters are in an adjoining house.

An Alleged New Epidemic in India.—It is reported that an epidemic of "black blister" has broken out at several places in central India, the number of deaths from the disease averaging fifty a day.

The Queen of Portugal is a frequent subject of newspaper paragraphs, some alleging that she is a trained nurse, others that she has discouraged the use of corsets by taking Roentgen-ray views of the figures of her ladies in waiting, and others again that she is a graduate in medicine. Concerning the last statement, a French medical journalist wrote to the lady, requesting details as to her professional career, and received a reply from the chamberlain to the effect that Her Majesty had never studied medicine and took a purely humanitarian interest in the progress of that science.

German Congresses.—The twenty-seventh congress of the German Surgical Society will be held this year in Berlin, in the Langenbeckhaus, from April 13th to the 16th, under the presidency of Prof. F. Trendelenburg, of Leipzig. In connection with the congress there will be an exhibition of preparations, instruments, etc., and a display of Roentgen photographs. The seventeenth congress of internal medicine will be held at the same time at Wiesbaden.

Mr. Gladstone's Health is reported to have improved greatly since his return from Cannes. His daughter says that he is more vigorous in movements than for some time, his voice is strong and clear, and his mental capacity and appetite for work are as keen as ever. As this improvement has come since the invalid went to Bournemouth, on the south coast of England, it is regarded by many as a strong argument in favor of home resorts and against the Riviera.

The Late Dr. John G. Truax.—At a meeting of the Mott Memorial Library, Thursday, March 4, 1898, the following resolution was passed:

"*Whereas*, It has pleased Almighty God in His infinite wisdom to remove from our midst our president, associate, and friend, John G. Truax, M.D., we desire to place on record our appreciation of his character, and gratitude for the services that he has rendered to this institution. Therefore be it

"*Resolved*, That, in the death of John G. Truax, M.D., this institution has lost a most faithful officer and president, one who was ever ready by advice and action to advance its interests in all useful directions, and in whose management of its finances had exercised such diligence and faithfulness. And be it further

"*Resolved*, That we, his sorrowing associates, do hereby grieve and mourn the loss we have sustained, and that, while we bow in submission to the will of our heavenly Father, we lament the untimely death of our friend, cut off in the midst of his useful career; a friend who, by his upright example and Christian life, had become endeared to us all, and whose loss we shall feel in our personal and official connection.

"*Resolved*, That we extend to his family our heartfelt sympathy in their bereavement, and that a copy of this minute be sent them.

[Attest] "F. A. Baldwin, M.D., *Secretary*."

Obituary Notes.—Dr. Henry David Kahler, of Shelby, Ohio, died of renal trouble on February 20, 1898, aged thirty-two years. He was born at Bolivar, Ohio, and was a graduate of the Western Reserve Medical College in 1895. He practised medicine two and one-half years at Mineral Point, Ohio, and had recently located at Shelby, Ohio. He was a member of the Academy of Medicine of Canton, Ohio, and of the Northeastern Ohio Medical Society.—Dr. Jennie Taylor Gordan, a medical missionary of the Methodist Church and a niece of Bishop William Taylor, died at Malange, Angola, on December 29th. Her

husband was an African missionary, and her parents resided at Mechanicsburg, Pa. She lived for many years in Africa, and was noted among the natives of a wide extent of country for her medical skill.—Dr. di Pietra Santa, of Paris, editor of the *Journal d'Hygiène* and founder of the Society of Hygiene of Paris, died in that city recently. He was a native of Corsica, and was seventy-seven years old at the time of his death.

Due Credit to Medical Society of County of New York.—In the recent editorial on osteopathy, the credit for prosecuting quacks should have been given to the Medical Society of the County of New York and not the State Medical Society. The latter never does anything in that line, unless perhaps in an obstructive way.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending March 5, 1898. March 2d.—Surgeon F. W. F. Wieber detached from naval hospital, Norfolk, Va., and ordered to the *Miantonomoh*, March 10th; Surgeon G. P. Lumsden detached from special duty at Norfolk, Va., and ordered to the *Franklin;* Passed Assistant Surgeon B. R. Ward ordered to the *Katahdin*, March 1st; Passed Assistant Surgeon I. W. Kite detached from the *Franklin* and ordered to the naval hospital, Norfolk, Va.

Medical Students à la Française.—A dispatch to the *Evening Post* states that two thousand students of the Rush Medical College, the Chicago College of Dental Surgery, and the Marquette School engaged in a fight with forty policemen on February 8th. The trouble continued from noon until six o'clock in the evening. The police were compelled to send in riot calls repeatedly, and in the early part of the scrimmage they were badly worsted. When the students were finally put to rout, they retreated to the protection of the college buildings. From there they hurled down all kinds of missiles upon the police.

The Plague at Bombay.—According to a dispatch to *The Sun* the number of deaths in Bombay from the plague were 1,134 during the week ending February 10th, and from all causes 2,067. This is equivalent to a death rate of 129. The highest number of deaths in a single day were recorded on February 9th, when there were 348.

Examinations in Municipal Hygiene.—The trustees of Rutgers College in New Brunswick, N. J., have voted to institute examinations and grant certificates in municipal hygiene to officers of local boards of health, sanitary, factory, and plumbing inspectors, and those who may seek appointment to these places. The certificates will indicate the degree in which the holders are qualified to perform the duties relating to the promotion and the protection of the public health required by the laws of the State, and by the rules, regulations, and ordinances of local boards of health. The examinations, which will be held on the first Wednesday of the months of March, June, and October, will be written and oral, and open to both men and women. The subjects of the examinations will be plumbing, drainage, and sanitary construction; sanitary laws, ordinances, rules, and regulations; preventable diseases, isolation, and disinfection; nuisances and disposal of waste; and lighting, heating, ventilation, and food.

A Relapse.—Lady Henry Somerset, in a rational interval about a year ago, gave a qualified approval of the adoption of measures to prevent the spread of venereal disease among the British troops in India. She has now written to the secretary of state for India, stating that she desires "to withdraw her indorsement of any form or principle of state regulation of vice."

Menelek's Physician.—The ruler of Abyssinia has selected a Swiss medical woman, a graduate of the University of Zurich, to reside in his palace and act as family physician to his household.

A Chair of Physiological Chemistry at Columbia.—The authorities of Columbia University decided a short time ago to establish a chair of physiological chemistry at the College of Physicians and Surgeons, and have called Prof. Russell H. Chittenden of Yale to occupy it. It is said that he has accepted the invitation, retaining also his place at New Haven.

An Impertinence.—A newspaper printed in Spokane, Wash., has announced its intention to "publish the name of the attending physician in each case where the patient dies." The language of the announcement is somewhat ambiguous, yet the purpose is sufficiently intelligible to enable it to be characterized as colossally impudent.

The Pipe Face.—It is declared that the constant habit of smoking pipes has a perceptible effect upon the face. "The pressure of the lips to hold the pipe in position increases the curvature of the lips round the stem and the muscles become more rigid here than in other parts. Thus the lips at a certain point become stronger, and the pipe is unconsciously held in the same habitual position. After long continuation of the habit, small circular wrinkles form parallel with the curvature of the lips around the stem These are crossed by finer lines caused by the pressure of the lips to retain the stem in position. In the case of old men who have smoked a pipe for years the effect upon the lips is very marked, not only altering the form of the lips but of one entire side of the face, causing the wrinkles that are the result of age to deepen, and, instead of following the natural course of facial wrinkles, to change their course so as to radiate from the part of the mouth where the pipe is habitually carried. Furthermore, one or both lips often protrude, just like the lips of people who used to suck their thumbs when children. The effects of pipe smoking upon the teeth and lower jaws are even more apparent than in the case of the lips. If any man who has smoked a pipe for a considerable length of time will take the trouble to examine his own teeth, he will find that at the point where he usually holds the stem between his teeth the latter have become worn.

Reviews and Notices.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By Leading Authorities in Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Vol. XII.: Mental Diseases, Childhood and Old Age. New York: William Wood and Company. 1897.

The writings of five men only are represented in this issue of Stedman's interesting series of modern monographs. The title is slightly confusing and might lead to the conclusion that the volume was devoted to mental diseases as they affect the very young and very old. Such is not the case.

The first chapter, by Dr. G. Fielding Blandford, lecturer on psychological medicine at St. George's Hospital, London, England, contains two hundred and fifty-four pages, and while it is true that the insanity of childhood comes in for a share of attention, just as does senile insanity, that of puberty and that of adolescence are likewise considered. A most interesting subdivision is that treating of insanity from the standpoint of its exciting cause in the various diseases, syphilis, rheumatism, gout, sunstroke, poisons, alcohol, anæmias, kidney diseases, diabetes, myxœdema, cardiac, digestive, uterine affections, etc. In his treatment of the various forms of mental unbalance, the author has made a most readable contribution.

"Idiocy" comes next, with one hundred and twelve pages, written by Paul A. Sollier, of the University of Paris. For a dry subject and a rather hopeless condition, the author has made the best of it one could perhaps expect. "Criminal Anthropology" claims the attention from a threefold cause. The chapter is short and most entertaining; it is attractively illustrated, and the author is Cesare Lombroso, professor of legal medicine and psychiatry at the University of Turin. Now comes "Old Age," neglected in medical works as it too often is in real life. The editor presumably meant no irony in his choice of an author whose name suggested youth. Dr. J. Boy-Tessier, physician to the hospital for old people in Marseilles, has given an excellent account of senile conditions and modifications of disease processes as they occur in advanced years. Too little space, it seems to us, is devoted to the cutaneous alterations due to age, including the skin epitheliomata.

"Diseases of Children," exclusive of infectious disease, (which is a lengthy chapter in itself) and rachitis, have received adequate treatment in the hands of Dr. Jules Comby, physician-in-chief of the Hôpital Trousseau, Paris. The author, who is well known as editor of *La Médecine Infantile* and by his many contributions to the literature of children's diseases, has given in about three hundred pages a concise account of most of the affections peculiar to or frequent in the young. The essentials of diagnosis and treatment are given with brief reference to pathology and etiology, while lengthy descriptions are omitted. More attention is given in this chapter to skin affections than one would expect to find in so general an article. Considered as a whole, this is one of the best volumes of the encyclopedia, in that it embraces much not usually found in works of the day and covers a wide range of subjects of interest and importance to the general practitioner.

A Pictorial Atlas of Skin Diseases. From Models in the Saint Louis Hospital, Paris; with Explanatory Woodcuts and Text. By Ernest Besnier, A. Fournier, and others. Edited and annotated by J. J. Pringle, M.D., F.R.C.P. London: The Rebman Publishing Company, Limited. Philadelphia: W. B. Saunders. 1897.

The last fasciculus (Part XII.) has arrived to complete the volume. Two of the plates are devoted to chancres, the figures representing different appearances as the primary lesion occurs upon the tongue, tonsil, lips, and nasal fossa. The other plates show in a fairly satisfactory manner instances of urticaria pigmentosa, with atrophic spots arranged in transverse bands; impetigo contagiosa, in which the cheek and ear are involved in yellow-crusted lesions; xeroderma pigmentosa, or, as it is entitled on the plate, xerodermia pigmentosa. It would be well if dermatologists could conform to such designations as would not too much confuse the non-specialist by sudden changes in gender and endings of qualifying adjectives. The work taken as a whole has not contained enough of the every-day cases to supply the needs of the average purchaser of medical publications. The text has been for the greater part descriptive of the case in hand, and the field of dermatology covered is thus quite restricted. It is, however, an interesting and, up to a certain point, an artistic work, and well calculated to make one desire to see the wax-model collection from which the pictures have been selected. The translation and English editorship leave nothing to be desired.

Compressed-Air Illness, or So-called Caisson Disease. By E. Hugh Snell, M.D. London: H. K. Lewis. 1896.

This may be looked upon as the standard work on the question of diver's paralysis and allied effects of caisson pressure.

The author shows familiarity with the condition from a practical experience which has not been lacking in scientific observation. The book is well worth reading, and its recommendations will be found of interest to all who have charge of workmen in tunnel or bridge building and similar occupations.

A Practical Treatise on Diseases of the Skin. By John V. Shoemaker, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia, Physician to the Philadelphia Hospital for Diseases of the Skin. Third Edition, Revised and Enlarged. New York: D. Appleton & Co. 1897.

It is five years since we reviewed in these columns Dr. Shoemaker's second edition, and it must be taken as an index of merit that in these days of rapid multiplication in atlas and text-book literature in this department any work can run through more than one or two editions. The pictures are not so pleasing, in all instances, as others we have seen, and the text does not embrace so much of the deeper scientific stamp and fulness of histological detail of description as are found in some recent works. There is, however, a pervading spirit of therapy, in which the personality of the author is strongly brought out. This is, perhaps, the secret of the book's success. Probably in this field more than in many others a need is felt for definite plans of medication, and Dr. Shoemaker supplies the want to the reader's satisfaction.

A Text-Book of Practical Therapeutics. With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., B.Sc. Sixth Edition, Enlarged, Thoroughly Revised, and Largely Rewritten. Philadelphia and New York: Lea Brothers & Co. 1897.

The popularity of this work, already familiar to the readers of our review column, is well attested by the issue of the present revised edition.

There would seem to be an especial call in America or among English-reading book buyers for condensed, concise, already digested medical information. It is quite evident that large portions of the work have been rewritten and thus brought up to the requirements of changing views in therapeutic matters. It has been the author's intention that this work on drugs and treatment should be most usefully employed in conjunction with his other work on "Practical Diagnosis." It is, however, entirely independent of the latter. That the work is eminently practical goes without saying. It is not exhaustive; it deals more with well-attested than with the newest remedies, and the still doubtful methods, as, for example, serum therapy, are practically left out.

Incompatibilities in Prescriptions. For Students in Pharmacy and Medicine and Practising Pharmacists and Physicians. By Edsel A. Ruddiman, Ph.M., M.D. New York: John Wiley & Sons. 1897.

After considering incompatibility of drugs from the pharmaceutical side, the author gives a long list of prescriptions of faulty construction. These are then taken up by number (reference being thus made easy) and criticised, the error being pointed out and explained. There are many prescriptions given which one would never think of writing, but by a study of the whole one may learn what not to do. It is, obviously, a work of more necessity to the compounder than to the prescriber.

A Text-Book of the Diseases of Women. By Henry J. Garrigues, A.M., M.D., Professor of Gynæcology and Obstetrics in the New York College of Clinical Medicine; Gynæcologist to St. Mark's Hospital; Gynæcologist to the German Dispensary; Consulting Obstetric Surgeon to the New York Maternity Hospital, etc. Containing 335 Engravings and Colored Plates. Second Edition. Thoroughly Revised. Pp. 728. Philadelphia: W. B. Saunders. 1897.

It is with especial pleasure we welcome the appearance of a second edition of this work by our esteemed fellow-townsman. The best commentary on the book is the fact that since its publication, three years ago, it has by the sheer force of its intrinsic merit shouldered its way, through a crowd of more ambitious works, up to the front rank. Doubtless the author's reputation for sound learning and careful statements has had no little to do with the confidence which has been reposed in the product of his study and experience, aside from its peculiar features of excellence.

In announcing that he has thoroughly revised the first edition, we feel assured that no ordinary care has been exercised in correcting faults and adding new matter. There is so much to praise in the work of revision that we may be pardoned a few criticisms from the standpoint of the teacher and general practitioner.

In the third edition we feel sure that students and teachers of medicine would welcome an attempt at condensation, by the omission of many unimportant details in the way of rare "diseases" and operations of interest only to the inventor. Moreover, though the erudition and exhaustive research of the author are shown by the copious footnotes, constant reference to conditions and complications of interest only to the specialist is apt to divert the mind of the beginner from the main issues. Instruction of the student in gynæcology (and of the practitioner, for that matter) cannot be too elementary. His tendency to diffuse reading must constantly be checked until he has digested the most important facts. For example, under the head of "Diseases of the Perineum" (why "diseases," instead of injuries?) we find descriptions of half a dozen operations, one of which, to our certain knowledge, was abandoned by its inventor almost as soon as it was published. Why not teach the student one or two good methods —Hegar's, if you will—and let him become proficient in that? The tyro who is always uncertain as to what new method he had better try can never hope to attain success as a surgeon. These faults prevent even this edition from being an ideal text-book, and we confess to a slight feeling of disappointment that they were not corrected.

The chapters on diseases of the uterus, tubes, and ovaries have been brought thoroughly up to date, and the careful descriptions of modern aseptic technique are unsurpassed in any book in our language.

If one were allowed to peruse only the index and table of contents and to glance at the footnotes, he would be forced to the conclusion that the work was that of a scholar.

Hugh Wynne, Free Quaker. By S. Weir Mitchell, M.D., LL.D. In Two Volumes. New York: The Century Company. 1897.

This is a tale of the Revolution and chiefly of the exciting part taken therein by a young Quaker whose nature from the beginning cried out against the doctrine of his church in regard to non-resistance and the suppression of all emotion or expression of any, even the strongest of human passions. Dr. Mitchell has written much in prose and verse outside of medicine, but good as his work has been it has never until now been of such excellence as to expose his medical reputation to the danger of being eclipsed by his literary fame. But with the appearance of Hugh Wynne the author steps on a distinctly higher plane, where, in actual story telling at least, he appears to much greater advantage than he did in some of his previous works, such as "When All the Woods Are Green," in which the reader got much philosophy indeed, but with a very thin thread of a story. In this latest book Dr. Mitchell has a good story to tell and he tells it well. The narrative runs rapidly and smoothly, the interest being maintained unabated to the end, and the portraiture of character is strong and clear. Of special interest to medical readers is the way in which, by a few strokes here and there, the character of Dr. Rush is made to stand out in the open—a character not altogether lovely, yet, as human beings go, a really noble one.

Saw Palmetto. Its History, Botany, Chemistry, Pharmacology, Provings, Clinical Experience, and Therapeutic Applications. By Edwin M. Hale, M.D., Author of "New Remedies," "Practice of Medicine," etc. Philadelphia: Boericke & Tafel. 1898.

We do not presume that the author intended this in any sense as a humorous work, but some portions are open to such a construction. After a consideration of the plant and its chemical qualities we come to provings by Dr. Boocock, who "had before commencing a scalding feeling on passing water," and "slight glueing of the meatus." He does not say if gonococci were still present, but the supposition must be that they were. This is a point of importance as bearing upon the value of the subsequent proving-sensations.

After two drops of the tincture three times daily, he says, "embracing was very satisfactory, and my partner wanted to know what made me so fierce; the work was very good . . . as it used to be with me thirty or forty years ago."

The effects produced by an increase to five drops point to the drug's becoming popular with octogenarians. The provings by women show some unfavorable effects upon the breasts and ovaries. The author has given a very good account of the Sabal serrulata, but the reports of the provers quoted are not convincing. He deprecates the use of the much-advertised compounds.

The Rubáiyát of Doc. Sifers. By James Whitcomb Riley. Illustrated by C. M. Relyea. New York: The Century Company. 1897.

The picture which the author of these delightful verses draws of the country doctor is one most flattering to our profession, even though it be an impossibly perfect man whom he portrays. "Doc. Sifers" is a kindly, ready, cheerful, all-round family physician; charitable, gentle, a lover of children, an inventor of all sorts of ingenious contrivances, a detective, a hunter, a fisherman, ex-army surgeon, patriot, profoundly religious though of most unobtrusive piety, a settler of quarrels, and a leader in his community. All this described in James Whitcomb Riley's happiest effort at dialect verse, so simply and so vividly that as we read we forget that no man was ever quite so perfect, and we end by loving Doc. Sifers as if we too were among his patients.

Outlines of Rural Hygiene. For Physicians, Students, and Sanitarians. By Harvey B. Bashore, M.D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on the Normal Distribution of Chlorine, by Prof. Herbert E. Smith, of Yale University. Illustrated. Philadelphia, New York, and Chicago: The F. A. Davis Company. 1897.

This is a little work that will be of real practical value to all dwellers in small towns or the open country, by laying bare before them their most flagrant sanitary sins and those of their neighbors, and pointing out to them the remedy for resultant evils. The book contains chapters on water supply, waste disposal, the soil, habitations, and disposal of the dead, and an appendix on the normal distribution of chlorine. The work should have a wide circulation, and might profitably be distributed as a tract by sanitary societies or State boards of health throughout the farming-districts of the country.

Skin Diseases of Children. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York; Physician to the New York Skin and Cancer Hospital, etc. New York: William Wood and Company. 1897.

This is in book form a series of illustrated articles (twelve photogravures and chromographic plates and sixty illustrations) on certain skin diseases which are apt to occur in infancy and childhood, which appeared a year ago in the *American Journal of Obstetrics and Diseases of Women and Children*, published by the same firm. Some additions, the author says in his preface, have been made, but he disclaims any attempt to present a complete work on the subject. As a sketch of the commoner forms of eruption it is very acceptable. In the letterpress proper, exclusive of formulæ, there are less than one hundred pages. When the picture space is deducted it is seen that little text is left. The pictures are, however, in many instances admirably executed, and reflect credit upon the reproducer no less than upon the photographer. Others leave much to be desired

both in lack of finish and in imperfectly representing the disease intended. This criticism is true, however, of all collections of pictures of skin diseases so far published.

It is a very nice book to have in one's collection, but not one from which the differential diagnosis of infantile and children's eruptive diseases can be mastered.

CHRISTIAN GREECE AND LIVING GREEK. By DR. ACHILLES ROSE. New York: Peri Hellados Publication Company. 1898.

THE indefatigable champion of modern Greece, the modern Greeks, and modern Greek, Dr. Achilles Rose, of New York, has here published in collected form his many writings in support of the noble cause which he has espoused. The chapters are headed: An historical sketch of Greek, the proper pronunciation of Greek, the Byzantines, the Greeks under Turkish bondage, the Greek war of independence and the European powers, the kingdom of Greece before the war of 1897, and Greek as the international language of physicians and scholars in general. Most of these have been delivered in the form of lectures before various medical and other societies in this city. They bear evidence of the author's diligent reading and of his fervent love for his unhappy protégés, and their musical and ancient tongue.

PRACTICAL TOXICOLOGY FOR PHYSICIANS AND STUDENTS. By PROF. DR. RUDOLF KOBERT, Medical Director of Dr. Behmen's Sanatorium for Pulmonary Diseases at Gorbersdorf, in Silesia (Prussia); Late Director of the Pharmacological Institute, Dorpat (Russia). Translated and Edited by L. H. FRIEDBURG, Ph.D. Authorized Edition. New York: William R. Jenkins. 1897.

THE author has been led to edit the tables and brief text of this practical work giving an idea of "toxicology at a glance," by the demand on the part of his students for the separate tables which he has long used in his lectures.

It is a work well suited for those who have not the time to go into the more exhaustive treatises on poisons.

The appendix contains much useful information on animal and vegetable esculents, auto-intoxications, and a list of reagents known by the name of their discoverer.

THE PRESCRIBER. A Dictionary of the New Therapeutics. By JOHN H. CLARKE, M.D., F.R.C.S., Ext. Mem., Royal Medical Society, Edinburgh, etc. American Edition Revised and Enlarged by the author from the Fourth English Edition. Philadelphia: Boericke & Tafel. 1898.

TO the revised edition which appeared in England in 1893, the author has added references to many of the newer preparations.

After instructions as to care taking and prescribing, a list of abreviations and signs is given; then diseases are taken up in alphabetical order, with the homœopathic indications for medication. The glossary, beginning on page 250, presupposes a pitiful lack of knowledge on the reader's part.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by JUDSON DALAND, M.D. (University of Pennsylvania), Philadelphia; Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. MITCHELL BRUCE, M.D., F.R.C.P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and DAVID W. FINLAY, M.D., F.R.C.P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen, etc. Volume III. Seventh Series. Philadelphia: J. B. Lippincott Company. 1897.

IN some respects this book of lectures which comes to us four times a year is improving. Not only has the attractiveness of the outside been increased by a change in binding, but the class of contributions is being rather more than well sustained. On the other hand, the illustrations of the present volume do not compare favorably with those in the 1895 series. Nine of the thirty-seven contributors are Philadelphia physicians; still, France, England, Austria, and Scotland are all well represented, while a few stray lectures come from Chicago and New York. The introduction of short articles on treatment, specially prepared but not in the form of lectures, is a good feature, but these should be kept within the bounds of brevity.

AMBROISE PARÉ AND HIS TIMES, 1510–1590. By STEPHEN PAGET. New York and London: G. P. Putnam's Sons, Knickerbocker Press. 1897.

WE find in this neatly printed and interestingly illustrated volume of over three hundred pages the history of Paré's life and times.

This is a story so interwoven with romance and adventure that the drier and more strictly professional parts are pleasantly enlivened. The accounts of journeys undertaken are filled with interest, and what one learns of Paris in Paré's time is worth the while. The frontispiece is a reproduction of a portrait of Paré at the age of sixty-five.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 3, 1898.

EDWARD G. JANEWAY, M.D., PRESIDENT.

Memorial Address on Dr. Joseph O'Dwyer.—The meeting being in charge of the section on laryngology and rhinology, and the subject chosen being "Intubation," the scientific papers were preceded by a memorial address on Dr. O'Dwyer, by DR. W. P. NORTHRUP (see page 361).

Intubation in Diphtheria.—DR. WILLIAM K. SIMPSON read this paper. He said that one of the great advantages of intubation, and one which placed it in sharp contrast with tracheotomy, was its simplicity and its freedom from the horrors of the latter operation. It was for this reason that intubation had been so promptly resorted to, and it probably explained in part the brilliant results attained. It had now been proved that sixty per cent. of laryngeal cases in the course of diphtheria did not require intubation if reliable antitoxin was administered early. If, however, croup did supervene, the antitoxin should be continued and the croupy symptoms watched, it being remembered that it sometimes took twenty-four hours for the full effect of antitoxin to become manifest. While the antitoxin effect was being awaited, if stenosis became marked intubation should be performed. Before the introduction of antitoxin the tube usually remained in six or seven days, but the average time with antitoxin was about three or four days. Personally, he preferred to leave the tube in a maximum of five days in private practice, when the physician was not always at hand to reintroduce it, should it be found that it had been extracted too early. Undoubtedly in many cases the tube could be removed earlier without the necessity for a reintroduction. The chief indications for its removal before this time were severe discomfort and pain from pressure, severe attacks of coughing and sudden stenosis, due to membrane blocking up the tube. This last accident might occur earlier in antitoxin cases, because of the tendency for the membrane to exfoliate earlier.

Prolonged Retention of the Tube.—In certain cases the stenosis became permanent, requiring the prolonged retention of the tube. The best exposition of this rather obscure subject had been presented in a paper published last year by Dr. O'Dwyer, who said that the causes could be summed up in a single word —"traumatism." The injury to the larynx was done by a tube which did not fit, or from an imperfectly constructed tube, or from the use of too large a tube, or one which was rough.

Introducing the Tube.—The most important point in the technique of intubation was, perhaps, to see that the patient's head was not tilted or the neck

twisted, and that the instrument was kept well in the median line. Its successful introduction was almost invariably followed by immediate relief in the breathing. The indications that the tube had been successfully introduced into the larynx were: 1, the relief of the dyspnœa; 2, the characteristic type of cough, which immediately took place, and which was moist and metallic. If this cough was not present, it was well to excite cough by giving the patient a drink of whiskey. It very rarely happened that the tube was obstructed by membrane at the time of its introduction. The accident was more apt to occur late in cases of croup, when the membrane had begun to exfoliate. If for any reason the breathing was not relieved, the tube should be removed by the string, which was at first secured over the ear, and the child then made to cough before the reintroduction of the tube. One accident which might happen was pushing the tube to one side into one of the ventricles. It could be avoided by keeping the tube in the median line during its introduction. Sometimes the tube was introduced into the œsophagus. This would be indicated by failure to relieve the breathing, by coughing, and by the string being pulled backward into the mouth in the efforts to swallow. The tubes that had been swallowed had usually been passed out of the rectum in from two to four days.

Extraction of the Tube.—The operation of extraction was more difficult than that of introducing the tube, and required a finer sense of touch. Before the extractor was used, the set screw should be so adjusted that the jaws of the instrument could not open more widely than was necessary for the removal of the size of tube in use. Attention to this detail would save much unnecessary traumatism of the larynx and adjacent structures. Extraction by pushing the tube out from below without the aid of any instrument might be successfully done in cases of emergency even by the nurse, and also occasionally in cases in which unusual difficulty was experienced in the use of the extracting instrument. To extract the tube from the larynx without an instrument, the patient was slightly inverted and the mouth opened; then the thumb was placed in the episternal notch, and the tube was pressed up into the mouth, where it could be seized with forceps or with the fingers. After the removal of the tube the patient should not be left until it was evident that there would be no immediate return of the stenosis.

Feeding after Intubation.—The child was best fed after intubation by the Casselberry method, the child's head being held down and the feeding done with the help of an ordinary "duck" feeding-cup. The food should be fluid or semisolid.

Prognosis.—The prognosis of intubation under the combined treatment, *i.e.*, intubation and antitoxin, was remarkably favorable; the recoveries being now from twenty-seven to thirty-one per cent., as against fifty-nine to seventy-five per cent., the former rate.

Intubation in Chronic Stenosis.—Dr. D. Bryson Delavan read this paper. He said that O'Dwyer not only invented but perfected intubation. Notwithstanding the excellent work of many others, it would be found that almost all of their important suggestions had been forestalled by the inventor of intubation. This was pre-eminently true regarding the intubation treatment of chronic laryngeal stenosis. It was now twelve years since intubation was first employed in these cases, which had formerly been treated with great difficulty, and with but little success, by rapid intermittent dilatation. Two years later, Dr. O'Dwyer said that, had intubation of the larynx for croup proved to be a failure, he would still feel amply repaid for his trouble by the results already attained in the treatment of chronic stenosis. A considerable number of cases had been reported, both here and abroad, which were confirmatory of the view just expressed. In 1894, no less than twenty-four successful cases were reported. Up to 1896, about one hundred cases had been reported, most of them entirely successful. In the few instances in which complete success had not been obtained, it was evidently due to failure on the part of the operator to understand the method, or else to a faulty application of the same.

Where it Succeeds.—Intubation was effective in the following conditions: 1, cicatricial stenosis due to injuries to the soft parts of the larynx; 2, narrowing of the space above and below the cords by simple, tuberculous, or syphilitic inflammation; 3, in cases in which tracheotomy had been performed, and in which, the tracheal cannula having been worn for a considerable time, the upper part of the trachea was filled with granulations; 4, in a fair proportion of cases of papilloma of the larynx: 5, in deformities of the larynx from injuries to or disease of its cartilaginous framework; 6, in ankylosis of the cricoid and arytenoid articulations, as in arthritis deformans of the same; and, 7, in various affections of the nerves of the larynx, *e.g.*, bilateral paralysis of adduction. In these cases it had been found that intubation acted as follows: 1, it relieved the urgent dyspnœa; 2, it promoted absorption by pressure; 3, it stretched contracted tissue and cicatricial bands and adhesions; 4, it caused forced motion of ankylosed articulations; and, 5, in cases of paralysis it brought about a separation of the vocal bands for a sufficient length of time to overcome the difficulty or admit of its treatment.

In 1892, the speaker said Dr. O'Dwyer had made the statement that in chronic cases intubation could be performed with greater ease by the aid of a laryngoscopic mirror. Dr. Delavan said that he had had several successful cases in his own practice. Only two weeks ago he had been hurriedly summoned to see a case of urgent dyspnœa in a woman in the Sloane Maternity Hospital, who was suffering from advanced pulmonary tuberculosis and was almost in the second stage of labor. With the assistance of Dr. W. H. Simpson, intubation was performed, and her dyspnœa had been relieved barely before the child was born.

Intubation for Acute Stenosis.—Dr. Charles H. Knight read this paper. He said that the brilliant results of intubation in diphtheria had almost obscured the usefulness of the procedure in other cases of acute stenosis. Thus, scarification was not always sufficient for the relief of œdema of the glottis. Here intubation seemed the ideal operation but for one thing, *i.e.*, the area of œdema might be so extensive as to overhang and obstruct one or the other orifice of the tube. As was well known, the upper part of the larynx was most affected by œdema, and this portion was most accessible to the knife. One authority had expressed his determination to perform intubation in future in the following conditions: 1, spasm of the glottis from any cause; 2, in bad cases of laryngismus in infants; and 3, whenever the presence of a foreign body in the trachea was suspected. In cases of injuries to the larynx, obstruction to breathing might follow in consequence of the formation of a hæmatoma, or of emphysema, or because of the presence of a foreign body in the upper air tract. Laryngismus stridulus usually led to general or local medication, so that the question of surgical intervention seldom arose. The number of recorded fatal cases did not exceed six or eight, but sometimes the distress and urgency were so great as to seem to justify such a simple procedure as intubation. Personally, he had used it in only one case of spasm of the larynx, occurring in a middle-aged lady a few months after the removal of a thyroid tumor. Her attacks of dyspnœa became so frequent and alarming that intubation was performed. It gave relief, but she objected so much

to the loss of voice that she insisted upon tracheotomy being performed. This was done, and she is still wearing the tracheotomy tube.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, February 24, 1898.

EDWIN B. CRAGIN, M.D., CHAIRMAN.

Blood Casts of the Uterus.—DR. EDWARD W. PEET presented casts from the cavity of the uterus. They had been passed by a woman who was suffering from purpura hæmorrhagica. Minute examination had failed to show anything but organized blood clot. The patient was a single woman, thirty-six years of age, who had been anæmic for a considerable time. After a sojourn at the Sulphur Springs, she developed purpura hæmorrhagica. She was treated for this first with iron and arsenic, and afterward with ergot and iron. The purpura slowly disappeared. After a month or two she had a very severe attack of herpes zoster. After about two months the purpura hæmorrhagica returned in a more severe form than before. When he had first seen her, last December, she was in bad condition. She was put on red bone marrow on December 16th. On December 25th menstruation came on, and after a good deal of pain she passed these casts. Under the treatment mentioned the number of red blood cells increased very markedly. During the menstrual period the white corpuscles increased to nearly double their former number. It was peculiar that these clots should have retained their shape after passing through the cervix, and that they should have been passed joined together in a chain.

DR. ROBERT A. MURRAY said that he was of the opinion that if the cervix was in normal condition the blood would not be passed in the form of clots from the uterus, although it might be discharged into the vagina and there become coagulated. It seemed to him inconceivable that these casts should have been passed in this form from a virgin uterus. It was true that one of the clots seemed to represent the shape of the uterus, but he had seen similarly shaped blood clots discharged and had been able to prove, by actual inspection, that they came from the vagina.

DR. MALCOLM MCLEAN said that the fact that various-sized clots, both small and large, had been passed would indicate that the uterus had been slowly dilated. This would explain the passage of a large clot. He had seen this even in a virgin uterus, and it seemed particularly apt to occur in anæmic women.

THE CHAIRMAN said that when, as in this case, the discharge of the clot immediately followed severe cramp-like pain, it was reasonable to suppose that the clot had been discharged from the uterus.

A Follicular Cystoma.—DR. A. H. GOELET presented a tumor that he had removed by laparotomy from a woman, seventy-four years of age, on January 26th. According to the pathologist, it was a follicular cystoma. Her physician had been consulted for the first time by her for this condition last October. There was some bearing-down pain at the time, and there appeared to be a large mass in Douglas' cul-de-sac. When he had seen the patient in January, the tumor was of the size of a fœtal head, and it had interfered seriously with the functions of the bladder and rectum. When the abdomen was opened the tumor appeared like an ovarian cyst, but its contents were found by tapping to consist simply of gelatinous fluid. It was removed with comparative ease, and the patient almost completely recovered.

Submucous Fibroid Undergoing Degeneration.—Dr. Goelet also presented a degenerating submucous fibroid, removed from an unmarried lady, twenty-nine years of age. She had not menstruated for a year previously. Instead of menstruation there had been a profuse and persistent hydrorrhœa. She had not been treated by electricity. When the abdomen was opened the uterus appeared like one in the eighth month of pregnancy. The tumor was found to have undergone considerable degeneration, and so it was decided to be safer to remove the uterus, a supravaginal amputation being done. The right ovary was allowed to remain, with a view to diminishing the subsequent nervous symptoms. Recovery had been uninterrupted, and she was now in perfect health. The nature of the degenerative process had not yet been determined.

An Unusual Case of Dystocia with Hour-Glass Contraction in the Second Stage.—DR. MALCOLM MCLEAN reported such a case. The patient, a woman, twenty-six years of age, had gone through her first pregnancy in February, 1896, without untoward incident until the last month, when she had developed considerable œdema associated with albuminuria. She had accumulated forty pounds of flesh during her pregnancy, and she weighed at term one hundred and eighty pounds. She was exceedingly nervous at the time of confinement, and the pains were short and ineffectual. After a number of hours had passed without progress, her physician had performed version and brought down the feet. The delivery of the body was effected with unusual difficulty, and the head at first resisted all efforts at extraction. Suddenly it separated from the body and remained above the pelvic brim. When Dr. McLean saw the case, about two hours later, there were much swelling and contusion of the maternal parts. After some difficulty he succeeded in delivering the severed head with axis-traction forceps. The placenta was easily expressed, and the patient recovered promptly under hot-water douches. Her physician said that on attempting to turn the child he had met with great resistance, which seemed to be due to spasmodic contraction. Subsequent examination of the pelvis by Dr. McLean showed no contraction of any of the pelvic diameters. Her physician having died before the next pregnancy, he had assumed charge. When seen by him in her second confinement, she was in good physical condition. The first stage was slow. The second stage came in with severe pains and the patient became nervous, and but little progress was made. The head was floating above the brim in the L.O.A. position. During the pains the head was only pressed down against the brim, but did not engage. The waters had begun to escape quite early in the labor. At 10 A.M. on December 25th, after having been in the second stage for six hours, the patient was utterly demoralized. He had felt so satisfied that the head could be made to engage easily that he had elected the forceps in preference to version, but to his great disgust and chagrin he found that the head could not be brought down further than the superior strait. An examination with the whole hand failed to detect any irregularity in the pelvis or any abnormality of the child, but the neck of the child was tightly grasped by a true hour-glass contraction of the uterus. It was necessary to force the head up through the ring above before version could be performed and delivery effected. The child was delivered in a moribund condition and died within half an hour, apparently from the pressure produced by the forceps on the head. The speaker said that he had never before heard of a distinct hour-glass contraction in the second stage. No measurements had been made of the child's head, but the baby was well formed and weighed eight and one-quarter pounds.

DR. PAUL F. MUNDÉ said that many years ago he had seen four such cases, but had never reported them. In 1881 he had been hurriedly called by Dr. James W. McLane to assist in the delivery of a woman who

had had a number of children. Examination showed this hour-glass contraction. After working ineffectually for three hours, he had been compelled to perforate and deliver the child, which had long been dead. Although the woman had been under chloroform for six hours or more, she had made a good recovery. This form of contraction did not seem to relax at all under chloroform.

Dr. S. Marx said that, in spite of the theory advanced by the preceding speakers regarding the cause of the dystocia in the case presented, it was inconceivable to him how such a contraction could come on at this stage of labor and prevent its further progress. The history showed a very severe dystocia in the first confinement, and that the head had not engaged in the superior strait. This, as was well known, indicated a disproportion between the fœtal and maternal measurements. He felt sure that in this case the cause of the dystocia was to be found in the relative disproportion of the fœtal and maternal measurements, together with the spastic condition resulting from long and difficult labor. The lesson to be learned was that when the pelvis was rather small and the child rather large labor should not be allowed to continue very long without interference.

Dr. Ervin A. Tucker agreed with the last speaker that the prolonged labor and tired-out uterus were responsible for the spastic condition. In a case of this kind that he had seen, in which version could not be performed at first because of the contracted ring, he had pushed the chloroform to the full surgical degree, and then the ring had relaxed and version had become possible. It did not seem to him wise to leave a woman to suffer in the second stage of labor for five or six hours; it was two or three times longer than seemed to him desirable.

Dr. R. A. Murray said that the tired-out uterus did not require even profound chloroform narcosis to relax it, but it was not so with a uterus which had become tonically contracted. In the latter class of cases it was not the head, as a rule, that presented the obstacle to delivery, but the shoulders. If the head was the cause of the obstruction, it was evidence that the head was relatively too large for the pelvis. The crushing of the head would not be found sufficient to allow of delivery or inarily; it would be necessary also to crush the chest. For these reasons he did not quite understand how Dr. Mundé had succeeded in effecting delivery in the case cited by him. The fact that in that case the crushing of the head had been sufficient showed that the original cause of the dystocia must have been the disproportionate size of the head. In a similar case great dystocia had been met with on two previous occasions, and he proposed in the next confinement, which was expected soon, to place the patient under chloroform at an early stage, and he hoped in this way to be able to deliver her with much less difficulty.

Dr. Mundé insisted that in the case he had referred to there had been no pelvic deformity, the dystocia being entirely dependent upon the contracted condition of the uterus.

Dr. Ralph Waldo remarked that, in his opinion, the discussion had gone rather wide of the mark, as the cases referred to were not counterparts of the unique one reported by Dr. McLean.

Dr. McLean, in closing, said that he was sorry that the theories offered by Dr. Marx did not fit the facts, which had been carefully observed and studied. His case was one in which if the head had been the size of an orange it could never have been brought through, for the very reason that the head was anchored to a neck, and the neck was firmly held by the contracted uterine ring. In answer to the very just criticism that the uterus had become tired out by the patient having been left so long in the second stage, he would say that the reason he had left her so long in this stage without interference was that the head had not engaged, and he had firmly believed that by waiting the woman would quiet down and the pains would then become efficient. The chloroform had been pushed to the full surgical degree, and had been kept at that point for two hours while he had worked most assiduously to effect delivery. The head had not been crowded down into the superior strait, but there was plenty of room, as was readily determined with the hand. By pressure from above, made by an assistant, he had been able to bring the child's head well down into the superior strait with his hand alongside of it; hence there could not have been any obstruction due to a disproportion between the size of the child's head and the maternal parts. He had never yet, in a large obstetric experience, perforated the head of a child in order to deliver it.

Abdominal Hysterectomy for Acute Puerperal Sepsis; Recovery.—Dr. H. N. Vineberg said that in the past few months he had succeeded in saving two lives by hysterectomy for the relief of puerperal sepsis. The previous history of the case about to be reported was quite meagre. The patient had been at first under the care of two midwives, and afterward of a physician, but as she had fever, and developed a series of chills on the nineteenth day, she had been sent to hospital. On admission to St. Mark's Hospital at 11 A.M. she was in bad condition; pulse, 120 and feeble; temperature, 103° F. The abdomen was very much distended and exquisitely tender. There were all the signs and symptoms of severe sepsis, with probable beginning peritonitis. Curettage was performed, and considerable decidual tissue removed. The uterus was then irrigated with an antiseptic solution. Her condition improved temporarily, but the next day she was decidedly worse, so he had decided to perform abdominal hysterectomy and wash out the peritoneal cavity with saline solution. This was done at once, on the twentieth day. She stood the operation well. The following day her temperature was 100° F. and her pulse was very much better. She made a good recovery, and was able to leave the hospital at the end of four weeks. On opening the uterus after its removal, he had found considerable dark débris, with rather a fetid odor, in spite of the fact that intra-uterine douches had been given every four hours, some of them by himself. At the operation the peritoneum presented that opaque greenish appearance which usually pointed to a fatal termination. He had been careful to irrigate the abdominal cavity very thoroughly with saline solution, and had then drained both from above and below. There were no collections of pus in the pelvis. The peritoneum was thickened, and the tubes and ovaries were normal. Of course, the majority of these patients recovered under curettage and intra-uterine douches, but as soon as there was any good reason for believing that the sepsis was extending, he believed the operation of hysterectomy should be performed. The pulse would be found a much better guide than the temperature in deciding upon the degree of sepsis present.

Dr. Paul F. Mundé said that from an examination of the specimen he could not but feel that a uterus looking like that one hardly demanded removal. The success attained by Dr. Vineberg was certainly phenomenal, but it was likely that the result would have been equally satisfactory if the uterus had been left alone and the abdominal cavity had simply been flushed out with saline solution. While he admired the operator's daring and hardihood, and congratulated him on his success, he still felt that the doctrine involved in this case was a dangerous one to be allowed to go abroad. The operator had not given any distinct

indications to justify the operation. If there had been collections of pus in the pelvis, the matter would have been very different.

Dr. Boldt said that he had seen the uteri removed from both of Dr. Vineberg's patients. The first case was one of sepsis due to a portion of retained placenta. If that uterus had been carefully examined, not only with a curette but with the finger—if necessary, by splitting up the cervix—that septic material could have been removed. Personally he had never seen a case of acute puerperal peritonitis cured by operation, although he would not say that such a case had never occurred. In the specimen just presented there was nothing to indicate that the uterus was septic. It was not a case of acute puerperal sepsis, for, if such had been the case, the woman would have been dead before the time mentioned as that at which she had first come under observation. The uterus was quite normal in appearance, he thought, for that period after labor. He fully agreed with Dr. Mundé that the recovery would have been equally assured if the peritoneal cavity had been washed out and the uterus had not been removed. He wished to be courteous, yet he also desired to speak plainly and state his convictions in a spirit of absolute scientific criticism.

Dr. R. Waldo said that he had seen a great many cases of puerperal sepsis, and had yet to see one that he thought would have been benefited by the procedure followed in this instance. It seemed to him that if the uterus had been most thoroughly curetted and irrigated, and then had been left alone, the case would have terminated in the same way. The fact that there were no accumulations of pus in the vicinity of the uterus or in the peritoneal cavity, he thought, justified his speaking against the procedure.

Dr. John Polak said that he had reported to the section last year a case of septic metritis, in which there had been purulent foci in the walls of the uterus but no involvement of the tubes or ovaries or broad ligament. He had removed the uterus through the vagina with the aid of clamps, and the patient had made a good recovery.

Dr. Vineberg said that the criticisms offered did not surprise him. If sepsis evidently came from the interior of the uterus, of course the treatment should be curettage and irrigation of the uterus; but if, in spite of this treatment, the patient's condition became worse and there were evidences of peritonitis, it seemed to him that there was everything to gain and nothing to lose by operating. In these cases the gross source of infection must be removed before a cure could be effected. Regarding the first case that he had previously reported, he would say that if the uterus had been carefully examined after operation it would have been found that the cervix was closed so that it would have been impossible to introduce the finger or the curette. The placental tissue, moreover, was firmly organized, and it was difficult to remove it even after the uterus had been cut open. He was willing to present the specimen from the first case at any time. He would rather perform hysterectomy than split the uterus and insert the finger, as suggested by Dr. Boldt.

Dr. Boldt said that invariably in these cases he split the cervix bilaterally, so that the finger could be introduced and a thorough digital exploration made.

Pregnancy in Women with Uterus Duplex, with Report of a Case.—Dr. Sara Welt-Kakels read a paper with this title. She said that the uterus duplex was undoubtedly of much more frequent occurrence than the literature would seem to indicate. After a critical review of the literature, the following case, occurring in her own practice, was reported:

Mrs. D. S——, thirty years of age, first came under her observation more than five years ago, with a negative family history. Her menstruation was regular and the flow normal, but she was anæmic and suffered from dysmenorrhœa. The thoracic organs were normal, as were also the external pelvic diameters. Bimanual examination showed a small vaginal introitus and a lacerated hymen, and a small uterus acutely anteflexed, with the fundus pointing to the left. A second examination revealed another and somewhat smaller introitus, and another lacerated hymen. The uterus was smaller than on the other side, and had very thin walls. The fornices of both vaginæ were flattened near the septum. The right uterus measured one and one-half inches, and the left two inches in length. The adnexa could be easily palpated on each side, and the space between the two uteri could be felt on bimanual palpation, a sound having been previously introduced into each uterus. The distance between the two vaginæ was about one inch. During the next menstrual period, the speaker said, she had had an opportunity of observing both uteri menstruating simultaneously. This had occurred in the majority of cases on record, although a case had been reported in which the two uteri menstruated at different times, and another in which the two uteri menstruated alternately at an interval of one month. In the present case the cervical canal was dilated, and efforts were made to strengthen the weakened uterine muscle. An intra-uterine stem was inserted, and by this means the dysmenorrhœa of which the patient complained was somewhat abated. She wore this stem for a number of months. Subsequently, after eleven years of married life, she became pregnant in the left uterus, and then the menses ceased on both sides. Only a slight degree of hypertrophy was observed in the right uterus. The woman was taken in labor unexpectedly, and delivered during the speaker's temporary absence. The child presented by the breech. The placenta was delivered spontaneously. On account of the speaker's absence she was unable to state whether or not the empty uterus participated in the contractions, or whether a decidua had been discharged from the unimpregnated uterus. After this confinement the patient passed from observation, but was located again a short time ago. It was not claimed that the treatment had been the direct cause of the patient becoming pregnant, though it quite possibly contributed to this result. According to the recorded cases, pregnancy not infrequently occurred. In some, only one uterus seemed to have become pregnant; in others, the uteri alternated; occasionally pregnancy occurred simultaneously in both uteri. There also seemed to be a tendency to inertia of the uterus during parturition. The septum was often torn completely by the descending part. This occurred in the case just reported. The prognosis for the child was very good.

Dr. Mundé said that four or five years ago he had reported about seven cases of congenital malformation of the female genital organs, two of which were of the kind described in this paper. In his own experience he recollected only one case of pregnancy in a uterus duplex. It was true, as had been stated, that the diagnosis was easy—that is, if one happened to think of such a condition; but it was very much like the many cases of ruptured tubal pregnancy, that were overlooked not many years ago. In the case of pregnancy in a uterus duplex that had come under his observation, he had found a tumor projecting from the right side of the uterus, in a woman giving the usual signs and symptoms of pregnancy. On opening the abdomen, he had at first supposed that he had to deal with an interstitial pregnancy. The aspirator withdrew some liquor amnii. Previous to the operation a sound had been passed up three inches toward the left. During the operation he had asked an assistant to insert the sound, and at first it went again up three inches to the left, but on changing the position of the

sound slightly it had passed in up to the very top of the tumor. The diagnosis having been made clear, the abdomen was closed up. The patient aborted that night, and made a good recovery. The woman had had a child before this on the left side, and that cervix had been lacerated. It was this that had led him astray. Among the strange cases of this kind reported was one in which a woman had gonorrhœa on one side only.

Dr. Joseph Brettauer said he agreed with the reader of the paper in calling her case one of uterus duplex. He referred to a case of uterus bicornis subseptus. He had felt at first two distinct uterine cavities and a double vagina. The latter he had excised. He had not seen the woman again for a long time, and had then been surprised to find that she had been pregnant and had aborted at the fourth month. On again examining her, he had found that the septum had disappeared from the uterine cavity, although there was still a septum in the cervix.

Dr. Vineberg said that he had had a woman under observation for years, whom he had at first curetted for an abortion in the right uterus, not noticing at the time the true condition. At a subsequent examination, finding a virgin os, he had made a further investigation. In another pregnancy the child had been expelled through the septum, so that now the patient presented the appearance of having three ora uteri.

Dr. Ladinski said he had seen recently two cases which appeared to be examples of double uterus and double vagina, although he had not had an opportunity of examining them under narcosis. In the second case the uterus on the left side was gravid.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 21, 1898.

George Tucker Harrison, M.D., President.

Address of the Retiring President.—Dr. J. E. Janvrin delivered this address. After speaking of the large share of credit due the association for its crusade against the abuse of medical charity, he touched upon the desirability for greater unity in the medical profession in this county and State. In this connection he said:

"In a recent conversation with Surgeon-General Sternberg, the president of the American Medical Association, he expressed to me his very strong desire that in some way, not derogatory to the dignity of the American Medical Association, or contrary to its code, the New York State Medical Association and the New York State Medical Society, and together with them the two county organizations, might so arrange affairs as to bring the whole regular medical profession of this State into harmony with the American Medical Association.

"I am fully in accord with the sentiments expressed by Dr. Sternberg, and, in fact, I might here say that this idea is not a new one to me. It has had my serious thought for years, and it seems to me that this organization should also take it into serious consideration. For several years neither the State nor the county societies have had a code of ethics. Whether they can again be induced to adopt the code of the American Medical Association is a question; but of this fact I feel perfectly confident, that quite a large percentage of the members—especially the younger members of the Medical Society of the County of New York—are well disposed to take the matter into consideration. By making this statement it has occurred to me that possibly some movement might be made in this association whereby our two county organizations might confer, by duly appointed committees, and the result be that the old feuds will cease to exist and all members of the regular profession in our county—and then later in the State—be again brought into harmony among themselves and also with the American Medical Association. I make this simply as a suggestion to the incoming officers, and through them to the association itself."

Address by the President-Elect.—Dr. George Tucker Harrison, in delivering this address, took the opportunity briefly to sketch the history of the progress made in medicine during the century now drawing to a close. He thought that modern medicine might be said to date back to the anatomical and physiological researches of M. F. Bishop, Cuvier, and other brilliant followers of the French school in the early part of the century. After dwelling upon the part played by England in the evolution of modern medicine and by our own country, Dr. Harrison delivered a glowing eulogy on the personal character and brilliant professional labors of the renowned Dr. J. Marion Sims.

Methods of Administering Antitoxin.—Dr. Louis Fischer said that although the usual method of administering diphtheria antitoxin had been subcutaneously, he had within the last three years seen at least fifteen or twenty cases of diphtheria, of a very mild form, treated by giving the antitoxin per rectum. He had also tried giving it by the mouth. Last month he had had an opportunity of experimenting in this direction in a certain house in which there were seventeen cases of true diphtheria. More than twice that number of people had been exposed to the disease. After the rectum of each patient had been washed out with soap and water, each of the seventeen received from fifteen hundred to two thousand units of antitoxin per rectum. Not a single one of these cases seemed to show any benefit from this treatment. But of the people in this house in whom he had endeavored to produce immunization by giving the antitoxin by the mouth not one contracted the disease. The dose given by the mouth and by the rectum was the same as that used for subcutaneous injection.

Report of the Committee on Hospitals.—Dr. George D. McGauran presented the report of this committee. He said that it was gratifying to note the greater courtesy with which the representatives of the medical profession were received by the new commissioner of charities. A memorial had been drawn up and presented to the charities commission asking that the medical profession in general be given a larger representation in hospitals than heretofore. Referring to the controversy at Albany over the "dispensary bill," he characterized the arguments used by the opponents of the measure as deliberately insulting to the medical profession. The chief arguments presented in favor of the passage of the bill were (1) the tendency of unrestricted charity as observed at the dispensaries to pauperization of the community, and (2) the fact that the physicians were compelled as taxpayers to pay twice—paying taxes and, in addition, giving their services to these institutions.

Result of a Dispensary Investigation.—Dr. Wickes Washburn read the following letter which he had just received, and which contained the result of an investigation made by the Charity Organization Society. "The following tabulation shows the result of an investigation of the patients treated at the —— Institution between January 22d and February 11th—that is, all the patients who reside in the borough of Manhattan. The number able to pay was 106; the number able to pay something was 39; not found or false addresses, 131; unable to pay, 231; removed, refused information, etc., 13; total, 520." Dr. Washburn remarked

that the figures indicated that in this particular series about fifty-five per cent. were able to pay.

The Opinion of a Dispensary Manager.—Dr. Frederick Holme Wiggin then read a letter which he had received from a former manager of one of our large dispensaries. This gentleman, speaking of that institution, said: "In my opinion it is of great service to the ginmills of the region. The whole system is an utter scandal. Physicians give almost half of their time to free practice, and they may be safely trusted to attend to the ordinary needy patients."

Formal Indorsement of the Dispensary Bill.—On motion of Dr. A. W. Warden, the following resolution was unanimously adopted:

"*Resolved*, That it is the sense of this association that the 'dispensary bill' be indorsed, and that a copy of this resolution be sent to the chairmen of the committees on public health of the senate and of the assembly."

To Extend the Olive Branch to the County Medical Society.—Dr. T. H. Manley, acting upon the suggestion made by the retiring president, Dr. Janvrin, in his address, moved that a committee of seven be appointed by the president to confer with the County Medical Society, with a view to sending a delegation to the American Medical Association at its coming meeting in Denver; and that the secretary be requested to transmit to said County Society a copy of that part of Dr. Janvrin's address bearing on this topic.

Dr. Janvrin, in explanation of the proposed action, said that very many of the members of the County Medical Society were also members of the County Medical Association. There were a great many young men in the County Society who knew nothing about the troubles that existed fifteen years ago, yet they were loyal to what might be called the unwritten code of the American Medical Association. They would gladly act as delegates from the County Society to the meetings of the American Medical Association. For a number of years the County Society had had no code whatever; it had given up the new code. He believed if the association would simply take the initiative, a feeling would be engendered in that society which would cause it to come back and become a part of the American Medical Association. He based that opinion upon the fact that he knew that some of the officers of that society were strongly in favor of such a movement. The association would lose none of its dignity by offering the olive branch. If those who were members of both county organizations were sent as delegates to the Denver meeting this year, it was not improbable that at no distant date the troubles that had existed in the past would be obliterated, and the profession in this county would be once more united and strong. The proposed committee was one of conference only, and it bound the association to nothing.

Dr. Manley remarked that the work of the committees in regard to the dispensary bill had done much to weld together the two organizations.

Dr. George D. McGauran remarked that one of the commissioners of charity had told him that the medical profession here could hardly hope to gain much as long as it was divided into factions and maintained two separate county organizations.

After some further discussion, participated in by those who opposed as well as by those who favored the proposed movement, Dr. Manley's motion prevailed.

Scenery en Route to Denver.—Dr. A. E. Gallant announced that at the next meeting of the association, March 21st, he intended to entertain the members and at the same time awaken more enthusiasm in the coming meeting of the American Medical Association in Denver, by giving a stereopticon exhibition illustrating some of the beauties of the trip.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENTARY—LATENT OR EPHEMERAL PERICARDIAL EFFUSIONS—A SMALL-POX EPIDEMIC—THE QUEEN VISITS NETLEY HOSPITAL—INFLUENZA—GLASGOW UNIVERSITY—LONDON HOSPITAL—DEATHS OF DRS. REMFRY, JOHNSTON, M'FALL, FULLER.

London, February 18, 1898.

The parliamentary session is not to be without interest to the profession. The Queen's speech promised amendment to the vaccination laws. One change in this respect will be the use of glycerinated calf lymph at the option of the parent. It is hoped this may propitiate the faddists.

Much more important in some respects is the proposal to substitute domiciliary operations for the vaccination stations. If this should be done, it will be a far-reaching change and throw much of the work on the general practitioners which has been done by the public vaccinators.

The midwives bill is likely to be again brought forward. Its advocates have secured a place for its second reading on May 11th. Unless the government, therefore, should by then be compelled to take all the time of the house for imperial affairs, it may possibly come to a division. The profession must again be up and doing, or they may wake to find a set of inferior practitioners established and so much of their occupation gone. It is useless to go over the whole ground now, but the danger is as great as on the last occasion.

Every indication has been given that the London University question will be attacked, but how far the government is prepared to insist on passing a bill is by no means clear. If seriously opposed it will probably drop it.

Yesterday the government admitted in the house that the dearth of candidates for the army medical service continues, and stated that the steps intended to be taken will shortly be announced.

Dr. Ewart has brought before the Clinical Society the subject of latent pericardial effusion, which he has found to be more frequent than is generally supposed. Walshe, indeed, mentions it, but scarcely any other author. The dulness to which it gives rise is often attributed to cardiac dilatation, from which it differs in outline. It also gives rise to the characteristic dull patch in the back. The short duration and moderate extent of these minor effusions were also considered, and other points of the paper were the absence of the pain of pericarditis or of the pressure symptoms of large effusions, the obscurity of the pathological etiology, and the desirability of early recognition; since in many cases it may appear that these slight and often ephemeral effusions may turn out to be the early stage of more dangerous large effusions.

In the conversation which followed the paper it was mentioned that though effusion is often found at the post-mortem when it had been unsuspected during life, it is also true that when diagnosed during life it is frequently not found post mortem.

In reply to questions Dr. Ewart said that the patch of dulness at the angle of the left scapula in pneumonia arose from compression of the descending bronchus, giving rise to the rhonchus. The posterior cardiac dulness extended to the spine. Of course emphysema would interfere with the mapping out of the dulness. The site at which effusion could be earliest detected he found was a triangular patch in the fifth right interspace just to the right of the sternum, and good reso-

nance in this position would exclude pericardial effusion. There was a similar patch just below the left nipple, but on this spot stomach resonance often interfered with accurate percussion. No friction had been detected in any of the cases, although the post-mortem showed that fibrinous exudation had been present. The distinguishing mark is the shape of the right border, which is convex in cardiac enlargement, while in effusion it presents a straight line, making a sharp angle with a horizontal line at the right nipple. Dulness often extends beyond the apex.

Small-pox has been prevailing for several weeks in Middlesborough, a Yorkshire town of nearly thirty-eight thousand inhabitants. The railway company has suspended excursion traffic to the town, and temporary hospitals are being rapidly put up to meet the emergency. Dr. Reece, government inspector, went down on the 10th, when two hundred and thirty-six cases had been reported. The number has now risen to three hundred and sixty-five. The town is frequented by a large number of migratory persons, which greatly adds to the difficulties, but the authorities are active in carrying out precautions. House-to-house visitation is employed with energy, and vaccination and revaccination are being done, not only in Middlesborough but in the outlying district.

The Queen went to Netley Hospital on Friday to see the soldiers invalided from the Indian frontier war. The sick and wounded were in large numbers, but the Queen addressed a few words to each individually and her sympathy is said to have greatly gladdened the sufferers. Her Majesty has since requested photographs of the soldiers to be sent to her, with a statement of the case on the back of each portrait.

Dr. White of the Dareuth Hospital has been cashiered with a quarter's salary, as he declined to resign. It is, as I predicted: a scapegoat is made of the medical officer, and it seems as if those whose conduct ought to be inquired into are not even to be censured.

Influenza persists. There was a drop of four in the deaths last week—scarcely enough to encourage us. The weekly mortality has been 40, 73, 88, 102, and 98. There was a fall in the deaths in the eastern and southern quarters but in the western the rate nearly doubled.

Glasgow University circles are exercised over the vacancy in the professorship of forensic medicine. It is thought an excellent opportunity to set apart the teaching of public health and establish a chair for this great and increasing subject.

The London Hospital College is to be further enlarged. It was rebuilt in 1886–87.

Dr. Renfry, assistant obstetric physician to St. George's Hospital and lecturer on midwifery in the school, died suddenly on the 11th inst. He was only thirty-seven years of age, and what he had already done gave promise of greater success. He was on the council of the Obstetrical Society, and contributed to the transactions as well as to the journals.

The following deaths are announced: Inspector-General Johnston, M.D., on the 11th inst., aged eighty-four years. He took his M.D. in 1835 and joined the army medical service in 1838. He retired in 1863.

Brigade Surgeon Lieutenant-Colonel D. C. McFall (the husband of Sarah Grand, the novelist). He served in the Crimea and the Indian mutiny, and received medals for each. He did much service in cholera epidemics during his twenty years in India.

Surgeon-General S. Fuller, who also served through the mutiny and subsequently in Egypt.

Cycling is Injurious to health from three causes—the contraction of the muscular system, chills following perspiration, and the stooping-posture, which renders respiratory movements defective.—MENNELLA.

GUINEA-PIGS FOR TEST INOCULATIONS IN RABIES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An article in the MEDICAL RECORD for February 19th, by Dr. N. G. Keirle, of Baltimore, has interested me very much. For nearly a year Dr. R. J. Wilson and I have been carrying on experimental investigations in rabies at the Research Laboratory of the New York health department.

We have found that guinea-pigs are better adapted than rabbits for inoculations done to demonstrate the absence or presence of rabies in suspected cases sent to us for that purpose. Guinea-pigs are much more susceptible to the virus of rabies and are less liable to die from other causes, the possibility of which attend all subdural inoculations. Guinea-pigs also develop the disease in many cases much sooner than rabbits, their incubation period being always shorter when inoculated subdurally and frequently less than half as long. As Dr. Keirle does not refer to these points in his paper and apparently has used rabbits almost exclusively, I think it will not be amiss to demonstrate my point by referring to two cases in which guinea-pigs have been the better animals for these tests. During the last three weeks four fatal cases suspected of having been rabies, two in human beings and two in dogs, have been referred to the laboratory of the health department for investigation.

The first case I shall refer to, and which will be given in detail later, was that of a man who died of what was supposed by the clinical history to be rabies. Part of the brain removed at the autopsy was sent to the laboratory and from a portion of this material two guinea-pigs and two rabbits were inoculated subdurally. On the fifth day after inoculation furious rabies developed in one of the guinea-pigs and death followed on the seventh day. The other guinea-pig developed the disease one day later, that is, on the sixth day, and died on the eighth day. The rabbits showed no evidence of the disease until the sixteenth day, when they developed the paralytic form. In case a patient were to be treated after being bitten by a person or animal suspected of having rabies, this difference between the incubation periods of guinea-pigs and rabbits would be of the greatest value. Treatment very seldom begins before the third day after the bite, and frequently not until the fifth day, owing to many reasons. Therefore it seems to me best, immediately when possible, to perform autopsy on the suspected animal and inoculate guinea-pigs subdurally. If on the sixth or seventh day the animals do not show symptoms of rabies, treatment will be unnecessary, or, if begun, should be discontinued before virulent cords are used for the injections.

In the second case, in which guinea-pigs proved to be very valuable, rabbits were inoculated by two different sets of investigators, and all died of septic infection from accidental contamination, while the guinea-pigs used by the bacteriologists of the health department lived and are now under observation. The inoculations were made from the brain of a woman supposed to have died of rabies. This difference in the susceptibility of rabbits and guinea-pigs has often been observed by me. Guinea-pigs rarely die from accidental contamination, while rabbits not infrequently do, and generally within twenty-four hours, cultures from the various organs in these cases always growing in different media. The micro-organism is usually a short bacillus.

Therefore as these two examples cited above have been confirmed many times by similar demonstrations, they seem to me of sufficient importance to be taken into account.

I think all such work as Dr. Keirle has done and is

doing is of great value, if it will help eventually to clear up much of the mystery and superstition surrounding such a terrible and fatal disease as rabies.

FOLLEN CABOT, M.D.

128 EAST THIRTY-EIGHTH STREET, NEW YORK,
February 13, 1898.

THE DIFFERENT FIELDS OF OPERATIVE SURGERY AND GYNÆCOLOGY IN EUROPE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: When one has been for twoscore years a general practitioner of medicine in America and then for the first time visits the large hospitals of Europe, his observations ought to be of sufficient interest to be recorded and the record made accessible to such of his countrymen as are alert and up to date in their profession.

Believing that the MEDICAL RECORD will reach practitioners of this class in greater number than any other publication, I desire to contribute to it such of my experiences as in my judgment will interest the general practitioner. Personally my predilection is gynæcology, my work having latterly been chiefly in that line, though I must necessarily have an intimate acquaintance with its near cousin—surgery—and therefore the title above. As the title implies, the fields are "different," and an intelligent account is not always easy without some account of the differences in the places and habits of the peoples. No history of a country or city is intended to be given further than the account may serve the main narrative of these papers. It is not meant that any city, clinic, or operator shall be advertised, but the character of a clinic or man when extraordinary will often be referred to, as well as the size and character of the city in which it or he is to be found. Furthermore, there is no intent to produce a guide for the medical pilgrim, as it is not probable that many who read these papers will travel the route described. A daily memorandum was made of my observations and from these I chronicle the following:

Early in September, 1897, I left Washington, D. C., and in five hours was in New York City, where I spent eight weeks in the medical hospitals and clinics of that live city before taking the *Fürst Bismarck* for Hamburg. Next to London, Liverpool, and New York, Hamburg is the most important commercial place in the world. It has about six hundred and twenty-five thousand inhabitants, but no university and no medical college. At Eppendorf, however, formerly a suburban town but now a part of Hamburg, is one of the best-appointed hospitals of Europe. It would be more correct to say collection of hospitals, for eighty separate buildings are already completed and ten more will be built. These buildings are scattered over what appears like a large farm containing a village. There are fifty-five hectometres of land and the inhabitants number about three thousand. Architects, carpenters, gardeners, and various artisans live and labor here. Of the medical corps seven are directors and operators-in-chief of separate departments, twenty-six are assistants, and more than two hundred are nurses. The pavilions and operating-rooms have every modern improvement and are lighted by both gas and electricity. The bedsteads are of iron, painted white or enamelled, and supplied with wire springs. There are more than eighteen hundred beds in the pavilions. Adjoining these pavilions are rooms or spaces for amusements, separate and with appropriate supplies, and convalescents pass time enjoyably here. The floor is of stone and the walls are enamelled. Baths adjoin the pavilions, but one building contains only baths of every kind and of the best quality. Dry-air baths are given in a series of adjoining rooms, and in passing from one to another a patient finds the temperature successively elevated until profuse sweat is produced. Steam or vapor baths have the same arrangement of rooms. There are also shower baths and electric baths, and what was to me of greater interest was to find patients living in tubs. These tubs are very large and are covered with canvas. Patients eat and sleep in these tubs, the entire body being submerged; for many months only the head is kept above water. I saw one woman who had been in her tub for eleven months continuously on account of bedsores on her back. Another woman, with tuberculous disease of the skin and joints, had lived in one for six months. I found her drinking wine and very happy. One building is called the "deadhouse" and is under control of Prosector Franklin. This building again is a model of its kind. There are a number of tables, all of stone, over which there is a skylight affording the best of light for autopsies. The daily average is four autopsies in this room. When done with the body is laid into what appears like a fuel box at one end of the room: the lid is put over the body, and by a spring attachment worked from outside of the box the body is dropped over a slide into the basement. There are adjoining rooms for histological and bacteriological work in laboratories with all modern appliances, instruments, and chemicals for the fullest scientific research. There are separate buildings for infectious diseases—one for small-pox, one for scarlet fever, and another for diphtheria. For these infectious patients there is a special department in the laundry, where their clothing is subjected to high heat for a long time. The laundry is an immense affair, and likewise another building which is devoted to culinary work. There is also a separate building for delirious patients. Near the entrance of the grounds there is a building for operating-rooms, of which there are three, one for men, another for women, and a third for abdominal and pelvic operations. Dr. Kümmel does general surgery, but is a well-known gynæcologist, and is easily the greatest figure among the operators at the Allgemeine Krankenhaus at Eppendorf. He has seven pavilions, averaging thirty patients each. In one of the laboratories he has an apparatus and operator under his control for Roentgen-ray photography. The work done is remarkably fine. Dr. Sick has rank and authority equal with Kümmel, and operates daily at the Neues allgemeine Krankenhaus. Dr. Graff has rooms of his own and pavilions under his control. He is not assistant to anybody, but has rank second to Kümmel and Sick. The assistants are graduates in medicine from German universities and receive their appointments for terms of two years. When an assistant proves satisfactory the first term, he is given the preference if he desires to be his own successor; but he is not promoted in rank nor is his remuneration greater than during the first term. He is furnished with a comfortable room, bed, and washing. The assistants all dine together, and are given very good board with coffee, beer, or wine, as they may prefer, and are paid besides 100 marks a month. Dr. Kümmel is paid 6,000 marks per annum and has meals when he desires. He is permitted to practise in the city all unoccupied time. About ten thousand patients are treated annually at a cost of about 1,500,000 marks—an average of something like 75 cents a day. Cost of ground, 788,850 marks; houses, 5,195,300 marks; furniture, 1,137,200 marks; total, 6,32,500 marks; $100 is precisely 412½ marks.

Dr. Prochownick has a private clinic on his own property, centrally located among the wealthy residents of the better part of the city, on the Alster. It is a large three-story building, with twenty-four beds, eight being first, eight second, and eight third class. Third-class patients pay nothing, but the city pays

him 1½ marks a day for keeping each patient and nothing for operation. It is less than the cost of keeping a patient, but Prochownick has these beds constantly full. Patients of the second class pay for room and board, but nothing for operation, and only those of the first class pay for operation. He comes to his hospital only at fixed hours, having office hours elsewhere as well as visiting-hours for other patients. He has two assistants and two voluntaries, who help him at the hospital and do very good work in his laboratory in pathology and bacteriology. They also assist at operations and look after patients in the hospital. Prochownick is not only a very clever operator but he is also very ingenious in mechanics, as is manifest in everything connected with his operations. Cold, warm, or lukewarm water is turned on and off for washing hands, and wash bowls are emptied without touching anything with the hands—all by pedals worked with the feet. Tin cans containing sterilized gauze have the lids lifted by the same method. His operating-table is remarkably ingenious for variety of position.

Travelling from Hamburg one hundred and seventy-eight miles to the southeast, I am in the capital of Germany, which next to London and Paris is the largest city of Europe. It is situated on the navigable Spree and is the greatest manufacturing city of continental Europe. Within the last three-quarters of a century perhaps no city in the world has exceeded it in rapidity of substantial growth, it having increased from about two hundred thousand in 1820 to nearly two million inhabitants to-day. It has a garrison of twenty thousand soldiers. It has a university with more than five thousand students, besides medical students and graduates, of which there are nearly three thousand additional in and out of the university, but all of whom seek the laboratories and clinics with the great wealth of material which Berlin affords.

Much was said to me in New York regarding a recent law or regulation which prohibits Americans from attending German clinics, and therefore I made numerous inquiries regarding this, interrogating even medical teachers and professors connected with the university. The answer always came that no such thing existed. Students, however, told me, always Americans, that no Americans were taken as assistants at the königliche clinics, which clinics are always under what are known as "Hofärzte" (official doctors). The clinics of Olshausen and Bergmann are of this class, and I attended both, the latter oftener than any clinic at Berlin. The amphitheatre has a capacity for about two hundred students, and I believe fifty Americans come daily to this overcrowded clinic. I found no Americans among the assistants, but Bergmann was very cordial and in everything most courteous toward me. From three hundred to five hundred Americans, it is said, attend the clinics of Berlin yearly. The university is supported by the government of Prussia, and the königliche clinics of Bergmann and Olshausen are supported by the same authorities. If an American State supported a clinic, would not the assistants be not only American but also of the particular State which paid for that clinic? That there is a prejudice in Berlin against Americans there is no doubt, but it exists more among the students than among the professors.

Bergmann's clinic is on Ziegler Strasse, and adjoining it is the Poliklinik. Dr. Nasa is Bergmann's first assistant and is director of the Poliklinik. Including ambulant patients, the Poliklinik has more than twenty thousand patients yearly. Of these the more difficult in general surgery are turned over to Bergmann's department, in which perhaps three thousand patients are treated annually. Bergmann is surgeon to His Royal Highness the Kaiser, and is known to the world from his service to the father of the present emperor and his differences with a distinguished English consultant. Altogether Bergmann is freer with the use of the knife than any other surgeon I have seen. American students say, "He is a peach when it comes to operating." There is no tissue that a knife can cut, from throat to rectum, which his knife refuses, and I have not seen the disease so far advanced that Bergmann will not operate for. He is perhaps past sixty-five years old and of very fine presence—with full beard and long hair on the head, nearly six feet high, and perhaps two hundred and twenty pounds in weight. He is discourseful as a lecturer but quite a "spellbinder." His only anæsthetic is chloroform. He washes with ordinary soap and water, then alcohol, and lastly sublimate solution, often omitting alcohol. The sterilized gauze is handed from a tin sterilizer with the gloved hands of a nurse, who wears long white cotton gloves, of course sterilized.

In Bergmann's wards there are three classes of patients: First-class pay 9 marks a day, second-class 6 marks a day, and third-class 2½ marks a day when paid by the individual and 2 marks when paid by the Workmen's Endowment or Insurance Association. All workmen in Berlin, at least all artisans, are compelled to belong to such an insurance company and pay in weekly a small sum which secures them comfort when sick. The Königliche Frauenklinik, also on Ziegler Strasse, not far from Bergmann's, is under the direction of Olshausen, who lives within the building. He or his assistants begin operating at 7 A.M. when they have material, and Olshausen gives a public clinic at 10–11 A.M., both obstetrical and gynæcological, as both departments are within the same building and under his control.

Berlin is a city of private clinics for women's diseases. These are often fine properties, built and possessed by the most celebrated gynæcologists, who have great wealth and large incomes from their practice. Of this type are Landow's and Martin's clinics. The former is under the control of the owner and a younger brother. They have an operating-room on the first floor, with an adjoining room for washing the hands and preparing the person of the operator; across the hall is another room for giving the anæsthetic. On the same floor is a very large room, with seats for quite a large class and gynæcological chairs and appliances. Here examinations and diagnoses are made, tampons and pessaries applied, and trivial operations sometimes done. The Landow brothers are most thoroughly cosmopolitan, having under their instruction physicians and gynæcologists from all parts of the world, who come here to be benefited by this clinic. I find two Americans among the assistants. The younger Landow speaks English fluently and is conversant with American peculiarities and wit. He quotes Mark Twain on the German language with freedom and zest. They operate by no German or French school, and appear to be totally void of all national prejudice. The first assistant, Dr. Pick, is perhaps the speediest pathologist in Germany. While the pelvis was open and Landow in doubt as to the extent the adnexa should be removed, fearing carcinoma, I saw Pick freeze, cut, stain, and examine under the microscope, with negative result, in seven minutes by my watch. There is an extensive laboratory with chemicals and appliances in this private hospital, which I found most interesting. Pathology, bacteriology, and histology are ably taught by Dr. Pick, with their especial relations to gynæcology, and here were Americans galore, among them a woman student from Baltimore. Pick's students attend Landow's operations. Landow's clinic is at No. 21 Phillip Strasse. Martin's clinic is one of the best known in Berlin, and he is perhaps the speediest op-

erator doing laparotomies to-day. I saw him cut through the abdominal wall and remove a cyst containing nearly three gallons of fluid, and in precisely three minutes from the time of the first incision the entire tumor was removed. In twelve minutes more the patient was removed from the operating-table. The patient lies perfectly flat on a Martin table, which permits of no Trendelenburg position. The woman's legs hang down over the end of the table and Martin sits between them, so that his body easily rests against her perineum. He has one assistant only besides a female nurse. The latter hands all instruments.

Mackenrodt has his private clinic at No. 10 Johannes Strasse. He was Martin's assistant for four years, but does not use a Martin table. He likes the Trendelenburg position in laparotomies and operations per vaginam. Mackenrodt is enthusiastic in regard to a method which he is promulgating for cure of cancer of the uterus He removes the uterus and appendages per vaginam without ligating the uterine or ovarian arteries. He does this with a Paquelin cautery and by a method which he is developing for publication. He told me he operates in ninety-two per cent. of all cases of carcinomatous uterus that come to him, while some operators in Berlin operate in only fifteen per cent. of cases presented. By his present method Mackenrodt lost his first seven cases, but since those first cases eighty-eight per cent. of his patients have recovered and regard themselves cured. He has had forty-three cases in which he operated by this method, and for three and one half years he has not used the knife.

I visited Schleich, who has a private clinic in general surgery about two miles from the clinical centre of Berlin. He has rather small but neat rooms up stairs, and is a very cheerful young man, perhaps thirty-five years old, with clean-shaven face, presenting the appearance of a well-kept American priest. His method of infiltration is much practised in America, but here again is a prophet not without honor except in his own country. During the five weeks of daily attendance at surgical clinics at Berlin I saw one Schleich infiltration.

Leipsic is one hundred and one miles south of Berlin, in Saxony, has nearly four hundred thousand inhabitants; it is one of the most important commercial towns of Germany, and the centre of the German book trade. In this historic town Luther had his great career and lives in appropriate monument and statue. Goethe and Mendelssohn had their chief careers here, and Richard Wagner was born here in 1813. A monument also tells us that Hahnemann, the father of homœopathy, died here in 1843. The most prolonged and sanguinary battle on record was fought here, October, 1813, when Napoleon with one hundred and fifty thousand soldiers withstood for four days the allied forces of three hundred thousand troops. Two thousand cannon were brought into the field and one hundred thousand men were lost. And while so rich in historic memory this is also a town of modern culture. The King of Saxony has a palace in Leipsic. The city has a university with three thousand students, nearly five hundred of whom are medical. The restrictions are such that nearly half are prohibited from attending clinics. The first two years medical students are taught anatomy, physiology, chemistry, and the primary branches of medicine only. At the close of this two years' term these students are examined, and if they pass satisfactorily they are then admitted to the study of obstetrics, surgery, practice, etc., and permitted to attend clinics. The königliche clinics here are supported by the university fund, and the university is the affair of the government of Saxony.

Professor Trendelenburg, formerly of Bonn, the inventor of the chair and position now so much used by the gynæcologist, is director of the königliche allgemeine chirurgische Klinik in St. Jacob's Hospital. Three and a half years ago he was called from Bonn to his present position. He has a spacious amphitheatre and operates before a large audience, and also gives clinical lectures here. He keeps a photographic record of his more important cases, and his Roentgen-ray laboratory, like Kümmel's, is within the hospital and under his direction, and is the first I have seen in Europe to equal Kümmel's. I was shown a Trendelenburg chair by the inventor. It is a huge affair and very unlike in appearance any chair I have seen, but it gives the position of Trendelenburg. It cost $250, and would carry a horse as readily as a woman, if appearance goes for anything. Trendelenburg has extensive wards and plenty of material for the very good surgery which he does at his clinic.

The königliche Frauenkrankenhaus, under Professor Zweifel, is quite near St. Jacob's. It is also called Universitäts Frauenklinik, and has, like all these public German clinics, obstetrical and gynæcological wards within the same building and under the same man. Zweifel, like Trendelenburg, has a large amphitheatre, in which he operates and gives clinical lectures. Dr. Menger is Zweifel's first assistant, and in a large room in another part of the building he has four gynæcological tables in separate stalls, where he examines patients and teaches diagnosis and minor treatment of diseases of women He uses Hodge, Thomas, and Hodge-Smith pessaries, and I find him unusually clever in handling patients and making diagnoses. His honeyed words subdue sensitive and refractory females until they tolerate his bimanual manipulation to an extent I never witnessed before, except under influence of an anæsthetic. He introduces the index finger into the vagina and at the same time the middle finger into the rectum, while with the other hand over the abdomen he manipulates so as to make the diagnosis with precision. The finger in the rectum is covered with a very thin finger condom especially made for that purpose. He assures me these condoms are so thin that they in no way interfere with the finger sense. He uses the same condom a great number of times by simply leaving it on the finger. After using it he washes the hand in soap, then in sublimate solution, dries the condom on the finger with a towel the same as the other fingers are dried, and dusts it with rice powder; then he rolls it upon itself as he takes it off his finger, and places it with others in a small tin box, containing more rice powder.

Zweifel is reluctant to cut into pelvic tissue for inflammation or suppuration. Up to 1892 he had operated more than two hundred times for cellulitis and pyosalpinx. To-day less than five per cent. of such patients as were operated upon before 1892 have the knife applied. He uses instead hot douches, tampons, etc., for months if necessary, and finds thus that the use of the knife is seldom required. He says that when one begins to cut into the substance of an ovary or oviduct inflammation or suppuration usually supervenes, making further operation necessary until ovaries or oviducts are all destroyed. New operating-rooms are being built for Zweifel and Trendelenburg which will enable them to have separate rooms for laparotomies alone. Trendelenburg is frank in saying he does not personally deem this necessary and has it done out of deference to public opinion.

Sänger does his work in a large three-story building erected by himself for a private clinic. He eschews all rules—so he said when interrogated as to when he would operate for carcinomatous uterus, as to his preferences for the abdominal or the vaginal route, etc.; but in practice I observe he goes by rules just the same. His operating-table is very ingenious and he

is dexterous in his manipulations and operations. He points to the rubber basin under the hip of his patient, which carries débris into the bucket below by means of a rubber apron, and tells me he used the first one of those ever seen in Europe. It was presented to him by Howard Kelly, of Baltimore.

J. Preston Miller, M.D.

STREET CLEANING—IS IT THE WEATHER OR THE DIRT?

To the Editor of the Medical Record.

Sir: In your issue of February 26th last you criticise adversely the work of this department, and say that you hope, for the sake of the new street-cleaning commissioner's reputation and peace of mind, that this deterioration will not be progressive, etc.

Had this criticism appeared in one of the daily newspapers, it would simply have been attributed to the political policy of the paper; but in the Medical Record it is presumed that the interest of the city at large only is considered, and from that standpoint I desire to take exception to this article, for it is not founded on fact.

The streets of the city are and have been in just as good condition since Commissioner McCartney took office as the conditions of the weather would permit, and any criticism to the contrary is unjust and by no means in accord with the facts.

The same district superintendents who worked under Colonel Waring are now working under Commissioner McCartney, and such criticisms as appear in your paper are not only unfair to the commissioner himself, but at the same time discredit these district superintendents, who are discharging their duties in the same intelligent and efficient manner as they did formerly.

I have been in the department of street cleaning for over three years, and I know that the work is not only done, but well done, and the same methods are employed and the same system is followed by Commissioner McCartney as were employed and followed by his predecessor, and which have been so universally approved by the public at large.

Therefore I ask you, in the interest of fair play, to retract the article in your issue of February 26, 1898.

F. W. Gibson, *Deputy Commissioner.*

[We are pleased to know that there is a disposition to explain matters on the part of the street-cleaning department; still the facts are so patent to the casual wayfarer that no reply from us is necessary. We are forced to repeat, in spite of the protest of our courteous correspondent, that the streets of New York have never been in a worse condition for years than they are at present.—Ed.]

CYSTOSCOPY IN CONNECTION WITH PROSTATIC HYPERTROPHY—A REPLY TO DR. W. MEYER.

To the Editor of the Medical Record.

Sir: You would oblige me greatly by allowing me space in your valuable journal to reply to a misstatement made regarding me by Dr. Willy Meyer, in his article on Bottini's treatment for hypertrophy of the prostate, which appeared in your issue of March 5, 1898. In that article, after stating "that we can very well diagnose the configuration of the prostate with the help of the cystoscope," and explaining how the instrument should be turned in order to accomplish this, Dr. Meyer says: "I state this particularly to contradict Dr. E. Fuller, who maintained, at one of the late meetings of the section on genito-urinary surgery of the academy, that this was an impossibility and mainly existed in the phantasy of the observer."

I never made the above statement. I did say, however, that "great reliance could not be placed on the cystoscope in definitely determining just what constituted the obstruction to urine drainage in cases of prostatic hypertrophy, and that this was due to the fact that only such obstructions could be seen by the aid of the instrument as encroached on the vesical cavity or were what are called intravesical hypertrophies." In many cases of prostatic hypertrophy the obstruction is caused by growths about the prostatic urethra and about the vesical neck, regarding the presence of which the cystoscope does not give us the least information. I further said, in view of a case which had recently come under my observation and care, that "no one with a vivid imagination should attempt to diagnosticate prostatic obstruction from what he thought he saw through the cystoscope." The circumstances in relation to this case are as follows:

Somewhat over a year ago a practitioner of this city came to me and asked me if I would perform a prostatectomy on a patient of his. I told the gentleman that I should first wish to examine the patient in order to satisfy myself of the diagnosis. The doctor said that that was hardly necessary, since he had already taken the patient to an eminent cystoscopist of this city (at the same time mentioning his name), who had seen the prostatic obstruction and described it minutely as consisting of an hypertrophied median lobe. The doctor further stated that after getting the cystoscopic opinion he had taken the patient to a genito-urinary surgeon, and that that surgeon, being evidently influenced by the cystoscopic opinion previously given, had after some slight investigation, not, however, with the cystoscope, also concurred in the prostatic diagnosis. I examined the man. He was somewhat over forty-five years of age. He had retention, much vesical tenesmus, and some vesical infection. Rectal exploration did not show the prostate to be at all enlarged, but it did show a peculiar tension of the post-prostatic tissues, such as might exist were the fundus of the bladder drawn upward. I introduced a Mercier catheter, which slipped in without any prostatic resistance. Five or six ounces of urine was drawn off. After the bladder had been emptied, however, the catheter could still be pushed in its entire length before its tip touched the vesical fundus. I then made deep abdominal palpation, and detected a tumefaction half way between the symphysis and the umbilicus. After considerable study I diagnosed a neoplasm, probably abdominal, which had involved the bladder. The doctor who brought the case to me was not satisfied, as he was much impressed with the diagnosis of enlarged middle lobe of the prostate given by the first gentleman whom he had consulted. To satisfy the doctor and the man's family, I made a suprapubic incision, which settled the question that there was no hypertrophied middle lobe of the prostate and also that the prostate was normal. The space of Retzius at its upper limits was invaded by a hard sclerosis; so also was the vesical fundus, which was drawn up and secured to a hard abdominal mass, thus effectually preventing vesical contraction and causing the retention. I next made a small abdominal exploratory incision, which exposed to view a malignant mass chiefly involving the omentum, and it was this omental mass which had agglutinated itself to the vesical fundus. I will here state that the malignancy had not in the least at that time invaded the lower portion of the bladder. The wounds healed so that the patient recovered from the operation.

After such an experience as this I think all will justify me in my expression that "no one with a vivid imagination should attempt to diagnosticate prostatic obstruction from what he thought he saw through the cystoscope."

I also think that my case goes to disprove Dr. Meyer's assertion much more strongly than the case he cites goes to prove it. I do not in the least doubt that I or any one used to the cystoscope could see a median lobe of the prostate provided it projected "into the bladder almost as long as the third phalanx of the little finger." In his case Dr. Meyer also states that "there was besides general hypertrophy of the gland." He is, however, careful not to mention that he found that out by the aid of the cystoscope. He concludes with this remark: "This patient was later operated upon by Dr. Edward L. Keyes, by suprapubic radical extirpation of the gland, when the condition of the prostate was found to be exactly as previously seen by me through the cystoscope." As Dr. Keyes did a radical extirpation of the gland, it was in all probability found to be necessary, in order to restore urination, to remove much more than the projecting middle lobe that Dr. Meyer previously saw. Suppose in Dr. Meyer's case Dr. Keyes had simply removed the middle lobe, which was all Dr. Meyer, according to his statement, saw; then it is very likely that the patient might not have been relieved of his retention, in which case it would be fair to infer that a subsequent introduction of the cystoscope would not show the nature of the then prostatic obstruction.

The only way, it seems to me, that Dr. Meyer can definitely prove his statement, and at the same time the value of the cystoscope in the diagnosis of prostatic hypertrophy, is by taking a consecutive number of cases and by making in each after a cystoscopic examination a schematic drawing or, what would be easier and more accurate, a clay model. Then at the time of suprapubic operation an independent surgeon could compare the existing state of affairs with the drawing or the model. Or, what would be better, the whole investigation could be made post mortem, in which event the part could in each instance be dissected out and compared with the evidence derived from the cystoscope.

EUGENE FULLER, M.D.

252 LEXINGTON AVENUE, NEW YORK,
March 6, 1898.

NATIONAL QUARANTINE AND THE MOBILE CONVENTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with much gratification your very just criticism of the late quarantine convention at Mobile. Strange as it may appear in the light of the action of the convention, it is nevertheless true that a decided majority of the members of that convention was in favor of national quarantine. The compromise measure offered as a substitute by Mr. Clark was not discussed and was not properly understood by the convention. And had this very substitute been offered by one of the known advocates of State control of quarantine, it would have been voted down. I shall ever contend that the substitute did not correctly express the sentiment of the majority of that convention.

It was paraded as a compromise measure, and as such held up to the members as an appeal to their generosity—the generosity of victors—when, in fact, it was a virtual surrender of the majority to the minority. Whether or not an attempt had been made to stack the convention and to insure that a majority of its members should favor State boards of health as against national quarantine, I will not attempt to decide; but this I do know, that the able attorneys who were there as invited guests (?) of the convention were accorded special privileges, and each of these used the time so generously allotted to him in trying to stir up a sectional feeling in the minds of the delegates. The national government was pictured as intent upon the destruction of the liberties of the people, and in one instance these appeals were so successful that the solitary delegate from Texas defied the power of the national government, and served notice upon all concerned that Texas would not submit to any quarantine regulations imposed by Congress. That the convention did not fling the same defiance into the face of the national government was owing to the fact that the fiery and impassioned appeals of the attorneys for the State boards of health were not appreciated by the delegates.

I submit that the convention was composed of an intelligent and patriotic body of men, and, though they did not accomplish what they could have done, they deserve some credit for what they prevented the advocates of State control of quarantine affairs from doing.

This city, Vicksburg, is the largest city in the State, and is the home of State Senator Kiger, who is also president of the State board of health. The city council and every one of the commercial bodies and the board of supervisors of Warren County have adopted resolutions calling upon Congress to pass a national quarantine bill.

I firmly believe that nine-tenths of the people of Mississippi are in favor of national quarantine.

Whenever the fever obtains a foothold in our State, a perfect frenzy of lawlessness seizes upon our people, and the authority of the State and the State board of health is set at defiance. Small towns along the line of our great railroads arbitrarily refuse to allow trains to pass through their limits under any circumstances. In consequence of this fact being known, our people are compelled to flee at the first alarm, lest they be shut up in a plague-stricken town as were the people of Edwards, Miss., in the last year. What the people of Mississippi complain of and dread is that our State authorities are powerless to enforce the laws. We call upon the national government to afford to us that protection which our State government cannot give to us.

S. D. ROBBINS, M.D.

VICKSBURG, MISS., February 24, 1898.

SANITARY SKIRTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The "against-spitting" crusade being conducted by the Woman's Health Protective Association, as referred to in the MEDICAL RECORD of February 26th, attracts my attention, and deserves the active support of all who take an interest in the protection of public health and decency, particularly as outlined by our able health board. It is in this connection that it seems pertinent to the above-referred-to article, heroically to suggest to such association that in consideration of its expressed object it would appear to be its express duty to recommend that the ladies adopt the custom of wearing short boot-top skirts in the streets, by which means only can the nasty, besmeared, disease-germ-distributing garments be rendered comparatively sanitary and clean in appearance. What calls for the attention of a health-protective association more than street-sweeping skirts trailing down elevated stairs, etc., collecting street dirt to be distributed in the household? It seems to me that these days are given too much to star climbing for glory and not enough to correcting the commonplace dangers.

M. D. HUBBELL, M.D.

Calculus, with a Snake's Tail as a Nucleus.—Dr. C. G. Kenyon, before the San Francisco Medical Society, September 14, 1897, presented this specimen. The patient from whom it had been removed had been advised to pass a snake's tail into his urethra for the cure of a stiffened right arm. He did so and lost the tail. The tail formed the nucleus of the calculus, as shown.

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Original Articles.

THE TREATMENT OF CHRONIC EMPYEMA.[1]

BY B. FARQUHAR CURTIS, M.D.,

PROFESSOR OF CLINICAL SURGERY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY; SURGEON TO ST. LUKE'S HOSPITAL AND THE NEW YORK CANCER HOSPITAL.

In the course of a recent discussion on the treatment of chronic empyema, Ewald made the remark that the existence of chronic empyema was due to a failure in medical skill, and von Ziemssen as well as Schede practically agreed with this statement. It would appear, however, that the assertion was rather too sweeping, and that no amount of care on the part of the physician, nor any improvement in the methods of treating acute empyema which may be hoped for, can prevent the occurrence of those cases of empyema which run a latent course, the patient having no symptoms which appear to him to necessitate medical advice. It is certainly not uncommon to find a laboring man still doing his work whose chest is full of pus which must have been present for weeks or months, and even among the more intelligent classes it is not rare to have patients come to the physician for what they suppose to be malaria or a slight attack of grippe and to find pus in the pleural cavity. If all cases of pneumonia were carefully followed for some weeks after convalescence, the number of these latent cases of empyema would be reduced, as a certain proportion of them are secondary to that disease; but it cannot be expected that all would be prevented by this precaution, for they often originate from other causes.

Even when chronic empyema develops from an acute attack, the patient being under proper surgical care, but the lungs refusing to expand and the discharge from the sinus persisting, the failure in recovery cannot always be laid to the charge of the surgeon. Empyema complicated with tuberculosis (and who can be sure in any case that tuberculosis is not present?) will not terminate in recovery in the majority of instances, no matter what pains be taken with treatment. It is also probable that in the purulent pleurisies due to streptococcus infection, or in which such an infection takes place after an operation for drainage has been performed, chronic suppuration of the pleural cavity and of the sinus may occur, just as in suppuration elsewhere due to the same causes. Not all wounds heal primarily, nor do incisions and drainage and antisepsis arrest all suppurating processes in the cellular tissue, no matter how careful the surgeon and how successful he may be in general, for the chances of errors in asepsis on the one side, and failure in the resisting power in the tissues of the individual patient on the other, are factors which we shall probably never be able to eliminate entirely, although we have already so greatly reduced their significance. The second factor—lack of resistance in the patient—is probably of great importance in these cases of pleural surgery, as some of the cases to be related will abundantly illustrate.

[1] Read before the New York Academy of Medicine, December 16, 1897.

If, then, chronic empyema may exist before it comes into the surgeon's hands, or may even develop in spite of his skill and care, it is one of the things we must reckon with, and its proper treatment is all the more important in view of the fact that, left to itself, the lesion is almost inevitably fatal.

Pathological Conditions of Chronic Empyema.—When the pleural sac has been filled with pus for some time, the lung becomes fixed with adhesions and will not expand, and if the pus be drained away the cavity is partially filled by the falling in of its walls on all sides, the rising of the diaphragm, the displacement of the heart and the mediastinum across the median line when the right side is to be filled in, while on the left side the heart is drawn still farther to the left. The chest walls collapse until the ribs are in contact at their edges. This is all that nature can do to obliterate the cavity, for no granulation production of any amount takes place from the pleural surfaces. Schede, indeed, says that no granulations form on the pleura, but this is certainly incorrect, for in my cases I have seen the interior of the pleural sac and the surface of the collapsed lung covered by healthy granulations. No great amount of new tissue, however, is produced in this way, and the granulation layer always remains rather thin. The great thickening of the pleura always found in these cases is due to a simple deposit of fibrin on its surface, which may become more or less organized, and not to new growth of tissue from granulations. Under these conditions we have a cavity containing pus if the case is a latent one which has never been drained. More frequently drainage has been done, but the lung has not expanded and the pleural sac is filled with air. The patient is poisoned by septic absorption, some fluid remaining always in the sac, and feels the loss of the lung. He is anæmic, emaciated, often with hectic fever, and gradually sinks, generally falling a victim to tuberculosis.

Operations.—In the early seventies it is evident that the idea generally suggested itself to surgeons that the natural efforts to obliterate these cavities could be assisted by the removal of some of the bony parts of the chest wall. Simon, of Heidelberg, appears to have been the first to operate with this intent, by removing two or three ribs with a successful result in 1869. He reported the case in 1870. About the same time Küster, Schede, and Létievant independently performed similar operations and Estlander's first operation also dates from that time. The method, however, has been given Estlander's name, and it is certainly due to his writings that the operation has become popular. Estlander's idea was simply to resect a considerable portion of the ribs over the cavity, and at first he seldom attacked more than four or five at a sitting. The operation was rarely attempted for total empyema, and was limited to sacs of considerably smaller size, in which the results obtained were good. It soon became evident, however, that it would be necessary to do something more extensive in the cases of total empyema or even in partial cases in which the cavity was very large.

Estlander's work was first published in 1878–79, and about the same time Schede devised the operation

which bears his name and carried it to a successful issue. In the spring of 1889 it was my privilege to observe some of his cases during a short visit to Hamburg and I was very much struck with the good results obtained. The distinction between his method and Estlander's is that Schede not only resects the ribs but removes the thickened costal pleura, which is almost as much an obstruction to the filling in of the cavity as the bones themselves. In fact that membrane may be calcified and as rigid as bone. After Estlander's operation the ribs are reproduced from the periosteum and this may take place so rapidly as to prevent the healing of the cavity by restoring its rigid wall.

The only improvement made on Schede's method is that suggested by the Frenchman Delorme, who in three or four cases has resected the side of the chest temporarily by dividing the ribs in the line of incision and lifting them in one flap with the soft parts, and then stripped the thickened pleura from the collapsed lung, leaving the pulmonary tissue intact and free. The flap of soft parts and bone was then returned to its place. He has obtained successful results, far better than those of Schede, because the collapsed lung was rendered capable of expansion and could fill the chest again. The last operation is startling in its boldness, because one would suppose that the hemorrhage from the surface of the lung would be so excessive as to cause death, but Delorme states that the hemorrhage is not great, and, as already mentioned, several successful cases are now on record. It is probable that future improvement in the treatment of chronic empyema lies in this direction, for this method restores the expansibility of the lung and produces the ideal result of a normal lung in a normal chest cavity, whereas the Schede and Estlander operations can offer only a pleural cavity obliterated by the destruction of the chest wall and a lung which seldom fully regains its expansibility. Much more experience, however, must be gained before one can venture to make this operation applicable to all cases, and for the present we must be satisfied with the operation of Estlander as modified by Schede, the former for the small cavities, the latter for total empyema.

Development of Chronic Empyema.—With the exception of a few tuberculous cases which may from the first run a chronic course like a cold abscess, a chronic empyema begins as an acute inflammation. Even the latent cases, which present so few symptoms as not to be recognized until weeks or months after their beginning, are probably originally acute. When the pus has been allowed to occupy the chest for some time, the compressed lung contracts strong adhesions and the pleura often becomes an inch or more thick by successive layers of fibrin deposited on its surface. The layers of fibrin become vitalized very slowly. The result of these changes is that when a late evacuation of the pus is made, the lung is too firmly bound down to expand, and simple drainage is not sufficient to cure.

From Improperly Drained Empyema.—The all-important requirement in the treatment of acute empyema is evidently the early evacuation of the pus, and the latter should be removed as soon as its presence can be demonstrated. Whether this is done by aspiration, by continuous suction drainage, or by incision with or without resection of a rib, need not be discussed here. We may, however, note that the majority of surgeons, and even physicians, at present believe that a free incision is the safest and quickest method of obtaining a cure, although we do not deny that recovery may take place after several aspirations, and that continuous suction by the method generally known as Von Bülow's, has had very fair success. Like the majority of my craft, I believe that a free incision is the best treatment for ordinary abscesses, and I am unable to understand why one should take the risk of treating collections of pus in the chest by less certain methods. Subcutaneous abscesses may recover without incision by the formation of small fistulous openings, and inefficient surgical incisions will not prevent recovery in such favorable cases, although it cannot be denied that imitation of the natural slow and uncertain methods by making small punctures in abscesses exposes the patient to risks which are only less in degree than those incurred by the natural process of pointing and fistulous discharge. Argument from analogy is often dangerous, it is true, but many of the cases of chronic empyema give a history of small openings, or badly placed openings, or neglected drainage tubes which have not been kept in good working-order, or which have been removed too soon, showing that the same causes produce in the pleura the same effects that they would in any abscess of the cellular tissues.

But in addition to evacuating the pus promptly the operation should be so performed and the after-treatment so conducted as to bring about a speedy recovery, for if the lung does not expand soon it will be more or less crippled by adhesions, and the costal pleura may also be covered by fibrin so that it will not aid in the process of repair. For these reasons general surgical opinion has come to favor an opening in the chest low down and far back, where drainage will be best secured with resection of a portion of a rib, and great care exercised in dressing the wound and keeping the tubes free. There is no doubt that by this treatment acute empyema can be most quickly and certainly brought to recovery without danger of complications or chronic sequelæ.

One eminent German authority still clings to a high anterior incision, because there is less danger of injury to the diaphragm, and because he thinks that a low opening may become obstructed by the diaphragm when the latter is drawn up into the chest. With proper care the first danger is certainly not great, although I was once present when a well-known surgeon met with the accident of injury to the diaphragm and peritoneum, resulting in the death of his patient from peritonitis, the operation having been carefully conducted according to the usual rules. In this case a rib was resected in the axillary line low down, an aspirating needle was inserted in the chest and pus was obtained, and a tube was placed where the needle puncture was situated, whether through an opening made with a bistoury or with a dressing forceps I am unable to say, as the case occurred several years ago. The tube drew off the pus and the patient was sent to bed. Peritonitis and death followed, and the autopsy showed that the diaphragm had been adherent to the side of the chest, the lowest part of the pleural cavity having been obliterated by some previous inflammation, and then the pus collecting above had forced the central part of the diaphragm down, leaving an interval of free peritoneum between the two folds of the diaphragm where it ascended along the ribs and was adherent to them, and then descended in the centre. The wound for the drainage tube had been made directly through both folds of the diaphragm and had consequently opened the peritoneum and made way for the infection. In the ordinary cases, however, there is no danger of this accident, for this peculiar arrangement of the diaphragm is very rare, and, moreover, the incision should be made slowly, each structure being divided in turn, so that if the peritoneum were opened it would be recognized before the pus was reached.

The second objection also cannot hold, for in ordinary cases of acute empyema the lung promptly expands and the diaphragm descends after its prelim-

inary rise, and even if the muscle should remain fixed at an elevated point it would only imply a longer canal for drainage and an inch or so of additional tubing, the effectiveness of the drainage not suffering materially by this necessity.

Removal of the Drainage Tube.—Having drained an acute empyema promptly and effectively, the second point in its management which is important is the proper method of concluding the case by discontinuing the drainage. It is possible to err in both directions in this matter, maintaining drainage too long or removing the tube too early. Some excellent authorities advise leaving the tube in place until it is actually crowded out by the advancing cicatrization of the sinus. In some respects this advice is sound, for of the two evils an obstinate sinus is less than a reaccumulation of pus in the interior of the chest, and we have in two or three cases seen the latter to be a cause of chronic empyema. After the capacious cavity of the original empyema has contracted to a flat space between the chest and the lung, the tube should always be long enough to reach nearly to the end of the cavity, or perhaps one should say to the apex of the cavity, as the drainage opening is generally at the lowest part of it, and its apex rises toward the clavicle. But it is possible to be too dilatory, and it is well to keep the drainage tube half an inch shorter than the sinus, so as to leave the deepest part of the canal free from its pressure. Among the dangers of too prolonged drainage are the production of a callous sinus lined with granulations so pale and small that they resemble mucous membrane, and with no tendency to healing and the possibility of causing necrosis of those ribs against which the tube lies. In either case a chronic sinus will be formed and the operations to be described below will become necessary.

Drainage Tube Lost in Chest.—One of the rather common causes of chronic empyema is the slipping of the drainage tube into the interior of the chest, and this frequently occurs without the accident being recognized at the time. For instance, a patient may loosen the dressing and the tube may slip out into the bed and be found there on one occasion, and when the tube disappears again its absence may be accounted for on the supposition that it has again slipped out but has been lost, whereas it has really fallen into the cavity of the chest. Drainage tubes used in these cases should be of good fresh rubber, being changed whenever they become brittle. If the rubber is good, the ordinary method of securing the tube by a safety pin run through one side of the external end so as not to reduce its calibre, and fastening it by a thread around the chest or by strips of rubber plaster next the wound, can be safely adopted. But it is of the greatest importance that the tube be changed whenever it becomes brittle, as rubber is apt to do, especially if it is boiled often for sterilization, as is now so common a custom. In one case coming to me with chronic empyema, a retained drainage tube was found in the chest, and it would seem probable that the tube was responsible not only for the chronic empyema but for a long-continued illness which ultimately resulted in death.

Bacterial Origin.—The bacteriological classification of empyema is of little importance in our study of its chronic form, with the single exception of tuberculosis. Whether the disease is metapneumonic or due to the pyogenic bacteria has but little bearing upon the case when it has become chronic. The tuberculous variety, however, is much more difficult to cure and is likely to be associated with similar lesions elsewhere, and some authorities consider it incurable. Schede, however, claims a fair proportion of cures, even in this form of empyema.

Varieties of Chronic Empyema.—For the purpose of our study it is important to distinguish the cases of chronic empyema with a free external opening which has formed spontaneously or been made by the surgeon, from the cases without efficient drainage or entirely without drainage. We shall designate the form as "open empyema," the latter as "closed empyema." The communication between the cavity of the empyema and a bronchus is a complication found in both forms and has little bearing upon the treatment, so that we shall describe it merely as a complication.

We must also distinguish between the cases according to the size of the cavity, separating those which involve the entire pleural sac (total empyema) from those of smaller size (partial or localized or encapsulated empyema), and making a third class of the narrow elongated cavities which may be called pleural fistulæ.

A closed empyema is found in neglected or latent cases in which the pus has been present for a long time, no operation having been performed. If no connection with a bronchus or fistulous external opening exists, the pus generally remains in what may be called a laudable condition, that is, without decomposition, and causes little septic poisoning. When the pus is evacuated the cases sometimes go on to uninterrupted recovery. More frequently, however, their long continuance has crippled the lung by adhesions so that its expansion is impossible, and the usual operation of drainage results merely in the production of an open instead of a closed empyema, and is of little or no benefit to the patient. In view, however, of the fact that certain of these patients recover after the simple treatment by drainage, that method should always be given a trial before severer measures are adopted.

When the cavity communicates with a bronchus without external drainage, the pus often becomes decomposed, for the cavity is rarely emptied thoroughly by this route, sepsis is usual, and the patient's general condition soon becomes miserable. Even a simple incision of the chest for drainage is fraught with danger in such cases, for the mechanism of respiration is disturbed and opening the cavity freely to the outer air alters the conditions of air pressure within the chest. The passage of fluids from the cavity to the bronchi through the false opening may also be increased during the operation by the struggling of the patient to fill the lung with air, and he may drown, as it were, in his own secretions. In one of my cases the operation of drainage resulted in immediate death. This occurred in a man, thirty-four years of age, who had had an abundant foul sputum for years and was supposed to have a phthisical cavity, but on more careful study it was concluded that he had a chronic empyema discharging through a bronchus. The operation was done with the patient in a sitting position and only a light ether anæsthesia was employed. The rib was exposed and a portion resected. The pleural sac was opened immediately with the removal of the bone, the pleura and periosteum having been destroyed by the long suppuration, and air and foul pus escaped from the wound. A violent coughing fit occurred at once, followed by severe dyspnœa which could not be relieved, and the patient speedily lost consciousness and respiration ceased. Artificial respiration was tried in vain; then a tracheotomy was done in hopes that the dyspnœa might be due to pus or membrane in the larynx, but without improvement, and death ensued. It seems probable that when the chest was freely opened the air passed through the pleural cavity and the bronchial opening to the other lung as a shorter route than by the trachea, and that the violent coughing and gasping efforts caused a considerable amount of pus to enter the bronchi and to pass to the sound side, and the patient was thus literally drowned

in his own pus. The case was very interesting pathologically, as it was found that the pleura, both pulmonary and costal, was completely calcified in a sheet one-sixteenth of an inch in thickness, the lung lying collapsed against the vertebræ in the usual situation.

In spite of the bad result in this case, drainage by incision is usually the only possible treatment in such a condition, for the pus cannot be thoroughly removed by aspiration on account of the air also in the chest. Under such circumstances, when the empyema communicates with a bronchus and has not been previously operated upon, the wisest plan is to open and drain it by a simple incision between the ribs if there is space enough, or at most by resecting an inch or so of one rib, and to delay the radical operation until the patient recuperates somewhat.

When an empyema is open and draining well, the radical operation is suitable as soon as it is probable that no further contraction of the cavity or expansion of the lung will take place. This is indicated by the fact that the margins of the ribs are in contact, and by the arrest of the filling in of the cavity, as shown by repeated examinations with a bent probe or by filling the cavity with a measured quantity of liquid. The examination by the probe is made with a long instrument bent at the end like a catheter, which is introduced to the full depth of the cavity, and the beak then rotated while the staff is held in a fixed position. The end of the beak can thus be made to give the diameter of the cavity, by estimating the distance it moves to reach the opposite sides. By advancing and withdrawing the probe the depth of the median side of the cavity from the chest wall can also be determined. I have found this examination more valuable than the method of measuring the amount of fluid which the cavity will contain, as it shows the shape as well as the size of the space. Some authorities advise the radical operation as soon as an empyema which has been operated upon remains stationary for two weeks, but that period seems rather short and I prefer to delay the extensive resection of the ribs for from four to six weeks, if the case had been drained in the acute stage. If the empyema had already existed for some time before it had been drained, however, a stationary period of two weeks is enough, because there is so little hope of spontaneous recovery for the lung. Of course it is understood that the patient must be put in the most favorable conditions as to food and general hygiene during this period, and a change of climate is wise whenever possible.

The narrow elongated cavities which we would designate as pleural fistulæ generally lie close to the ribs, and may have a direction parallel to them or at right angles to their course. Much more rarely the sinus runs directly inward between the lung and the diaphragm. Their walls are usually of great thickness, the lining granulations resemble mucous membrane, and the discharge is usually scanty. They are generally caused by too prolonged retention of the drainage tube after an acute empyema, but are sometimes maintained by necrosis of a rib secondary to the pleural suppuration. Sometimes a cavity of small size lies at the end of a narrow fistula which drains it badly, and simple enlargement of the sinus with careful drainage will effect a cure, but generally the removal of some bone is necessary. The cure is most easily obtained when the fistula runs parallel to the ribs, as the resection of one or two ribs will suffice, but when the sinus extends upward or downward across the ribs it is generally necessary to resect a number of them. The amount of bone to be removed from each rib is small in the latter case, however, one inch more than the diameter of the sinus being enough. In some cases, as in one to be reported, the sinus runs backward so near the vertebral column that its exposure would require an operation much more severe than the danger and discomfort caused by the sinus would warrant, and under such circumstances the latter is best left untouched, treatment being limited to the maintenance of proper drainage, with occasional applications of tincture of iodine or pure carbolic acid to the walls of the sinus, made similarly to those used in the uterus for endometritis.

The technique of the radical operations is as follows: Estlander first performed his operation by a separate incision for each rib to be removed, but this has dropped out of use for obvious reasons. Some surgeons raise a horseshoe-shaped flap from the side of the chest over the ribs to be removed, with its base above or posteriorly. Others expose the ribs by an L or ⊥ incision with triangular flaps, and the latter incisions appear to be the most convenient. The vertical incision should correspond with the centre of the cavity to be exposed, and the transverse incision should be parallel with the lowest rib to be removed. Two triangular flaps are dissected back far enough to uncover the ribs to be resected, and then that portion of every rib lying over the cavity is removed, the amount of bone to be taken away depending upon the size of the cavity across that particular rib. If possible, at least an inch more rib should be taken than the width of the cavity at that point. As it will usually be found that the cavity narrows as it extends upward, it will not be necessary to remove as much from the upper ribs as from the lower. The pleura is often thickened, and, the ribs being removed subperiosteally, the pleural sac is not opened during this part of the operation, and the periosteum, intercostals, and pleura covering the cavity were left by Estlander. But modern surgeons generally prefer to cut away the soft parts, as recommended by Schede.

When the bones have been removed, the drainage opening is enlarged to admit the finger into the cavity, and a thorough exploration is made of its interior. The opening should then be enlarged by an incision parallel with the intercostal vessels to the full width of the cavity, and the thickened pleura is then cut away together with the periosteum of the ribs, at the points where the latter have been removed, with a strong pair of scissors, one intercostal artery being divided at a time and easily seized. Sometimes it is possible to seize the arteries with a pair of forceps and divide between the latter. If the tissues are so hard and friable that ligature of the vessels is difficult, they can usually be secured by a ligature passed around them. This removal of the pleura and other soft parts which cover the cavity after resection of the ribs, applying the principle of the Schede operation to the small cavities, gives far better results than the original Estlander operation, which limited itself to the removal of the bones. The cavity having thus been exposed it walls are thoroughly curetted and wiped out with gauze pads, the false membrane being removed as much as possible from the surface of the lung and other parts down to healthy tissue.

The cavity is packed with dry sterilized gauze after a large piece of iodoform gauze in two layers has been laid inside of the cavity as a lining, which forms a sort of bag in which the packing is placed. This piece of iodoform gauze must be large enough to fill easily all the recesses of the cavity, which is often very irregular in shape, so that the pressure of the packing shall be evenly distributed in all directions and no dead spaces shall exist in which fluid can collect. The two flaps of skin are laid together over the gauze packing and may be retained if desired by a couple of sutures tied in a bow knot, which can be released when it is desired to dress the wound. The external dressing does not need to be heavy. This dressing remains unchanged until a rise of temperature or a profuse se-

rous discharge from the wound indicates that it is necessary to renew it. In some cases the course is absolutely aseptic; in the majority, however, there is more or less sloughing and slight suppuration takes place, and then the discharge of the first few days will be profuse until the sides of the cavity have thoroughly cleared off.

The Schede operation I have generally performed on about the same lines as already described, using a vertical incision in the midaxillary line with a transverse one along the lowest rib removed. Schede cuts a flap by a curved incision beginning at the anterior border of the axilla on the edge of the pectoralis major and sweeping downward and backward until it strikes the eighth or ninth rib at the posterior axillary line, then curving backward and upward to the posterior border of the scapula. The incision is deepened to the ribs, and the skin, subcutaneous tissue, and muscle are rapidly dissected from the bones. This can be done by blunt dissection and the loss of blood is slight except in the division of a few muscular fibres of the serratus. The arm is held fully extended upward, and the scapula is partially detached from the chest. The flap can then be thrown upward and strongly retracted. The ribs are removed separately, beginning with the lowest and extending if necessary up to the second rib. In dividing the ribs Schede cuts them with the forceps in the middle after separating them from the periosteum, and then seizes each half in turn with the hand and breaks off the anterior half at the costal junction and the posterior half at the angle of the rib. I have generally cut the ribs at these situations with strong forceps, without preliminary division in the middle. The pleural sac is opened as already described, and the thickened pleura and other soft parts covering it are divided and removed in the same manner. The resection in total empyema must be very extensive, beginning with the eighth or ninth rib and extending up to and including the second. In some cases, particularly when the lung has become adherent posteriorly rather than toward the mediastinum, it may not be necessary to remove so much of the bones in that direction. After a thorough cleansing of the cavity as already described, the skin flaps are turned into the chest and secured with one or two sutures, so that they cover in the broken ends of the ribs and furnish a partial lining for the cavity. The most difficult part to cover in is the apex in the neighborhood of the second rib. Schede states that the cavity never fills up and that transplantation of skin by subsequent plastic operations is absolutely necessary. In my own experience this has not been the case, the cavity becoming smaller quite rapidly, as will be described below.

It will be noted that there is practically little difference between the operations of Estlander and Schede when performed in this manner except in the extent of the resections, the only essential variation being that the skin flaps are left outside of the packing in the former case while in the Schede operation they are turned into the cavity. The reason for the difference in the treatment of the skin is that the former operation is intended for small cavities, when there is hope that the lung will expand and fill the cavity promptly, and this has been my usual experience. In total empyema, however, the changes which fill in the cavity take place so slowly, if they occur at all, that it is necessary to cover the raw surfaces of the large cavity by every means in our power. It has seemed to me a practical convenience to preserve the name of Estlander for the minor operation, even after having applied to it Schede's principle of removing the soft parts as well as the bone. The term thoracoplasty, often employed, is rather cumbrous for general use.

The manner in which these operations act in producing a cure can be best understood by following the changes observed after their performance. In some cases the discharge is so abundant during the first two or three days as to compel the early renewal of the dressing, while in others the secretion of the cavity is very slight and the packing may be left in place for a week. The latter result proves that the efforts at sterilization of the cavity by the use of the curette and irrigation have been more successful than common, and that the septic material has been thoroughly removed. When the gauze packing is inserted at the time of operation the cavity is wide open and the patient under an anæsthetic, so that it can be packed very tightly and at the first dressing immediately after the removal of the packing there will be a perceptible decrease in the size of the cavity, owing to the falling in of its walls on all sides. The diaphragm rises, the stumps of the resected ribs anteriorly and posteriorly curve in, and the mediastinal tissues may also become displaced on the inner side of the cavity. When many of the ribs have been removed the whole thorax becomes so movable that this contraction is most marked. The opposite side of the chest even swings over a little, flattening in front and displacing the sternum toward the gap made by removing the ribs. By the end of the first week, in cases in which the pleural destruction has not been very great, the cavity will be found covered by budding granulations springing from the parietal and pulmonary pleura on all sides. Here and there will be sloughs which must detach themselves, and this process may require another week or two. The discharge from the granulations will be the usual serous pus, while abundant serum will be poured out from all the parts where sloughs are breaking down and separating. After the granulations have started, iodoform may be used more freely in the dressing, as the risk of absorption will be less: and as the cavity will also be smaller, the total amount of iodoform required will not be so great and there will be less danger of poisoning. Still later balsam of Peru is useful to hasten the healing.

Schede states most positively that the lung often expands afterward, no matter how much contracted it may seem to be at the time of operation, and my own experience leads me to believe that this is the rule, for it occurred in two out of my three cases of total empyema. In one case which terminated in death at the end of three months the lung never expanded, and there was never any noticeable diminution of the size of the cavity except that produced by the rising of the diaphragm and the falling in of the two bony sides of the chest. In small cavities, when only short pieces of the bones are removed, not over two inches, for example, the ends of the ribs may even be in contact by the end of the third or fourth week. In the slighter cases of partial empyema, also, the lung expands quite rapidly to the level of the chest wall. When this occurs the cavity is soon obliterated, becoming reduced to a slightly depressed granulating wound. It is curious to observe how the skin which has been turned into the cavity over the edges of the resected ribs, as described above, is lifted up by these changes and detached from its folding in, so that it finally becomes applied smoothly to the sides of the shallow depression in the chest. Some authorities have reported successful cases of skin grafting on these areas or even inside of the original cavity. Schede, however, says that Thiersch skin grafting does not succeed and he has employed plastic operations, turning flaps of skin from various directions into the cavity to overcome this difficulty. In my own experience in the lesser cases and in one total empyema (the case of Metha B——) recovery took place spontaneously without grafting or plastic flaps. The other two cases of

total empyema never improved sufficiently to justify an attempt to cover the granulating surfaces.

The first deformity produced by these extensive resections is startling. On the right side of the chest seen in profile there is a slightly concave instead of convex line of the thorax extending downward from the clavicle to the diaphragm, which swells out over the surface of the liver, the latter standing out like another shoulder or a shelf on the side of the body. On the left the heart in its pericardium makes a distinct protuberance, and the organ can be felt beating directly under the skin, where it rests on the shelf formed by the dome-like swelling of the diaphragm. These cavities, however, fill out in time, even the contracted lung expanding, and in the course of a year or two it is impossible to realize that such extensive operations have been performed. A slight lateral curvature may be the only trace of deformity remaining after severe operations, and even in children this may also entirely disappear. Some condemn the operation in children because of the deformity, but in my experience the lateral curvature remaining is no greater than that observed in every total empyema with the ribs in contact. In view of the fact that the lung has been shown capable of expansion even in these very severe cases, it is necessary in the after-treatment to aid expansion by the use of some means of forcible expiration, such as the simple spirometer invented by Dr. Walter B. James, of New York. In this apparatus the patient blows through a tube connected with a bottle filled with red fluid, the latter passing to an empty bottle connected with the first by a siphon tube, so that the patient may have ocular demonstration of what he is doing, and the amount of pressure can be regulated by placing the empty bottle on a higher level. This simple spirometer answers all purposes, and with children especially may be made a source of amusement which will induce them to exercise their lungs.

Statistics.—Schede reports 15 cases of his operation done by himself, the result in 2 being unknown while 8 ended in recovery and 5 were fatal. To these he adds 18 operations performed by others, with 5 cases under treatment, with 5 recoveries and 5 deaths. Combining the two series, we have 33 cases with 13 recoveries and 13 deaths, the remainder being unknown as to outcome or under treatment. The causes of death were in 2 cases iodoform poisoning, in 4 cases collapse after the operation, and in the remainder tuberculosis and Bright's disease. In regard to tuberculosis, Schede claims that such cases can be cured, so that the mere fact of the empyema originating in a tuberculous person, or having become tuberculous subsequently, would not be enough to contraindicate operation. The decision of the question in such cases depends upon the general condition of the patient and particularly upon the condition of the other lung. Some of Schede's cases of tuberculosis remained well for long afterward.

The time necessary for recovery depends mainly upon the size of the cavity—a pleural fistula may be cured in eight or ten weeks, while a total empyema will often require as many months. Schede states that at least a year generally elapses before complete recovery in total empyema. In my cases of total empyema one patient (Metha B——) was discharged cured, except for a narrow sinus in three and one-half months, an exceptionally rapid cure. In another case (James A——) the cavity filled up to a level with the chest in about the same time, but the granulating wound never cicatrized, owing to his poor general condition.

Of the Estlander operation the following cases have been selected as illustrative and worthy of report:

Case I.—Minnie C——, aged eight years, had pneumonia and following it an empyema lasting for three months. Two weeks before she entered St. Luke's Hospital, an incision had been made in the fourth space near the sternum, evidently where the pus had pointed and had been supposed to form an abscess. On October 19, 1893, a portion of the sixth rib was resected and the cavity properly drained. The child improved, the lung expanded, and the cavity contracted, but finally it remained stationary, and about three months after the first operation there was a space just inside of the ribs, measuring two inches in width by three inches in height, but rather shallow. On January 9, 1894, three inches of each rib from the fourth to the seventh inclusive were resected and the corresponding costal pleura was removed. The wound was packed and she made a good recovery, being discharged on February 17, 1894, cured. Some six or seven months later she was still very well, with no trace of a sinus, and the deformity produced by the resection of the ribs was almost unnoticeable, the spine in particular being straight. She was seen at a later date and had a tuberculous eruption on the side of the chest near the cicatrix, and the latter broke down superficially, but there was no recurrence of the trouble within the chest. After some months the tuberculosis of the skin was apparently cured. This case illustrates the manner in which arrest of healing takes place in an acute empyema even when carefully treated, probably due to the poor condition of the patient, a very anæmic girl. It also shows a good result obtained by operation. In another case we were less successful.

Case II.—Lottie K——, aged seven years, was admitted to St. Luke's Hospital, having had an empyema four years before, the sinus persisting but not affecting her general health. She was operated upon December 16, 1889, and a cavity found which extended from the seventh rib, in a direction backward and upward toward the spine, to two and one-half inches above the fourth rib. The cavity was narrow and lined by a cartilaginous membrane half an inch thick. Two inches of each rib from the fourth to the seventh inclusive were removed over the track of the sinus, the thickened pleura being resected with the ribs. On account of the depth and direction of the sinus toward the vertebræ it was felt to be unwise to pursue it farther, and it was hoped that the upper portion would contract after the curetting and drainage. The wound was kept widely open by packing and she made a good recovery from the operation, but when discharged from the hospital still had a small sinus leading to the upper part of the old cavity. Three years later she was examined and the sinus was still present. It was very narrow, just admitting a probe where previously it had admitted the finger, and it was shorter and had much less discharge. Her general health remained perfectly good, but there was a slight lateral curvature owing to the loss of bone from the ribs and to the general falling in of the chest toward the side where the empyema had been. This case shows a complication which prevented a perfect success but did not prevent a marked improvement being obtained by operation.

Case III.—Willis B——, aged ten years, was admitted to St. Luke's Hospital, November 12, 1892. There was no family or personal history of tuberculosis and the child had been perfectly well until three years previously, when he had been struck in the chest by a baseball and a rib had been fractured. Three months later he had developed symptoms of suppuration with high fever, and an incision had been made in an intercostal space by which pus had been discharged and drainage maintained for a while by a tube. The wound had closed spontaneously. The pus had reaccumulated, however, and had been discharged by incision twice afterward, in each case the discharge ceasing and the opening closing, and then a relapse taking place. Finally a piece of the broken

rib had been resected and an opening made which was still patent. On admission he had no cough and no pain and his general health was fair, although he was thin and anæmic. Physical examination showed the heart displaced to the right of the sternum, the left side of the chest contracted so that the ribs lay in close contact, with no expansion of that side of the chest. A sinus existed between the ninth and tenth ribs on the left side of the mid-axillary line which discharged very offensive pus. There was lateral curvature of the spine, the concavity being on the diseased side. On November 15th, Estlander's operation was done by the usual method. The incision reached from the axilla to the nipple, curving backward to the eleventh rib at the posterior axillary line. The flaps were raised uncovering the ribs, and portions of the fourth to the eleventh ribs were resected over the cavity, over two inches being removed from each; in all sixteen inches of bone. A cavity, the size of an orange, was discovered, and in it were found small pieces of dead bone and a piece of the eye end of a catheter, two inches long, which had evidently been there for a long period of time. The ninth and tenth ribs had coalesced by new deposits of bone around the mouth of the sinus, forming a complete ring of bone about it, and were very much thickened. All the ribs showed the peculiar triangular deformity due to the deposit of bone on the inner surface, which is generally found in these chronic-empyema cases. The cavity was lined by a very thick membrane, which was removed as far as possible with the curette, after cutting away the parietal pleura with the soft parts in the intercostal spaces and the periosteum of the resected ribs.

The packing was changed for the first time on the 23d, eight days after the operation, and two days later he was allowed up in a chair, the wound being dressed every two days thereafter. In January, 1893, he was discharged cured, with good pulmonary resonance over the whole chest. In June of that year he returned to the hospital, having a sinus which had formed in the scar eight weeks after his discharge, and admitted a probe for about two inches, reaching bone. The sinus was situated in the centre of the old scar. It was curetted by one of my colleagues, and on June 21st the patient was discharged improved.

He remained well and developed about as boys of his age, the spine becoming straighter, but a small sinus persisted in the scar, and on January 5, 1897, five years after the previous operation, he was readmitted. The sinus led to a cavity beneath the lowest ribs, which I laid open by a vertical incision extending downward across the abdominal muscles, nearly to the crest of the ilium. Portions of the two last ribs were excised, the granulations were curetted, and the cavity was packed. He was dressed every alternate day, the cavity filling up with healthy granulations, and on the 12th of February he was allowed up. He began to complain of headache accompanied by drowsiness on the following day, the temperature remaining normal. Irritability subsequently developed; he refused food, and began to vomit. The urine was found to contain two per cent. of albumin with granular casts. The temperature was normal and the pulse was slow with some tension. On the 18th, the temperature was 100° F., this being the first rise of temperature, but the pulse remained only 60 a minute. The next day he was comatose and died at noon. The post-mortem temperature reached 100.2° F. No autopsy was made, and the cause of death remains obscure. It was supposed at the time to be tuberculous meningitis or nephritis, but it is also possible that he had an abscess of the brain, for it is well known that such abscesses are very frequent after interthoracic suppuration. The case is exceedingly interesting in view of the fact that a foreign body was found in the cavity of the empyema, which had begun early three years before my first operation, having repeatedly been drained and having repeatedly recurred. Probably the tube was lost early in the course of the case and was the cause of all the subsequent trouble. The Estlander operation resulted in a practical cure, the small sinus which persisted being undoubtedly maintained by necrosis of the ribs. The boy developed just as other boys do, during the four years subsequently, and died probably from a complication of the long-continued suppuration.

These are typical cases and it is not necessary to cite any more of them. They show fairly well the capabilities and limitations of the operation.

I have performed three Schede operations for total empyema as follows:

Case IV.—Metha B——, aged twenty-four years, was admitted to St. Luke's Hospital, November 2, 1892. In April of that year she had a pleurisy and later had been operated on for empyema. The sinus had healed in nine weeks, but in October, as she had suffered from a return of pain and cough, the chest had been incised again. When she was admitted, the heart apex lay in the fifth space internal to the nipple. The right lung showed impaired resonance at the apex, with flatness below the second rib and many large crepitant râles from pulmonic adhesions. Posteriorly there was flatness below the angle of the scapula, and the breath sounds were impaired above, with many large râles, especially on coughing. Vocal resonance was increased and the breath sounds were feeble and broncho-vesicular. On the left side there were exaggerated breathing and râles. There was œdema of the legs. No tubercle bacilli could be found in the discharge or in the sputa. The cough was easy, there was no fever, and the urine was normal. There was a sinus situated between the eighth and ninth ribs into which a probe passed for four inches, giving issue to a slight discharge. Examination of the lung on the 13th of November revealed absence of respiration on the right side, the left side being practically normal.

November 15th, two days later, the operation was performed in the manner already described. A total empyema was found, the lung being completely collapsed, adherent, and bound down to its root at the spine. Portions of the ribs were removed from the third to the ninth inclusive, in all about eighteen and one-fourth inches. The operation was followed by some shock and severe pain in the chest. Five per cent. of albumin and granular casts appeared in the urine. The external dressings were changed two days after the operation and on the sixth day after operation the packing was also changed. On December 7th, she was allowed up. On the 20th of that month the cavity was very shallow and measured three and one-half by two and one-half inches across. She was discharged on February 16, 1893, with a minute sinus, which healed spontaneously. I had an opportunity of examining her two years later. She had been perfectly well and had born a healthy infant about a year after the operation. She was stout and rosy, and a slight lateral curvature was the only deformity remaining, except the scar and a slight flattening of the right side of the chest.

The amount of bone removed in this case was not so great as in the typical Schede operation, but every rib resected was divided far back near the angle, and the resection was sufficient to produce a rapid cure of a total empyema.

Case V.—Jennie L——, single, thirty-two years of age; born in the United States. Admitted to St. Luke's Hospital, May 14, 1894. In January of that year she had an acute pleurisy lasting for three weeks. The next month cough, expectoration, and pain in the right chest were present. These symptoms continued,

and on admission a large empyema of the right side was found, which was treated on the 15th of May by resection of the ninth rib, and the cavity was drained. The lung did not expand well and the patient was discharged on July 2d, with the tube in place, to go into the country. She was readmitted July 28, 1894, and came to my service. The patient was greatly emaciated, very anæmic, and running a hectic temperature. She had been a circus performer of splendid physique and originally fine constitution, with unusual pluck. On August 11th Schede's operation was performed. The ribs on the right side were resected, from the second to the seventh inclusive, about three inches being removed from the second rib and larger portions from the others down to the seventh, which was removed almost entire. When the chest was opened a most extraordinary condition of affairs was found. The lung was contracted and bound down so completely that it seemed to be entirely absent, being flattened against the vertebræ. The heart could be seen beating behind the sternum, and the pericardium was dissected up from the mediastinum and the surrounding tissues by the burrowing of the pus, so that the fingers could be passed almost entirely around the heart in front and behind. The heart was not displaced toward the right, and the right side of the chest was completely empty. The wound was treated in the usual manner, but the packing as well as the outer dressing had to be removed three days after the operation on account of the discharge. On August 22d she was allowed up in a chair, and by the 29th had gained six pounds in weight. The temperature, however, remained hectic, and on August 30th she was seized with œdema of the left lung. The attack nearly cost her her life, but after thorough treatment by medication and cupping the chest she recovered.

Similar attacks followed on the 4th, 10th, 16th, and 26th of September, all of them being very serious. The patient maintained her calmness with remarkable courage. The discharge from the chest continued to be abundant and there was absolutely no attempt at filling in in any direction. The large sinuses in front and behind the pericardium remained pervious, and water injected into the anterior passages flowed around the pericardium on the left side and out again into the cavity of the right chest posteriorly. The pleural cavity became covered with healthy granulations and was not septic, but showed no tendency whatever to recovery. The lung did not expand in the slightest degree. At the apex of the chest there were some bands crossing the cavity, some of which were evidently blood-vessels (veins) of considerable size, and quite a little oozing occurred on several occasions from this region. On October 6th the flow of blood was quite abundant and had to be controlled by tight packing; this bleeding recurred two or three times, and the following day the patient died at 1:45 A.M., about three months after the operation, the recurring hemorrhages being sufficient to loosen her slight hold on life. Before the operation, from July 25th to August 10th, her morning temperature was usually 97.5° to 98° F.; her evening temperature was 100.6° to 101° F., once touching 102.4° F. For two days after the operation (August 11th and 12th) her temperature remained low, between 97° and 99° F., but on the 13th it again became hectic, 97° F. in the morning, 100.4° F. in the afternoon, and so continued until her death.

In this case the patient had probably had an empyema for three months before it was drained, and was suffering from complete exhaustion and unable to repair the tremendous ravages caused by the disease. The operation improved her, as shown by the lower temperature and the gain in weight, and it would probably have saved her life if it could have been performed a few weeks earlier.

Case VI.—James A——, aged seven years, born in Italy, was admitted to the New York Infirmary for Women and Children, December 31, 1895. Six days before admission he had begun to complain of pain in the abdomen and to be short of breath. The right pleural cavity was drained by a simple incision, no rib being resected. He remained in the hospital three months after the first operation and was afterward treated as an out-patient. He came back to the infirmary in April, under my care, and was then greatly emaciated and exceedingly anæmic. The right side of the chest had retracted until the ribs were in contact and the lung had not expanded. The discharge from the sinus was quite abundant and the child was evidently failing. The liver was very much enlarged and had undergone amyloid degeneration, and the child seemed tuberculous and perhaps syphilitic, having a chronic conjunctivitis and some skin lesions. In the left lung there were no distinct lesions.

Schede's operation was performed on April 24th, from two to five inches being removed from each rib on the right side, from the second to the ninth inclusive. The cavity was treated as usual and the child made a good recovery from the immediate effects of the operation. The cavity remained clean with a discharge of a moderate amount, but it contracted very slowly. The child gained weight and strength somewhat during the summer and the cavity slowly filled in, the contracted lung expanding until finally the deep depression in the chest had disappeared. He was discharged from the hospital to be treated as an out-patient on October 19th, having then lost ground somewhat and it being evident that he could not make headway against the complication of disorders. The wound was by that time reduced to a flat granulating surface, as large as the palm of the hand, with a few sinuses running in various directions to the ends of the ribs, which were somewhat necrosed, but with very little discharge. The boy lived until the following April, the local condition remaining about the same.

In this case the child was almost exhausted by the disease, with a very evident constitutional taint, probably a combination of tuberculosis and syphilis. The operation improved his condition and undoubtedly prolonged his life, as he lived for a year after it. Schede states that he has not infrequently seen an amyloid liver reduced to normal size during the course of treatment after the resection, and considers that lesion no contraindication to an operation. Amyloid degeneration of the kidneys, however, would probably forbid operation because of the danger of administering the anæsthetic under such conditions. Of these three cases of total empyemas, then, one patient was cured, in one case the empyema was practically cured and life was prolonged, and in one case no benefit resulted. In no case did the operation do harm.

In conclusion I would like to emphasize the following points:

We must not allow ourselves to be alarmed at the apparent severity of the operations advised, for the records show that even these weak patients bear very well the complete resection of the ribs, if it is rapidly and skilfully done. The secret of success lies in the slight anæsthesia required and in the proper control of hemorrhage.

Nor should the fear of deformity prevent these operations, for the deformity greatly diminishes with time in both adults and children.

Finally, when we consider the incurable and dangerous condition for which the operations are required, we are willing to assert that the immediate risk to life arising from the operation is justified, and that even a permanent deformity is not too great a price to pay for a cure in these desperate cases.

THE FEMININE ELEMENT IN GENERAL MEDICINE; OR, THE RELATION OF THE GENERAL PRACTITIONER TO DISEASES OF WOMEN.

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Women are more numerous than men. Women are afflicted with an entire catalogue of diseases that do not fall upon men. Diseases of women, therefore, are apt to form the bulk of the work of the medical profession.

Men in our profession are unequally divided between physicians and surgeons. There are more physicians than surgeons, for less capital is required by the physician. A diploma, a sign, a table, and a prescription blank will launch the physician. A far larger capital is required to equip the surgeon. Consequently we can almost count on our fingers those who have been called the "professional" surgeons in each of the great cities of the world. Behind the prestige of every one stands a large capital of influence and money necessary to attain the hospital appointment, without which—as sharply as the statement has been resented—few of the outside ninety-nine per cent. can hope to be more than "amateur surgeons," as they have been called, forced to refer their heavy cases to the professionals. These, equipped for the graver work, number hardly more than one per cent. in the healing-army and enjoy a rich monopoly.

Now, diseases of women were abruptly transferred from medical men to surgeons almost within the memory of the present generation. Most of the work is of the graver class of surgery that is rarely properly done outside of this compact hierarchy of the elect. These favored of fortune suddenly came into possession of the richest harvest in the medical field. The one per cent. had more than half the world!

The vast amount of work falling thus into comparatively few surgical hands gave an enormous impetus to surgical gynæcology. Men of influence and opportunity bent their energies in the advance from one brilliant surgical success to another, and built up a specialty of such prestige that medical men have almost entirely abandoned diseases peculiar to women to these specialists. As a consequence, the medical side of the specialty has been left undeveloped.

Does the statement need proof? Call the roll of gynæcological celebrities and see if the fame of every single one does not rest upon his surgery, and most of it of the grave kind possible only to this compact elect. Analyze the ideal of every new gynæcologist and see if in his mind gynæcologist and laparotomist are not synonymous. Picture the attitude of the gynæcologist toward statistics of cases of uterine retrodeviations, or of uterine fibroids, for example, palliated or cured without operation. Run over the list of papers presented at the last international gynæcological congress at Geneva, and see how exclusively surgery has occupied the minds of the exponents of this new science during the most recent period of which we have record.

One more point: call to mind the usual attitude of the general practitioner bringing the gynæcologist a case in consultation. As a rule he will have no idea of the local condition; he will not even soil his hands by examination; and he surrenders his patient to the specialist, whose habit, trend, desire, necessity, and—one might almost say—reflexes are all surgical!

That there is a striking difference in point of view between two such men will be apparent to any psychologist. The man with the meagre capital of sign and prescription blank would naturally prefer that everything could be cured by diagnosis and prescription, for he is equipped for that. On the other hand, the man whose line requires the greater capital of organized staff, operating-room, and hospital must continue operating or disband. Consequently, the psychological pressure of environment impels one man to shut his eyes to the question of operating, and the other man to seek reasons for operating rather than for not operating.

Many are greater than this pressure of environment, but study them and see if they are not either general practitioners who have become specialists, or specialists who have evolved into physicians and retain considerable general practice.

To discuss this subject is to broaden our limitations. No one but a lopsided man can see in such a discussion any detraction from the brilliancy of the work done by men in the surgical department of the comprehensive specialty of diseases of women; and no true scientist will ever extract personal umbrage from an academic discussion.

The Feminine Element.—A man may come to a medical adviser for cough, for headache, for indigestion, for flatulence and constipation, for hemorrhoids, for disturbances of vision, for neuralgia, for cardiac palpitation, for nerve exhaustion—and so may a woman. In the case of the man the physician can apply with success knowledge acquired from his professor or from text-books on the practice of medicine. But what cured the man will often fail absolutely with the woman, although the symptoms seem precisely alike. The reason of failure is the feminine element, which is my subject in hand.

The Resident Germ.—In no part of the male anatomy does a serous cavity communicate directly with the exterior. The female, on the contrary, has an unguarded opening into the peritoneal cavity through the Fallopian tubes. Woman is therefore at the mercy of the atmosphere to some extent. She is notoriously, in her peritoneal integrity, dependent upon the good health of her partner in copulation. And, more than that, she always carries in her vagina, even as a virgin, germs that need only the soil turned over to spring into virulence.

One of the most important recent advances in gynæcology is that involved in the work of Winter, Haustman, Küstner, Lomer, Bumm, and Döderlein, upon the subject of micro-organisms in the normal vagina. It has been proven as conclusively as any other fact in bacteriology that a host of germs rest in the normal vagina, and they have been found in the cervix uteri even of virgins. Among these germs are the staphylococcus pyogenes albus, aureus, and citreus, and the streptococcus. The body of the uterus normally lacks these germs, because its cavity does not contain the liquid necessary for their support. Note well this point. These organisms are undoubtedly greatly attenuated, but can become rapidly virulent under favoring circumstances.

Circumstances Favoring Virulence.—What are these favoring circumstances? Any sufficient subtraction from general vitality. Take the interesting subject of fatigue: the heart beats less sturdily and burnt-out muscular products depress vitality. Take so slight a factor as the barometrical condition of the atmosphere: when the mercury drops in the tube because of diminished sustaining power in the atmosphere, is not corresponding support withdrawn from around the veins? The human barometers are the bane of every consulting-room. Is it not a condition analogous with fatigue?

Do not "piles come down" in bad weather and fatigue; and an enlarged prostate ache, a "milk leg" or bad joint or old scar or syphilitic node become insistent; varicosities take on erection; the mammæ, as at menstrual periods, become sore, and dark circles

appear under the eyes? We all know scores of female patients with "piles"—so to speak—in their broad ligaments; with an aching bunch of dilated veins, not distinct after death, yet swelling up at times to drag these women, and bring them under the doctor's diagnosis of chronic salpingo-oöphoritis. It seems sometimes as though these women had livers and spleens in a state of chronic priapism.

Increased Blood Pressure an Important Factor.—We have an important point here, since an increase in blood pressure will diminish the resistant power of cellular life. A well-known example will illustrate: varicocele most frequently attacks the left testicle. Woman has pain most frequently upon her left side, and varix and œdema occur most often in the left leg. These are not exclusively left-side troubles, for sometimes both sides are involved. But what determines the choice of the left side and the frequent immunity of the right? Is it not that the difference in static pressure leaves the right side more vigorous? We all know that this difference in blood pressure between the two sides arises from the slight obstruction to the return blood current on the left side, because the left ovarian (or spermatic) vein empties into the renal vein instead of the vena cava, and the left common iliac is longer and more oblique in its course than the right. Representing this static pressure on the left side as ten degrees and as nine on the right, we can thus symbolize the difference between them. This one degree of excess blood pressure on the left side is what depresses the vital resistance of cellular life on that side, so that it falls under the influence of what does not affect the other side. Is not this a sound proposition?

If this slight natural difference in static pressure, thus crudely symbolized, determines the resistance of one side to an abnormal condition, and allows an ache or an inflammation on the other side, is there not a prime significance in pelvic congestion to the medical man?

Auto-Manufacture of Pseudo-Gonorrhœa.—Now, all conditions which overengorge the uterine system of women furnish just those favoring circumstances which are needed to enable the resident germ to spring into virulence. A good example is the so-called virginal metritis induced by the intense congestion of the first menstrual epoch, or by cold or congestion during subsequent menstrual periods. An analogous condition is the congestion of the menopause in married or unmarried women. These conditions furnish the missing uterine fluid to nourish bacteria, break down the resistant power of cellular life, and allow an invasion and multiplication of the germs sentinelled in this dangerous zone.

A Partial Dissent from Noeggerath.—This gives us ample justification to dissent from the views of Noeggerath, now so uniformly accepted by the profession: namely, that the uterine, tubal, and ovarian infections found in woman are almost entirely due to latent gonorrhœa in the male. While this unfortunately is too frequently the fact, and while the statement of such fact fits exactly the medical man's pessimistic conception of humanity as formed by too keen a knowledge of it, at the same time a purulent female genital trouble capable of infecting the male is often a home product of an exclusive home industry. This can be affirmed with the authority of knowledge as positive as any repeated clinical observation can give. A uterine retroversion, for example, will congest the parts like a string drawn around the finger. At once is furnished the uterine fluid, the culture medium for the resident germ. Add excessive intercourse to this condition, and a purulent reaction is not far away.

Operative versus Expectant Treatment of Abortion, etc.—This adds new reason to distrust the counsel of those who follow the expectant plan of treatment in the face of foreign matter in the vaginal or uterine canals; who therefore guess and hope—instead of seeing and knowing—that the lurking seed will not take root in favoring soil.

General and Local Reciprocal Relations.—One other point: there is a relation of reciprocal cause and effect between local uterine troubles and the general system. I have elsewhere elaborated this and dwelt upon the manner in which a local trouble will affect the general system, and through this impress upon the general system react in aggravating its own condition. In the frequent success of the Weir-Mitchell rest cure in metritis we have an example of this relation, in that the local condition is reached through the general organism.

The Foundation of the Feminine Element.—Let us keep in mind, therefore, the open end of the Fallopian tube; the effect of static pressure on cellular vitality; the dangerous zone; the resident germ and the ease with which the womb will furnish the culture medium: also, the relation of reciprocal cause and effect between the local and general system—and we shall have well in hand the foundation of the feminine element in general practice.

Depressed Vitality.—Scrofula, tuberculosis, and general debility come to the male as well as to the female. But even the laity appreciates here the significance of the feminine element. How often do anxious parents, reversing cause and effect, seek advice lest a daughter's amenorrhœa "run into consumption." Now all the masculine disabilities entailed by these troubles oppress equally the female—even the female analogue of tuberculous testes and prostate. She suffers, in addition, the feminine element. There may be amenorrhœa, a premature menopause, leucorrhœa, inguinal adenitis, metritis, salpingitis, and ovaritis. There may even be primary tuberculous infection without preceding lung lesions; there may be secondary metastatic infection: there may be a primary local infection with a pre-existing and predisposing pulmonary involvement. And, finally, consequent upon the general muscular and vital debility, there may ensue our old familiar menace—the debilitated, congested, auto-infecting pelvic condition.

Patients of this class, therefore, who are not abandoned to the Adirondacks or the board of health, demand a local attention. It is not a sound proposition that because a woman has chronic trouble in one portion of her body it is wasting time to interfere with inroads elsewhere.

Minor Disabilities.—Flatulence, constipation, indigestion, hemorrhoids, cardiac palpitations, facial eruptions, and the like are male as well as female woes. Women get them from all the causes that give them to men, plus an additional feminine cause. They entail upon women all that they put upon men, plus the feminine element.

Inflammation in the perineal region of men will inhibit intestinal peristalsis, but this is a brief acute condition and bears little resemblance to that reflex inhibition in the female from a chronic congested or inflamed pelvic condition.

It is necessary only to refer in passing to the nausea of pregnancy: to the piles mechanically produced by the retroverted womb, returning as often as cut and relieved only by the tampon; to the intestinal or nasal hemorrhage due to vicarious menstruation; to the facial acne relieved by vaginal irrigation and tampon; to the cardiac palpitation, left-shoulder and arm cataleptic seizures, due to aggravation of the sexual element, ungratified or overgratified.

Virginity as a Diagnosis.—Virginity, as a diagnosis, will perhaps meet criticism. Yet continuing virginity is an abnormality. The insistence of func-

tion in the human is as sturdy as is the gosling's tendency, even though hatched out by a hen. And what is the physical basis of such functional demand but a vasomotor determination of blood to a part for a purpose? The purpose continuing unfulfilled, repeated blood invasions modify the part. Two seemingly opposite, yet related, conditions follow: infantile uterus and pelvic congestion.

Menstruation a Gift from Civilization.—Civilization has profoundly modified the human female. It is quite possible that menstruation has come to her by evolution, and that in her ancestral state she would conceive at puberty and conceive again at the end of each nursing-period, and so reach the barrenness of age without opportunity for menstruation. But civilization has delayed marriage and pregnancy from year to year until the hereditary line in which function has been starved and delayed has rendered woman especially liable to the malady of infantile uterus.

Infantile Uterus.—Infantile uterus—characterizing a race of young women pubescent but not nubile—develops later in life into the exactly opposite condition of abnormal vascularity and congestion. Less than five years will sometimes change an infantile uterus in an unmarried girl with amenorrhœa into a condition of turgid pelvic congestion yielding profuse menstruation. Lawson Tait has long since pointed out that this atrophied condition leads inevitably to inflammation of the appendages.

Dr. W. Gill Wylie some years ago showed one reason why uterine diseases are more prevalent in America than in Europe, among the rich than among the poor. As the sexual organs of women are the last of her organs to develop—and do develop just at the time when the greatest intellectual efforts are being made—those deficient in vitality suffer the imperfect development. As American women are more active intellectually than their European sisters, as the rich expend greater effort upon mental development than do the poor, it follows that it is among these that infantile uterus and its subsequent involvements are principally to be found.

Leucorrhœa, erosion of the cervix, menstrual irregularity, an unreasoning nervousness and mental depression, and later in life abnormal vascularity and congestion—these are the well-known results of infantile uterus and virginity. When the stage of pelvic congestion is reached we are face to face with our old menace, with its reciprocal relation to the entire organism.

Prevention.—This subject, both in the aspect of prevention and in that of cure, is one of great importance. As the medical man is the sanitarian, and the specialist arrives only when the affliction falls, this subject is one for the general practitioner.

Take these young women upon whom the affliction has fallen to the physician, and he will fail ingloriously in treating them upon the prescription-blank basis. Take them to the surgical gynæcologist, and save for the expedient of dilating the cervix there will be little for him to do; there will be nothing to take out. The malady must be successfully met at the juncture of the specialty and general practice.

Infectious and Contagious Diseases.—In scarlet fever, typhoid, typhus, small-pox, diphtheria, pneumonia, malaria, rheumatism, gout, lead poisoning, and syphilis the female is subject to all the disabilities that fall upon the male, and requires all the remedial measures that the male requires, plus something in addition. That something is the feminine element, and that element, though falling within the range of gynæcology, has as yet been scantily touched.

Medical authors mention casually a uterine involvement in these diseases, but there are few details. Massin has studied their pelvic aspect from the autopsy table, finding parenchymatous and interstitial inflammation, tumefaction of glands, and infiltrated interglandular tissue. That marked uterine involvement does take place in these troubles is not to be disputed. Yet how often is uterine attention made a part of the routine which medical men outline for these diseases?

On the question of typhoid fever in the female I want to speak most warmly, and with the authority of sad experience. There is a direct line of communication between the seat of the typhoid poison and the genital system of women. Clado has demonstrated the existence of direct lymphatic connection between the appendix and the ovary. I have had a patient under my charge with a sinus from the appendix emptying into the bladder.

Syphilis in Women.—Many practitioners have succeeded with syphilis in women without local examination or attention. Many cases have correspondingly small need of throat or nose attention. But it is certain that all cases cannot be properly treated with prescription blank and medicine alone. Local attention is very frequently necessary. Few will dissent from this in cases in which chancres or condylomata are unmistakably present, as, for example, when an ulcer gives a recto-vaginal fistula. The primary lesion of syphilis is comparatively rare in women. Neumann, of Vienna, found only fifty-five initial lesions in eight hundred infected women. Though seeing personally a large number of these cases, the writer has likewise found comparatively few initial lesions. But he has frequently seen profuse condylomata develop a year after infection, from a relaxed vigilance in treatment or from local uncleanliness. This has been followed or at least accompanied by a marked eruptive manifestation on the body. Whether the local lighting up of virulence let a new invasion of poison into the system, or whether the systemic condition allowed the local revival, is debatable. The coincident fact, frequently observed, is simply cited.

In view of the rarity of the initial lesion in infected women, and in view of the almost constant presence of a local vaginal and uterine congestion in these cases, the inference might be drawn that this congested condition often forms the feminine initial lesion, and therefore may be regarded as a primary seat of infection. But this is not exclusively so, for the writer has seen this same local congestion when the initial lesion developed upon a crack on the thumb—the infection occurring in an elderly woman from washing the clothing of an infected daughter, as was clearly traced.

The pathology of this local condition has not yet been exploited, but the writer believes that what Morell Mackenzie says of syphilis of the throat will apply with equal force to the genital system. He says: "In secondary syphilis we sometimes find a very obstinate condition of the laryngeal [one may add vaginal and uterine] mucous membrane, but it is often impossible to tell whether this condition is really due to the specific dyserasia. As I have long pointed out, there is nothing characteristic about the congestion of syphilis." This congestion doubtless yields a mixed infection, the process of which is clear when we remember our resident germ and the culture medium made for it by anything congesting the womb.

Syphilitic Salpingitis.—The profession has no definite observations on syphilitic salpingitis. Theoretically we can explain such a salpingitis from this resident germ, the succulent uterus of congestion, and the extension to the tubes. The metritis resulting from this congestion and the inevitable auto-infection kill the fœtus in syphilitic parents, even when this is not done by distinct syphilitic lesion in the placenta.

Is it not, therefore, safe to say that the physician who treats syphilis in women must go as far into

gynæcology as the gynæcologist must go into the practice of medicine in treating the same condition?

Subinvolution and Superinvolution.—Most midwifery done by professional men falls to the general practitioner. The relation of heart and kidney disease to pregnancy is too wide for more than passing mention.

The post-puerperal treatment of women is, however, to our point. The classic time for making the last visit and collecting the fee is the tenth day. The woman, as a rule, is left to nature from this time on. Considering the post-puerperal engorgement of the womb and the fact that involution is rarely complete before the sixth week, and reflecting upon the gravity of subinvolution in the light of the resident germ, the writer requests the judgment of the profession upon the advisability of establishing a routine of observation of these women from the classic tenth day to the time of complete involution. Meddlesomeness which prevents trouble cannot be logically more reprehensible than is that search of the dentist every six months for a trace of tooth decay.

The Menopause.—The majority of women at the menopause are guarded by the general practitioner. The specialist rarely sees them unless cancer is suspected. Some doctors and most of the laity regard extensive hemorrhage as natural at the "change of life." It is well known that the menopause in married or unmarried women frequently brings a metritis from the intense congestion, analogous to the virginal metritis, and that therefore non-surgical local attention can often palliate much of the disability which is commonly considered natural at this time of a woman's life.

Rheumatism, Gout, Lithæmia, Renal Insufficiency.—That these troubles have an intimate relation with the female pelvic organs—a relation which has no analogue in the male—is being pointed out by one observer after another. A burnt-out muscular product in the pelvic muscular tissues of women with deficient oxidation will frequently simulate pelvic disease.

In a recent paper on "Retrodeviations of the Uterus" the writer dwelt upon the significance of the connection between diseases of this class and pelvic diseases of women, and pointed out how apt are the general conditions to be overlooked, "since these patients, because of the predominant uterine symptoms, are seen only by the gynæcologist during the period when the insidious vital changes can be checked." The reverse condition is likewise true—that the general practitioner often overlooks the local condition in these troubles.

Passive Congestion.—Passive congestion in women can come from all the causes that bring it in the male, plus an additional feminine cause. It entails upon the woman all that it inflicts upon the man, plus an additional feminine disability. As an example of joint male and female causes we can run over the list of table pleasures, alcohol, lack of oxygen, malaria, constipation, anxiety and worry lowering the nervous tone, cardiac lesions, feeble heart, exhausting disease, tumor in the mediastinum or elsewhere. Additional feminine causes comprise excess in venery; plastic exudates and growths in the pelvis; and the comprehensive feminine malady involved in muscular debility, enteroptosis, subinvolution, and retrodeviation. While sexual excess lowers nervous tone in the male and enlarges the prostate, its mechanical results in the female are so much greater that it is entitled to place in the female catalogue. Male and female have jointly entailed upon them by passive congestion the familiar heart, kidney, liver, and gastric changes, which lead along the well-known path to dropsy and the end. But the female has an early and exclusive entailment, namely an aggravation of pelvic congestion, which our resident germ and succulent womb soon transform into a low form of metritis and frequently salpingitis. This reacts upon the system by further retarding an already sluggish stream. It strikingly illustrates the relation of reciprocal cause and effect which the genitals bear to the general system.

Considering the static area occupied by the genital system in the circulation, is it not sound to urge local attention, and must not these troubles be met at the merging-point of the specialty and general practice?

In the Province of the Neurologist.—Passing to the province of the neurologist, and touching neurasthenia, nerve exhaustion, spinal irritability, and epilepsy, here again we have a surplus feminine element of cause and entailment, and an additional line of treatment over what is required for the male. Recall the frequency of floating kidney in female neurasthenia. Recall how infrequently floating kidney is found in the male. Recall the fact that much of what was formerly supposed to be spinal irritability in the female is now known to be floating kidney. There is a strong connection between these debilitated conditions in the female, floating kidney, general enteroptosis, and retrodeviation of the womb. Local attention is frequently urgently required, and the neurologist must trench upon gynæcology.

Take, for example, an exhausted girl with profuse menstruation and a general neuralgic condition. Endless drugging will often fail, while stopping her menstruation by tamponing twice daily during the period will bring up her blood count and yield speedy recovery. In some forms of epilepsy recurring at menstrual periods—whether true or false epilepsy, it matters not—many cases which have resisted a long course of bromides have yielded almost instantly to tampons and purgatives. And this has been marked in cases in which there was nothing more serious locally than a retrodeviation or small ovarian cyst.

The same will hold true in innumerable cases of headache, intercostal and facial neuralgias. The prescription blank cannot cure them; there is no excuse for the knife; and they are successfully treated only at the merging-point between the specialty and general practice. Hysteria and sexual perversions are simply cited in passing.

This paper will serve to open a discussion on the merely physical aspects of the feminine element in general practice. There is a psychical side as interesting, but far less practical. If the writer can stimulate discussion by the fellows of the New York Academy of Medicine on this subject—never yet formulated in type—he will be more than content.

66 West Fiftieth Street.

Hereditary Granular Kidney in Early Childhood.—Hellendall (*Archiv fur Kinderheilkunde*, xxii., p. 61) reports two cases of bilateral chronic interstitial nephritis in children whose mother also suffered from chronic nephritis. The older of the two lived two years, the younger six months. The history of the case points to the fact that the disease of the mother began with the pregnancy of the first child. The degree of contraction, which upon microscopical and macroscopical examination of the kidneys of both children was very intense and marked, leads Hellendall to the conclusion that the development of the contracted kidney began *in utero*. There was no syphilitic history. Bacteria could not be demonstrated. Scarlet fever and other etiological factors were wanting. Thus far but nine cases (including these two) of primary granular kidney have been reported.

THE FIRST COMPLETE REMOVAL OF THE HUMAN STOMACH IN AMERICA; PROBABLY ALSO THE FIRST TOTAL GASTRECTOMY IN THE WORLD. A CONTRIBUTION TO THE HISTORY OF THIS SUBJECT.

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In reporting his unique case of complete removal of the stomach—a successful œsophago-enterostomy—Dr. Carl Schlatter, of Zürich, has asserted that all recorded cases of gastric excision are without exception instances of partial, chiefly pyloric, removal of the stomach. In his first publication on this subject, "Ueber Ernährung und Verdauung nach vollständiger Entfernung des Magens — Oesophago-Enterostomie — beim Menschen,"[1] as well as in his second publication, "A Unique Case of Complete Removal of the Stomach, Successful Œsophago-enterostomy; Recovery,"[2] he narrates the case of Langenbuch,[3] in which at least seven-eighths of the stomach ware removed, recovery following.

From a physiological standpoint, this case of Langenbuch can reasonably be regarded as a total extirpation. The case of Professor Schuchardt, of Stettin, in which only a narrow strip of the stomach near the cardia was left in and the entire remaining portion of the stomach excised, can also from a functional standpoint be regarded as a total excision, for none of the gastric motor, secretory, or absorptive functions can be carried out by such a small remnant of the cardia. The execution of these functions depends upon the integrity of the fundus and pyloric end of the stomach. Schuchardt's patient lived two and one-half years after the operation, and apparently enjoyed perfect health during that time. At the International Medical Congress at Moscow, Ewald read a paper on "Erfahrungen über Magenchirurgie, vornehmlich bei malignen Geschwülsten,"[4] in which he referred to an ablation of the human stomach, which Dr. Schlatter characterizes as incomplete because about an inch of the cardiac end had not been excised (the patient died three days after the operation, from hemorrhage).

The hair-splitting distinctions which Schlatter makes between his operation and those of Langenbuch, Schuchardt, and others, are more apparent than real. The questions to be considered in connection with total gastrectomies are, in the first place, in what way can surgical technique be enhanced by such operations? and secondly, what contributions to the physiology of the stomach, of digestion in general, and of metabolism are made possible, after complete gastrectomy, which are not possible by physiological or any other methods? The author is not a surgeon, nor is he able to elucidate from the paper of Schlatter whether he concedes that Krönlein, Langenbuch, Schuchardt, Hacker, and Maydl have performed successful total gastrectomies; but it would appear to him that it is simpler from the standpoint of surgical technique to perform œsophago-enterostomy than to be compelled to leave in a portion of the stomach and perform a gastro-duodenostomy. Perhaps the advance in surgical technique that is gained by Schlatter's successful case is that he has shown a simpler way of union between the œsophagus and jejunum. It may be simpler hereafter to take out the entire stomach and perform an œsophago-enterostomy in preference to leaving in a part of the stomach, even when that is possible. The value of the new operation consists of and is limited to the advance represented by this simplification.

[1] Correspondenzblatt für Schweizer Aerzte, December 1, 1897.
[2] Medical Record, December 25, 1897.
[3] Deutsche medicinische Wochenschrift, 1894.
[4] Berliner klinische Wochenschrift, 1897, No. 37, p. 798.

The second possible advantage that medical science might gain from the operation, the contributions in Schlatter's paper to the "Physiology of Digestion in General and of Metabolism," are all confirmatory of studies and operations made previous to his œsophago-enterostomy, and can hardly be considered original. In his most recent paper, "Œsophago-enterostomy after Total Extirpation of the Stomach,"[1] and also in the paper in the *Correspondenzblatt für Schweizer Aerzte*, he gives a detailed and separate description of the effects of loss of each of the separate gastric functions. These are: (1) The action of the stomach as a reservoir by retention of the food—the intestine is thereby protected from being overcharged with a mass of ingesta at a time. The extreme temperatures of ingested food, which would be detrimental to the sensitive intestinal mucosa, are thus corrected. (2) The mechanical function of the stomach, by which the ingesta are gradually mixed with the gastric secretion, thoroughly macerated, reduced to a semiliquid, pulpy mass, and gradually, by complicated peristaltic movements, propelled into the duodenum. (3) The secretory or chemical function which is exerted by the pepsin, HCl, and the rennet ferment, converting proteids into peptones and bringing milk through its preliminary stages of digestion. Fats are not at all digested in the stomach, and amylolysis occurs only as long as the amount of free HCl does not exceed 0.07 per cent. (4) The disinfecting action of the HCl, which has been described by Bunge. This must not be considered as an absolute disinfection. A great many of the more resistant bacteria and the spores of the less resistant pass through the stomach uninjured; the HCl of the stomach has also an inhibitory influence on the fermentative and putrefactive processes of the intestine. This has been demonstrated by A. Ewald, when he showed that the formation of lactic and acetic acids in the intestine was restricted by HCl. The products of proteid decomposition—the phenols, cresol, the indoxyl-sulphuric, cresol-sulphuric, and scatol-sulphuric acids—are excreted in the fæces and in the urine. Charles E. Simon[2] has shown that the indican of the urine is a true index of the amount of putrefaction occurring in the intestine, and that the indican increases when the normal secretion of HCl diminishes. The action of secretion of rennet ferment, which would be lost after a gastrectomy, can be replaced by the milk-curdling substances occurring in the pancreatic juice.[3] (5) The resorptive function, by which peptone, sugars, and alcohol are absorbed from the stomach, is of minor importance from a pathological and physiological standpoint. It appears from von Mering's investigation that water is practically not at all absorbed from the stomach, but that alcohol and whatever is in solution with it is absorbed readily. Grape, milk, and cane sugars, also maltose, are absorbed in moderate amounts, when they are in aqueous solution; but when they are in alcoholic solution larger amounts are absorbed. Dextrin and peptone are taken up from the stomach in smaller amounts than are the sugars. We may then consider the various functions of the stomach appropriately under five headings: 1st, the reservoir action; 2d, the mechanical, motor, or peristaltic function; 3d, the secretory function; 4th, the disinfecting action; 5th, the resorptive function. This is by no means a complete and exhaustive consideration of the gastric functions. The HCl, for instance, in itself acts in six different ways,[4] and the stomach may under certain conditions excrete other products; finally it regulates the amount of chlorides in the body metabolism or at least has a controlling influence in the

[1] The Lancet, January 15, 1898.
[2] American Journal of the Medical Sciences, August, 1895.
[3] See Halliburton and T. G. Burton, Journal of Physiology, vol. xx., p. 106.
[4] See "Diseases of the Stomach," by J. C. Hemmeter, p. 49.

metabolism of chlorides. To our knowledge of the reservoir action, very little has been added by Schlatter's operation, except to confirm the already well-known impression that this action is so indispensable for regulating the temperature of the food and preventing overcharging the intestines with a mass of ingesta, that even when the stomach is removed at a time the part of the intestine which is first reached by the food after it leaves the œsophagus becomes dilated and forms a pouch or receptacle, imitating the reservoir action of the lost stomach.

Loss of the mechanical function has been studied in cases of atony of the stomach; defective peristalsis is the gravest affection that can befall the organ. In its effects it is far more serious than loss of secretion; its loss cannot be replaced, and in Schlatter's case a diet had to be selected which consisted of finely divided food which required no mechanical action for its disintegration. Considering the fact that his patient had only one tooth and that one carious, the good digestion in the complete absence of the stomach must be considered most extraordinary.

The secretory or chemical function, which Schlatter considers the most important of all the gastric functions, is really subsidiary in importance to the motor or mechanical function. Gastro-enterologists have reported many cases of complete absence of gastric secretion,[1] in which metabolism and body weight progressed normally; but no case of loss of motor function is conceivable in which the gastric and intestinal functions could progress normally. All of the chemical functions of the stomach, the partial amylolysis and the proteolysis, can be more effectively carried on in the intestines; all this belongs to a territory which has been well explored and needs no further consideration. The disinfecting action of the gastric juice, although it has been considerably exaggerated, is nevertheless of some protective value. My experience teaches that those persons who have no secretion of gastric juice are more liable to diseases of the stomach and intestines, or, as Lubarsch puts it: "Those who have lost it have one weapon less in the struggle for existence." The resorptive function of the stomach has been very carefully studied by von Mering, Moritz, as well as by Penzold, Faber, Julius Miller, Zweifel,[2] Herschel, and the writer; and nothing new has been added to our knowledge of it by the Schlatter operation. So we feel justified in concluding that the advance gained by the first successful œsophago-enterostomy is limited to the perfection and simplification of surgical technique.

The ingenuity and the diagnostic and surgical ability displayed in this celebrated case cannot but command universal admiration; but we believe its importance has been exaggerated by the lay press, and also by the medical journals, which, like the operator and author himself, are not aware of the fact that it is not the first operation of its kind that has been performed. This error we must also charge to Drs. A. C. Bernays and Hugo Summa, of St. Louis, Mo.[3]

The main object of this communication is to call attention to the fact that the first total ablation or extirpation of the human stomach was executed in America, long before Dr. Schlatter's operation or that by Dr. Bernays in this country.[4] It was executed by Dr. Connor, of Cincinnati, and is reported in the *Centralblatt für Chirurgie*, 1885, p. 549; and 1886, p. 566. It is also referred to by Haberkant in the *Archiv für klinische Chirurgie*, Bd. li., Heft 3, entitled "Ueber die bis jetzt erzielten unmittelbaren und weiteren Erfolge der verschiedenen Operationen am Magen." Connor's operation, it is true, was not a success; he attempted to unite the œsophagus with the duodenum, without attempting an œsophago-enterostomy in the manner that was later on successfully carried out by Schlatter. The patient was a female, fifty years old, and died very soon after the operation.

The patient operated on by Dr. Bernays lived thirty-six hours. The operation of Connor met with severe condemnation at the time, and Haberkant calls it "Eine tollkühne Operation."

It seems that the priority of an operation can be claimed by the surgeon if he was the first one who executed it; the remote results and duration of life after the operation do not come into consideration in this connection. It would be more advantageous to the integrity of American surgery if the remote results were accepted as a test of the success and value of an operation only, and claims to the priority of an operation not made unless the results show that surgical science has benefited by the new procedure. The end object of all science, surgical or medical, is not the development of abstract methods and technique, but to relieve and to cure. It is evident, therefore, on the evidence given from German surgical journals, that the first total extirpation of the human stomach was executed by Connor, of Cincinnati.

Schlatter's operation was performed on September 6, 1897. Assuming that the patient is still living at the present time, she will have survived for six months after the operation. The duration of life after œsophago-enterostomy should in the average be as favorable as after pyloric resection, because the latter is really an equally serious operation. Schlatter does not state how long his operation required, but he remarks that the œsophageal and duodenal clamps when removed had remained in position for "over two hours."[5] Dr. Bernays' operation, which was not an exact imitation of Schlatter's, but rather a repetition of Connor's operation, attempting a union between the pylorus or duodenum and œsophagus, had taken two hours and six minutes. As regards the duration of life after resection of the pylorus, some information can be gained from the following table:

DURATION OF LIFE AFTER RESECTION IN FIFTY-ONE CASES OF CARCINOMA OF THE PYLORUS (Haberkant).

Death.	Number of Cases	Cause of Death.	Living at Date of this Report.	Number of Cases	
After 1½ mos.	1	Return of cancer.	After 2 mos.	1	
" 2 "	3	One of metastasis in the liver.	" 3 "	1	
			" 3½ "	1	
" 2½ "	1	Acute lung disease, no return and no metastasis.	" 4 "	1	
			" 6 "	1	
			" 7½ "	1	
" 4 "	2	Return.	" 8 "	1	
" 5 "	2	One of lobular pneumonia, one of chronic pyemia.	" 9 "	1	
			" 1 yr.	2	
			" 1 yr. and 2 mos.	1	
" 6 "	2	One of return, one of cicatricial stenosis.	After 1½ yrs.	1	
" 6½ "	1	Return.	" 2 "	2	
" 7 "	2		" 2 " and 2 mos.	2	
" 8 "	1	Return.	After 2½ yrs.	1	
" 10 "	1	Return.	" almost 3 yrs.	1	
" 11½ "	1	Rectal and pelvic carcinoma.	After 3½ yrs.	1	
" 1 yr.	3	In two return.	" 5 yrs. and 4 mos.	1	Kocher.
" 13 mos...	2	Return.	Over 8 yrs.....	1	Ratimmow.
" 1¼ yrs.	1	Return.			
" 2½ "	1				
" 3 "	1	Cicatricial stenosis.			
" 5¼ "	1	Not stated (Billroth).	Total.....	21	
Total.....	26				

It will be seen from this table that patients subjected to pyloric resection, from whom considerable portions of the stomach were removed, lived from one to five years, and one patient of Ratimmow lived over eight years and was still alive at the date of Haberkant's report.

The merits of Schlatter's case are, however, already

[1] See Hemmeter, *l. c.*, p. 743.

[2] Zeitschrift für Biologie, Bd. 16, p. 497, 1881.

[3] See Journal of the American Medical Association, February 12, 1898, p. 341: "The History and Diagnosis of a Case of Carcinoma of the Stomach and the First Operation of Excision of the Stomach in America."

[4] J. C. Hemmeter, *l. c.*, p. 336, on the "Surgical Treatment of Gastric Diseases."

[5] MEDICAL RECORD, *l. c.*, p. 911.

clearly established; they will improve with every day that the patient lives, but the extraordinary credit of this operation cannot be reduced, even if the case should end at the present moment.

In the *Journal of the American Medical Association* (vol. xxx., No. 10) for March 5, 1898, Dr. J. M. Bayley reports a complete excision of the stomach performed by him on September 29, 1893, for what proved to be a gastric sarcoma involving all but a small portion of the stomach and the mesentery throughout the abdomen. The patient lived only thirty-six hours.

In the New York Medical Record for March 12, 1898, page 380, there is a brief notice, gleaned from the lay press of San Francisco, that a surgeon of that city made a complete excision of the stomach on February 25, 1898, in a female patient suffering from cancer. It is a fortunate thing for the American record of such cases that the patient was reported still alive with normal pulse and temperature thirty-six hours after the operation.

A complete gastrectomy has been performed in Chicago; I have not as yet been able to find it recorded in the medical press, but the patient did not live for thirty-six hours after the operation.

This fatality after complete gastrectomy in this country should bring the aspirants for surgical fame to their senses, and call a halt to further endeavors to imitate Schlatter.

The consummate experience of the cleverest operators and surgical philosophers points unmistakably to the conclusion that in malignant disease of the stomach gastro-enterostomy gives the best results obtainable whenever there are secondary metastases or adhesions. My personal experience confirms this deduction. It is not necessary to give predigested foods, as the intestine is capable of digesting a sufficient amount of food to maintain the nitrogen equilibrium, and in a number of my cases in which I advised my surgical friends to execute a gastro-enterostomy the patients even gained in weight. A case like Schlatter's will probably not occur once in a thousand presented for operation. There were a number of very important factors governing the result of the operation, on which he took his chances. In fact, the patient has as yet not lived long enough to disprove the possible existence of minute metastases, impossible to discover even after laparotomy.

Heart Complications in Diphtheria. — Dr. C. M. Hibbard (*Boston Medical and Surgical Journal*, Nos. 4 and 5, 1898) draws the following conclusions: 1. A rapid pulse rate in diphtheria is to be dreaded. Death usually results when it exceeds 150. 2. A slow pulse —60 in young children—is a sign often of serious heart trouble. 3. Irregularities in the pulse occur in about ten per cent. of the diphtheria cases, and are generally significant of cardiac complications. 4. A systolic murmur at the apex is heard in about one case in ten, and its prognostic value depends upon the nature of the cause. 5. A *bruit de galop* in diphtheria is a most fatal sign. 6. After four weeks, with no heart symptoms in diphtheria, there is little probability of subsequent cardiac trouble in the convalescence. 7. All diphtheria patients who have tachycardia, bradycardia, irregular or weak pulse, a systolic murmur at the apex, vomiting, or any paralysis—especially palatal—should be kept quiet in bed. 8. The most important element in the treatment consists in absolute rest in bed. 9. The vagus nerve in the fatal cases always had some evidence of degenerative changes. The weight of the heart was increased. 10. The cause of death is usually from cardiac thrombi, dilatation, or paralysis, produced most probably by the toxin of the diphtheria bacillus.

Clinical Department.

PUNCTURED WOUND OF THE THORAX, INVOLVING THE PERICARDIUM AND HEART. DEATH SIX DAYS AFTER INJURY. NECROPSY.

By J. C. HILL, M.D.,

ROCKLAND, ME.

Annunziato Nicola, Italian, aged twenty-three, was stabbed in a quarrel July 2, 1893, by a fellow-workman. When first seen by the surgeon, Dr. J. M. Wakefield, eleven hours after the injury, he was bleeding at every inspiration, blood spurting out of the thoracic wound. The pulse was regular, at 90 a minute. He was weak from hemorrhage; the clothing was saturated with blood. A large pool of blood was on the ground by his side, where he had lain all night. He was able to walk on the day following his injury fifty feet or more; he walked a short distance after the injury, as was evident from his distance from the scene of the affray when found. Four days after the injury he was transported a distance of twelve miles in an

ordinary vehicle, and was admitted to the United States Marine Hospital at Rockland, Me.

The victim was confined to his bed a part of the time, but got up occasionally and walked more or less about the ward. The night previous to his demise he was apparently in good health, as was stated to the coroner by the physician in charge. He died suddenly on the morning of the 8th of July.

The following is the record of the autopsy, made six hours after death. Height, five feet seven inches; weight, one hundred and forty-five pounds; rigor mortis present.

Externally.—Wound No. 1. Incised flesh wound through the superficial tissues in the left iliac region, one and one-half inches above the anterior superior spine of the ilium, two inches long; closed by suture.

Wound No. 2. Incised flesh wound through the superficial tissues in the axillary region over the sixth rib, two and one-half inches long; closed by suture.

Wound No. 3. Incised wound in the posterior part of the axillary region, one and one-half inches long, penetrating into the thoracic cavity downward and forward.

Wound No. 4. Incised flesh wound through the muscular tissue in the posterior part of the axillary

region between the sixth and seventh ribs, one and one-half inches long; suppurating slightly.

Wound No. 5. Incised wound over the external angle of the scapula, three-fourths of an inch long, penetrating upward and outward about three inches toward the acromion process.

Wound No. 6. Incised flesh wound, three-fourths of an inch long, one and one-half inches above the left patella.

Wound No. 7. Small puncture over the left trochanter through the skin.

There was an old cicatrix over the dorsal surface of the left foot, three-fourths of an inch long. There were vaccination scars upon either arm.

Internally.—Head: Dura mater normal. The brain was of ordinary size; the external appearance

was normal. The pia mater was easily detached. The tissue was of normal consistence, but somewhat anæmic.

The thoracic cavity contained about three pints of fluid, mostly blood.

Lungs: Right, normal; left, contracted and contained tuberculous nodules. There was an apparent wound downward and forward on the anterior surface of the lower lobe, cutting the pleura and grazing the lung. There was passive congestion of the whole lobe. The fourth rib was slivered along the lower edge at the point of the penetrating wound. A small incised wound was found in the diaphragm very near the median line; non-penetrating.

Heart: Size, four by five inches; enlarged. There were evidences of old pericarditis in some adhesion of the pericardium. There was a penetrating wound through the pericardium into the left ventricle of the heart; no injury to the valves.

Liver: Weight, about five pounds; external appearance normal: on section, evidences of fatty infiltration.

Kidneys: Normal.

The accompanying illustrations show the situation and direction of the wound of the heart.

Anthrax spores have their virulence little, if at all, impaired by drying. Hides infected with the anthrax bacillus are not safe even after soaking in brine or in milk of lime, after undergoing the shaving process before tanning, or after six weeks' treatment in the tanning process.—Griglio, *l' Uffiziale Sanit. e di Chir. Vet.*

Progress of Medical Science.

Local Anæsthesia. — Honigman (*Centralblatt für Chirurgie*, No. 51, 1897) claims that, excellent as is the Schleich infiltration method of anæsthesia, it is in many cases, such as felons and other affections of the fingers and tendons, impracticable. In such cases he strongly recommends the following method of Oberst: The extremity, having been rendered anæmic by elevation, is tightly constricted with an elastic band above the operative field. A quarter to half an hypodermatic needleful of a one-per-cent. cocaine solution is then injected close to the point of constriction and toward the distal end. By this means the anæsthesia is a complete one and remains so as long as the circulation is cut off.

Chronic Vaginal Gonorrhœa.—In a very thorough article, Dr. Bodenstein ("On the Existence and Therapy of Chronic Vaginal Gonorrhœa," *Deutsche medicinische Wochenschrift*, 1897, No. 42) states that primary gonorrhœa of the urethra in women is rare; the primary infection is usually localized in the posterior vaginal vault, the urethra being secondarily infected by the discharge. As a means of microscopically proving hidden cases of gonorrhœa, Bodenstein advises thorough tamponade of the vagina, in both the anterior and posterior fornices, with cotton dipped in a ten-per-cent. ichthyol-glycerin solution. Through the dilatation thus effected and by the hygroscopic properties of the glycerin, the gonococci—which the writer believes are situated in the subepithelial connective tissue—are brought to the surface, and hence may be examined. If in this manner the diagnosis of gonorrhœal infection is made, the ulcerated and at times bleeding spots are touched with a two, five, or ten per cent. argentic-nitrate solution. Strong bleeding may be stopped by tamponade. The most favorable time for this treatment is either shortly before or shortly after menstruation. Cases complicated by subacute inflammation of the adnexa are first to be treated with ichthyol tampons. Bodenstein is of the opinion that the ordinary vaginal irrigation, as practised, cleanses but slightly the posterior vaginal wall. Hence he advises that air be allowed to enter the vagina during irrigation, and more thorough cleansing will result.

The Diazo Reaction in the Urine of the Nursing Child.—Dr. Umikow (*Wratsch*, Nos. 39 and 40, 1897), as the result of many and painstaking examinations, concludes as follows: "The diazo reaction is never found in the urine of the healthy nursing infant. High fever has no effect upon the occurrence of this reaction. The reaction was never found in the urine of infants suffering from acute or chronic catarrhal pneumonia, diphtheria, chicken-pox, otitis media, rhinitis, facial eczema, inflammation of the lymphatic glands, inflammation of the umbilicus, hereditary syphilis, laryngitis, bronchitis, pleuritis, acute catarrh of the small and large intestines, or in erythema caused by the injection of diphtheritic antitoxin. On the other hand, the diazo reaction was always present in erysipelas and measles; the more severe the illness, the more marked was the reaction. In these last-named diseases, as the patients become better the reaction becomes less marked; if these cases go on to a fatal termination, the reaction remains marked till death. In measles the reaction is sometimes found even in the prodromal stage. One or two days before death the diazo reaction is always present in children with any disease: this fact may hence be of prognostic importance."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE COMMUNICABILITY OF ANIMAL DISEASE TO MAN.

THE fact that many diseases are under certain circumstances communicable from animals to man has now been for some time firmly established. Recent researches have tended further to elucidate the matter, although more conclusive evidence than has as yet been furnished will be required before the premises of some of the investigators will be accepted as finally solving all the doubtful points. The claim advanced by Koch of having established the unity of the tubercle bacillus in all animals has not met with universal credence. Other prominent scientific men hold views at variance with this contention. It has, however, been clearly shown that, given favoring conditions, the flesh of tuberculous cattle is contagious, and that the flesh of tuberculous swine is generally infective, owing to the greater susceptibility of the hog to general tuberculosis. But, putting on one side the probable danger resulting to man from the consumption of flesh infected with the tubercle bacilli, or from drinking the milk of a tuberculous cow, there still remain other bacterial diseases as well as various parasitic complaints which can be communicated by animals to the human being. With the exception of trichinosis and hydatid disease, the majority of these parasitic troubles are not especially dangerous to human life; nevertheless, they are one and all decidedly prejudicial to health, and it is in a high degree desirable that effective means should be taken to prevent their spread. The bureau of animal industry of the United States department of agriculture has just issued a bulletin on the inspection of meat for animal parasites, compiled by Ch. Wardell Stiles, Ph.D., in which the whole subject is treated exhaustively from both a theoretical and practical standpoint. The author states that "this report is primarily intended for the use of meat inspectors, as it is important that they should be well informed in regard to facts relating to the flukes and tapeworms which they are likely to find in the abattoirs and slaughter houses. A knowledge of these worms will enable inspectors to prevent the spread of their tapeworm stage among human beings by condemning the infested meat or subjecting it to processes which will render it harmless. The more important parasites in respect to diseases in man are those of beef measles, pork measles, and hydatids. Hydatid disease is at present comparatively rare in this country, and now is the time to attack it. By proper precautions at the abattoirs and slaughter houses this dangerous parasite can be totally eradicated from the country. If these precautions are not carried out, it will only be a question of time when this country will take its place with Germany and Australia in regard to the number of lives sacrificed to a disease which has not yet gained much ground with us and can now be easily controlled." The preventive measures recommended by Dr. Stiles have already been referred to in a number of the MEDICAL RECORD of a late date. The paragraphs, however, in connection with the disposition of condemned meats are worthy of notice. Three methods in particular are proposed: (1) utilization as a fertilizer; (2) rendering the meats harmless by cold storage, cooking, or preserving, and then placing them on the market; (3) selling the meats under declaration of their character. Of these methods the first, and the most radical one, will commend itself to the judgment of those interested in the health of the people at large. It has the advantage of being an absolutely safe method for the disposition of condemned meat, as there is no parasitic disease known which will withstand the degree of heat used at the large abattoirs in the preparation of fertilizers. In the other two methods the elements of chance enter too largely; probably cold storage if prolonged for a sufficient length of time will effectively answer the purpose, but, on the other hand, if not properly carried out, and particularly with the disease known as pork measles, the parasites of which live for a month or more, there will always be the possibility of spreading infection. These remarks apply with equal force to cooking and salting as a means of destroying certain parasites. As to selling infected meats under declaration, although the custom prevails in certain parts of Europe, it is contrary to all the laws of health and should never be allowed to gain a foothold in this country. In all cases, when meat is condemned by an expert inspector as infected with the parasites of trichinosis or hydatids, it should be subjected to the fertilizer process, and when this method is not available should be consumed by fire. If these diseases are to be stamped out, half-and-half measures will not suffice; they must be eradicated root and branch. Doubtless the few will suffer in pocket, but it will be for the lasting good of the many.

Carter and Horsley.—Mr. Brudenell Carter and Mr. Victor Horsley have been indulging lately in a lively exchange of epithets in the English medical journals, *à propos* of "medical reform," but seemingly neither has paused to consider the advisability of personal reform. The letters which these two individuals have been writing to each other in the columns of the medical press are so full of what the under dog in the fight calls "foul abuse" that legal steps have been threatened by Mr. Horsley to seal his opponent's mouth, or, rather, inkstand.

INFLUENCE OF THE PROFESSOR IN THE STRUGGLES OF THE PRACTITIONER.

In looking about for somebody or something to blame for the hard times, the unprecedented healthiness of the community, the falling off in practice, collections, and everything pertaining to existence except the expenses, the eye of the doctor has not seemed to fall upon the professor. Of course every one knows that there are professors and professors. Some are innocent. Some have had their greatness thrust upon them, and shrink from public gaze. These are for the most part those who actually profess without professing too much to profess. Their names are not seen in the lists of heavy contributors to hospitals and medical schools, nor are they put down as owners of shares in the corporations whose chairs they occupy. They do not feel so puffed up by their titles and so secure in their positions that they can ignore the rights of their fellows, and, indeed, their very nature would not permit them to assume that antagonistic relation to the men in the ranks which is held by others whose constant acts express the sentiment, "The medical public be d—d." They are the men who favor a decrease in dispensary and hospital abuses of charity, and a cessation of miscarriage of the benevolent intentions of dead philanthropists. These men are never heard to say: "I must have patients for my clinics, no matter from what walks they are drawn and no matter what little doctor around the corner whose rent is due is hurt by it."

It is the professor who professes such sentiments as the above who is responsible in a great measure for the "little doctors" who go wrong. After he has paid his fees for four years, helping to support these men and their institutions of learning, the doctor feels that he should be permitted to earn enough to pay his rent, and when he finds his efforts antagonized it is not so surprising that he falls a victim to the alluring fees to be had for intervening to keep down the population. There would be fewer "legitimate" abortionists, fewer "regularly graduated" advertising quacks, fewer disreputable doctors, if professors did their full duty and stood for the profession instead of standing for themselves.

And still it all comes back to the old story of the fault being in the ranks. The doctors could regulate the matter if they would. The professor has to depend upon the men for consultations; his sentiments are known, or can be readily ascertained, and if he finds support of the rank and file withdrawn he must of necessity reform. In self-defence the practitioner should carefully consider the question: "Is the consultant to whom I send my cases for us or against us?"

There is another kind of "professor" who should not be tolerated. He comes from abroad and sends out his cards: "Professor So-and-So, Graduate of Paris or Berlin. Electrical Treatment and Massage." He is willing to take cases sent by a doctor, or will treat any one who applies directly. Though not a medical man, he practises medicine, and we permit him to do so. Every patient he secures is at the expense of some legally qualified practitioner, who has a right to expect protection from this sort of competition. Still medical men will, out of the kindness of their hearts or unthinkingly, support these men who call themselves professors and lose no opportunity to build up paying practices for themselves, independent of the support of the medical profession.

PHYSICAL TRAINING IN PUBLIC SCHOOLS.

The care of the body has been, up to comparatively recent years, strangely neglected in the public schools of this country. It has been considered a quite sufficient educational training for the young to cram and overload their brains with a quantity of matter difficult to digest, and in too many instances even when assimilated of little use in after-life. Numbers of delicate, highly strung children have broken down under the strain, and the dreary daily grind of the monotonous cramming system, undergone in unhealthy surroundings, has developed many of the nervous diseases to which the present generation is so peculiarly susceptible. What does knowledge profit a man, if in the gaining of it he loses the still more precious gift of good health? The nations of the old world, notably Greece and Rome, understood and appreciated much more clearly than do the people of these times the harmfulness of unduly forcing the mind to the lasting hurt of the body. The gymnasiums of ancient Greece probably reached, in their methods of training the young, a higher ideal than have any of the educational systems now in vogue. In the face of this condition of affairs, it is pleasing to note that the people of America are rapidly becoming alive to the pernicious effects of developing the mind at the expense of the body. The more rational mode of educating the young would appear to be that of so training the body and mind that both advance as far as possible at an equal rate. Thus if a child is of weak constitution but possessed of unusual mental capacity, it should be the aim of his teacher to strengthen his physical powers, and until that object is accomplished to let the mind take care of itself; on the other hand, if the reverse is the case, to adopt contrary methods. The individuals should be studied separately, and children should not be lumped together in a body and put through the same course without regard to their different temperaments, dispositions, and constitutions. It is now about ten years since German gymnastics were introduced into public schools of this country; since then physical training has held a place in the curriculum of almost all the large cities of the East. The report of the director of physical training in public schools of Washington has lately been published. According to this report the beneficial results of systematic daily exercise have been marked; but, as the writer of the paper truly remarks: "It is impossible to test the full measure of success or failure of our efforts. It is in the remote future, with school days long past, that the lasting influence of such work will be felt by the individual child." However, one thing seems certain, viz., that the introduction of physical training into the public schools of America is a step in the right direc-

tion, and if intelligently carried out should result in producing a stronger race mentally and physically. The fact should not be forgotten, though, that physical training may be abused. Gymnastics should not be permitted to take the place of play, but rather the two should go hand in hand.

BABY INCUBATORS IN ENGLAND.

Incubators for weakly or prematurely born infants have been introduced into England for rather more than a year, but, over and above the reputation already gained for them by their demonstrated usefulness in preserving infant life, they have also become a quite popular adjunct of an up-to-date show. At Earl's Court, Kensington, an exhibition of incubators was first held on a large scale, and so attractive did they prove as a spectacle that many other places of public entertainment have followed suit and have utilized the idea as a means of turning an honest penny. One of the most popular of the "side shows" at Barnum and Bailey's show at the Olympia is the baby-incubating department.

The principle of incubation dates from very far back. The ancient Egyptians, who certainly used the method for rearing sickly birds, are believed to have been accustomed to apply the system to feeble children. However, in the case of infants, incubating fell into disuse, and it was not until about sixty years ago that Dr. Credé, of the University of Leipsic, invented an incubator of the modern type. He constructed a sort of box with double metallic sides; the space between these walls could be filled with hot water, so as to maintain the desired temperature within the box. In 1878 Dr. Tarnier, when visiting the artificial "couveuses" installed by M. Odile Martin at the Jardin d'Acclimatation in Paris for the rearing of poultry, thought that he might make use of a similar apparatus in the case of prematurely born children. M. Odile Martin was requested to construct a "couveuse" sufficiently ventilated and large enough to hold one or two infants. These were accordingly made, and are said to have fulfilled their purpose in a satisfactory manner. Further improvements have been recently effected, and the incubators at present being exhibited in England are far more elaborate contrivances than their German and French prototypes, and are thus described in *The Lancet* of a few months ago: "The incubator works automatically; both ventilation and heat are maintained without any fluctuations whatsoever, not only for hours, but even for days. It need not be touched for these purposes, and the only attendance necessary is that needed for feeding and washing the infant. The heating is produced by hot water, which circulates in copper piping placed at the bottom of the incubator under the cradle or hammock. This pipe is fed by a water boiler, which stands outside the incubator and may be heated by an oil lamp, by gas, or by electricity. The temperature is automatically maintained at the required heat by a specially constructed thermostat. . . . Thus, whatever changes may occur outside the incubator, the temperature within regulates itself. The ventilation is also automatic. The incubator is made of glass and metal, and therefore can be easily washed and disinfected. It can be readily carried about and used in hospitals and private houses. As yet, owing to their great cost, they are available only for the rich. In London and other large centres incubator stations will be established. In response to a message or telegram, incubators will be dispatched immediately wherever required."

While fully recognizing their merits as a means of preserving the lives of feeble infants, *The Lancet*, in a late number, passes severe strictures on the custom now prevalent in London of making a commercial speculation of incubators, and says, in reference to their exhibition at Barnum and Bailey's show: "What connection is there between the serious matter of saving human life, and the bearded woman, the dog-faced man, the elephants, the performing horses, and pigs, and the clowns, and acrobats that constitute the chief attraction to Olympia?"

News of the Week.

A Physician Arrested for Alleged Carelessness.—A physician of this city was arrested last Saturday on a charge of manslaughter in the second degree, in causing the death of a six-weeks'-old child by the administration of a mixture containing salol and paregoric, and one containing resorcin. The child died on April 13, 1897, and the mother, brooding over her loss, became finally so firmly convinced that the physician's negligence was responsible for its death that she has since then collected evidence which was finally submitted some weeks ago to the district attorney. The gentleman who has met with this misfortune is well known to many of the profession in this city as an able and careful physician, and we trust, and doubt not, that he can fully establish his innocence of any culpability in the matter.

Naval Surgeons Wanted.—In consequence of the humiliating treatment to which assistant surgeons are subjected on entering the service, the navy finds itself short of surgeons at a critical time. The surgeon-general has therefore recommended that authority be granted immediately for enlisting acting assistant surgeons for ships to be placed in service and on auxiliary cruisers that may be impressed by the government. There are already eighteen vacancies in the lower grade of the medical corps, and in the event of war the medical department would be seriously crippled. Even now there are not sufficient medical officers of the lower grades to meet the requirements of the navy, and the surgeon-general recommends that the obnoxious regulations which have rendered the service so unpopular be removed and at the same time that he be authorized to enlist any number of acting assistant surgeons deemed necessary.

The Health Board.—In New York paternalism runs rampant, and the health office, in its desire to be paternal, manufactures serum for the rich and for the poor, the only difference being that the rich pay for

it. We doubt very much if the health authorities have any more right to produce antitoxin than to manufacture quinine. Would anybody tolerate a board of charities that would start a shoe factory and furnish shoes free to the poor and at cost to the rich?—*The National Medical Review.*

The New York Hospital Medical Library.—By direction of the board of governors, the library of the New York Hospital has been closed and the books have been transferred to the New York Academy of Medicine. It is reported that an attempt will be made, when the new public library is opened, to incorporate with it the library of the Academy of Medicine, all the books and journals in the latter being transferred to the new library building. Were such a move made we venture to predict that the falling off in membership in the academy would astonish the leaders in that scientific organization.

National Quarantine.—It has always seemed to us that government control of coast quarantine is the only feasible and truly efficacious means by which complete protection from invasion of foreign-born epidemic disease is to be obtained, and the logical hands into which quarantine control should be placed are those of the Marine Hospital service, most of whose officers are already well trained in sanitary medicine, and which service has the means and could obtain the authority for the thorough enforcement of international quarantine laws.—*Memphis Medical Monthly.*

Obituary Note.—Dr. William P. Morrissy, of Brooklyn, died at his home in that borough, on March 13th. He was born in Canada, fifty-two years ago, and was a graduate of the University Medical College in this city in 1869. He was for many years a police surgeon in Brooklyn.

The Atlantic County (N. J.) Medical Society.—The following officers were elected at the annual meeting of this society: *President*, Dr. W. Blair Stewart, Atlantic City; *Vice-President*, Dr. H. C. James, May's Landing; *Secretary and Treasurer*, Dr. Walter Reynolds, Atlantic City; *Reporter*, Dr. W. E. Darnall, Atlantic City; *Permanent Delegate to State Society*, Dr. Theophilus Boysen, Egg Harbor City.

The Kings County (Washington) Medical Society.—At the annual meeting of the Kings County (Washington) Medical Society, held in Seattle on January 17th, the following officers were elected for the ensuing year: *President*, Dr. Clarence A. Smith; *Vice-President*, Dr. David A. Mitchell; *Secretary*, Dr. William L. Ludlow; *Treasurer*, Dr. William A. Shannon. The regular meetings of the society are held on the third Monday evenings of each month.

The Mortality Statistics of Philadelphia.—According to the mortality statistics of the Philadelphia board of health, the death rate of that city for 1897 was the lowest for the past thirteen years, being 18.72 per 1,000, based on a population of 1,214,256. Of the deaths, pneumonia leads (as it did in 1896) with 2,723; tuberculosis comes next, with 2,388; diphtheria, 1,474; typhoid fever, 401; and scarlet fever, 282.

Florida Medical Association.—The annual meeting of this society will be held at Jacksonville on April 26, 1898. The president of the association is Dr. R. B. Burroughs, the secretary Dr. J. D. Fernandez.

The Atlantic City (N. J.) Academy of Medicine.—At the annual meeting of this society, held February 14, 1898, the following were elected officers: *President*, Dr. William Pollard; *Vice-President*, Dr. W. B. Stewart; *Secretary*, Dr. E. C. Chew; *Corresponding Secretary*, Dr. William Edgar Darnall.

Johns Hopkins Hospital.—The plans for a new medical building at the Johns Hopkins Hospital have been completed. This will give place for the removal of the physiological and chemical laboratories from the university to the hospital grounds. One floor of the new building will be devoted to pharmacology.

Trained Nurses' Educational Exhibit.—There will be a trained nurses' educational exhibit at the International Health Exposition, to be held next May in this city. The latest medical and surgical appliances will be shown, in contrast with the obsolete instruments of the past; there will be a model operating-room, an ideal nursery, a babies' ward and hospital playroom for convalescent children, orthopædic and ophthalmic rooms, diet kitchen, and a model suite of living-rooms for nurses. The methods of district nursing and first aid to the injured will be illustrated. The department of military hygiene will be specially interesting, showing ancient and modern ambulances and hospital field tents, as formerly and as now arranged. Among the institutions represented will be the training-schools connected with the New York, Presbyterian, Bellevue, St. Luke's, and Mount Sinai hospitals; together with their alumnæ associations, the Post-Graduate School, and the Nurses' Settlement. It is expected that the large training-schools in other cities in this country and abroad will also be represented. Miss Mary E. Wadley, of the Bellevue School, is manager of the nurses' exhibit.

Health Appointments in Baltimore.—The mayor of Baltimore has appointed Dr. C. Hampson Jones as health commissioner in the place of Dr. James F. McShane, and Dr. G. Lane Taneyhill as quarantine physician in the place of Dr. Sydney O. Heiskell. Dr. McShane is a great loss to the health department, having been connected with it for twenty years.

Medico-Surgical Officers.—At the annual meeting of the New York Medico-Surgical Society, held March 7, 1898, the following officers were elected for the ensuing year: *President*, Dr. J. Blake White; *Vice-President*, Dr. William H. Porter; *Secretary*, Dr. Augustus E. Bieser; *Treasurer*, Dr. Frank Van Fleet; *Member of Executive Committee*, Dr. Edward J. Bermingham.

Typhoid Fever is raging epidemically in Budapest, and the Hungarian minister of the interior has appointed a commission to investigate the condition of the water supply and to study into the cause of the present outbreak.

The Association of American Anatomists.—The annual meeting of this association was held at Ithaca, N. Y., on December 28, 29, and 30, 1897, at which time the following officers were elected for the ensuing term: Dr. B. G. Wilder, Ithaca, N. Y., *President;* Dr. George A. Piersol, Philadelphia, *First Vice-President;* Dr. William Keiller, Galveston, Tex., *Second Vice-President;* Dr. D. S. Lamb, Washington, D. C., *Secretary and Treasurer.* Dr. F. J. Brockway, of New York City, was chosen as delegate, and Dr. R. W. Shufeldt, of Washington, as alternate to the executive committee of the Congress of American Physicians and Surgeons; Dr. F. J. Shepherd, of Montreal, Canada, was elected a member of the executive committee of the association, in place of Dr. Huntington, term expired. The following anatomists of the old world were elected honorary members: Dr. Mathias Duval, Paris; Dr. Carl Gegenbaur, Heidelberg; Dr. Wilhelm His, Leipzig ; Dr. Albert von Kölliker, Würzburg; Dr. Alexander Macalister, Cambridge; Dr. L. Ranvier, Paris. It is understood that the next meeting will be held in New York City, in the Christmas holidays, in conjunction with the Society of Naturalists and other affiliated societies.

Ready for Service.—The graduating class of the medical department of Baltimore University, numbering more than one hundred young physicians and surgeons, has passed resolutions offering the service of all the members to the government in case of war with Spain.

"O Brazil Medico," our esteemed contemporary of Rio de Janeiro, edited by Dr. A. A. de Azevedo Sodré, celebrates in its issue of January 1st the completion of its eleventh year. This journal has well merited its success, for its contributors are the leaders in the Brazilian profession and their articles are most valuable additions to the literature of tropical pathology.

Vital Statistics of Philadelphia.—For the week ending February 26th there was a decrease of 15 in the number of new cases of typhoid fever over the same period for last week. While there was a decrease in the number of new cases, there also was an increase of 4 deaths, making a total of 21 deaths for the week. The total number of deaths was 468, pneumonia again leading with 65 deaths against 65 for the previous week. The principal causes of death were: Apoplexy, 23; nephritis, 24; casualties, 12; tuberculosis, 51; diphtheria, 17; heart disease, 36; inflammation of brain, 11; inflammation of bronchi, 12; inflammation of stomach and bowels, 16; measles, 17; old age, 17; paralysis, 12. There was a decrease of 86 over the same period of last year.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending March 12, 1898. Surgeon L. B. Baldwin detached from the *Puritan*, March 17th, and ordered home with two months' leave. Surgeon J. D. Gatewood detached from duty at the Naval Museum of Hygiene, Washington, D. C., March 15th, and ordered to the *Puritan*, March 17th. Assistant Surgeon C. D. Kindleberger detached from the *Olympia*, and ordered home with two months' leave. Surgeon N. H. Drake detached from duty with the *Minneapolis* and *Columbia* and ordered to the *Minneapolis*, March 15th. Surgeon C. G. Herndon ordered to the *Columbia*, March 15th.

The Cuvier Prize of the Academy of Sciences, Paris, 1,500 francs in value, has been awarded to Professor Marsh, of Yale University. This prize is awarded every three years for the most noteworthy work published during that period on geology or zoölogy.

Decrease of Typhoid Fever in Philadelphia.—The severe epidemic of typhoid fever which has existed in Philadelphia for the past two months shows some signs of abatement, there having been 156 new cases with 17 deaths during the week, as against 185 new cases and 21 deaths for the previous week.

Dr. R. Harvey Reed, who recently removed from Columbus, Ohio, to Rock Springs, Wyo., has been appointed surgeon-general of the national guard of Wyoming, with the rank of colonel.

A New International Quarterly.—The *Illustrirte Rundschau*, edited by Dr. Gustav Beck and published by Wyss, of Berne, has just appeared. It is modelled after the *Monatschrift der ärztlichen Polytechnik*, but is rather more pretentious. A fair proportion of illustrations of new appliances in the first number is taken from American literature.

Obituary.

SIR RICHARD QUAIN, BART.,

LONDON.

Sir Richard Quain, M.D., F.R.C.P. Lond., F.R.C.P. I., died in London on March 13th, after a long illness. He was born in Mallow, Ireland, in October, 1816, and began professional life as clerk to an apothecary in Limerick. He afterward went to London to study, and obtained the degree of M.D. from University College in 1842. He served as house surgeon and later as house physician in the University College Hospital, and shortly after graduation was made a fellow of the college. In 1851 he was chosen a fellow of the Royal College of Physicians, and in 1860 was appointed a member of the senate of the university. In 1887, the year the British Medical Association held its annual meeting in Dublin, he was made honorary M.D. by the Royal University of Ireland and also honorary fellow of the Royal College of Physicians in Ireland, and in 1890 received the honorary M.D. degree from the University of Dublin. He was for a long time chairman of the pharmacopœia committee and consequently had much to do with the publication of the last two editions of the British Pharmacopœia. For many years he was physician to the Hospital for Diseases of the Chest at Brompton, and had also been for a long period physician to the Queen. He was the author of many medical writings and was editor of "A Dictionary of Medicine," the first edition of which was published in 1882. It was chiefly as editor of this work that he became known to most of the profession in this country.

Reviews and Notices.

THE DIAGNOSTIC VALUE OF ABNORMAL REACTIONS OF MUSCLES AND NERVES (Bulletin Officiel de la Société Française d'Électrothérapie). By PROF. E. DOUMER, Lille, France.

THE author maintains that the muscular fibre cannot be excited with the electric current alone, save in very exceptional cases. In the majority of cases, the muscular reactions obtained by the application of the electric current at the motor points are due chiefly to an excitation of the terminal filaments of the motor nerves. The term exploration of the muscles, so often employed in electro-diagnostics, is therefore entirely improper.

The author then proceeds to study how excitation of the nerve produces contraction of the muscle, and he shows that the stimulus is transformed into nerve waves at the point of application and thus acts on the muscle.

After having established that most abnormal reactions heretofore described (reaction of degeneration, of compression, of contracture, myotonic reaction) are in reality complicated electrical phenomena consisting of more or less numerous elementary reactions, he proceeds to study the latter, and arrives at the following very important conclusions:

1. Diminished faradic irritability, which he proposes to designate as the reaction of Duchenne, may depend on an alteration of the reacting organ (the muscle) as well as of the excited organ (the nerve); it always points to a lesion in the neuro-muscular system situated below or at the level of the point of excitation.

2. Diminished galvanic irritability justifies the same conclusions, *i.e.*, it likewise points to a lesion in the neuro-muscular system situated below or, more frequently, at the level of the point of excitation.

3. Among the qualitative changes of the galvanic reactions the author studies more especially those variations for which he proposes the term reaction of Erb. He shows that this reaction of Erb always corresponds to a more or less profound lesion of the peripheral motor neurons at the point of excitation. It is entirely independent of lesions situated above or below that point.

4. The other abnormal elementary reactions are too little known yet to serve as a basis for clinical indications.

5. It is necessary to adopt such methods of exploration in electro-diagnostics as allow us to recognize exactly the distinctive character of the excitation and the seat of the lesion.

The writer believes that the elements necessary for the institution of such methods could be found in the remarkable work of Professor d'Arsonval.

TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Compiled by LAVINIA L. DOCK. Third Edition, Revised and Enlarged. G. P. Putnam's Sons. 1897.

THIS little book is designed to teach materia medica from the nurse's standpoint. The outlines followed are those usually pursued in our training-schools for nurses. It is neatly printed and clearly written.

A QUIZ MANUAL OF HISTOLOGY, GENERAL AND DENTAL. By CHARLES B. REED, M.D., and FREDERICK B. NOYES. Chicago: The W. T. Keener Company. 1897.

A SERIES of questions and answers designed for the use of students and beginners in medicine and dentistry has been arranged. The book contains about two hundred pages.

PSILOSIS OR "SPRUE": ITS NATURE AND TREATMENT. With Observations on Various Forms of Diarrhœa acquired in the Tropics. By GEORGE THIN, M.D. Second and Enlarged Edition. London: J. and A. Churchill. Philadelphia: P. Blackiston, Son & Co.

TO a physician practising in the South, or to a physician having to meet rare diseases of the tropics, this will prove a very serviceable work. In it the author presents an excellent monograph on the disease, giving its history, geographical distribution, symptoms, pathology, and methods of treatment. The opinions of other writers are carefully considered, and the work as a whole forms a very complete study of the subject. The book is well illustrated.

SPINAL CARIES: SPONDYLITIS, OR POTT'S DISEASE OF THE SPINAL COLUMN. By NOBLE SMITH, F.R.C.S. Second Edition. London: Smith, Elder & Co. 1897.

WHOEVER wishes to learn something concerning the above disease should read this concise book. The chapter on obscure cases and the one on laminectomy are extremely interesting.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION FOR THE YEAR 1897. Volume XIII. Philadelphia. 1897.

THIS volume contains in detail all the papers read by the various authors and the discussions thereon. The association may well feel proud of the contents of this volume, for the subjects are of a high scientific standing.

THE PERITONEUM. By BYRON ROBINSON, B.S., M.D., Author of "Practical Intestinal Surgery," "Landmarks in Gynæcology," and Life-Sized Chart of the Sympathetic Nervous System. Chicago: C. V. Waite & Co. 1897.

THE present volume contains a full and exhaustive description of the physiology and histology of the peritoneum. We are somewhat at a loss to account for the *raison d'être* of such a large book, four hundred pages, on a subject which could have been treated more succinctly and with greater definiteness in much less space, and which would have saved the practising surgeon much time if it were more concise.

For the research student, however, there are many facts which will be of interest. The wealth of matter in the bibliographical index will be a valuable aid to the specialist, as practically everything bearing on the peritoneum is mentioned.

A MANUAL OF PATHOLOGY. Including Bacteriology, the Technic of Post-Mortems and Methods of Pathological Research. By W. M. LATE CORLIN, Professor of Pathology and Bacteriology in Jefferson Medical College, Pathologist to Jefferson Medical College Hospital, and to the Philadelphia (Blockly) Hospital, Bacteriologist to the Pennsylvania State Board of Health. Being a Second Edition of the author's "Lectures in Pathology," Rewritten and Enlarged, with 268 Illustrations. Philadelphia: P. Blakiston, Son & Co. 1897.

THERE is a large number of practising physicians who, for one reason or another, have never enjoyed the privileges of a laboratory course in technical microscopy. To those who are desirous of obtaining the rudiments of such work and to students of medicine this volume is to be commended. A great many facts are here presented in a clear, concise manner, and from a practical point of view. The many illustrations aid materially in the interpretation of the text, although some are too small to be characteristic. The questions at the end of each chapter will probably be of service to the students who attend Professor Coplin's lectures, but to the outside reader they form a detraction rather than a desirable feature.

ATLAS OF CLINICAL MEDICINE. In Three Volumes. By BYROM BRAMWELL, M.D., F.R.C.P. Ed., F.R.S. Ed., Assistant Physician to the Royal Infirmary, Edinburgh. Quarto, three volumes. T. A. Constable & Co. 1897.

THIS work was commenced six years ago, having been issued in parts at stated intervals, and now appears in its complete form, comprising three quarto volumes, elegantly illustrated. As the different fasciculi appeared, we took occasion to comment upon their respective excellences, both as to the admirable descriptive style of the text and the accuracy, truthfulness, and high artistic merit of the illustrations. Regarding the latter, various forms of art have been called into requisition, as photogravure, chromo-lithography, tinted crayon, and simple black and white, demonstrating what can be done in the several lines of work in the way of accomplished perfection in the accurate delineation of complex diseased conditions. The letterpress, which is arranged in double columns, contains a detailed clinical account of the grouped diseases, with minute descriptions of the plates and drawings, thus bringing in a strikingly realistic way the patient and reader in direct contact with each other. Thus, in a thoroughly practical way, the student has a leading, characteristic, or rare case constantly before him for refer-

ence, comparison, and study, which could not be obtained more effectively by any other means.

The selection of the subjects is eminently judicious, and especially appeals to the needs of the advanced student whose purpose is to obtain broader views and more facts concerning many of the recent investigations which have made their impress upon the progressive clinical methods of the period. In fact, the work as a whole is one of the most important ones which have recently appeared in the adaptation of a means to the end of acquiring a liberal medical education in comparatively new fields of study.

The better way, however, to appreciate the purpose, scope, and practical utility of this admirable work is to enumerate in a cursory way the topics that are more or less exhaustively treated in the three large double-columned quartos which complete the series:

Volume I. contains chapters on myxœdema, sporadic cretinism, Friedreich's ataxia, Addison's disease, melanotic sarcoma, Hodgkin's disease, unilateral atrophy of the face, chronic progressive bulbar paralysis, paralysis of the tongue and lips, ophthalmoplegia, molluscum fibrosum, xeroderma pigmentosum, small-pox, globulinuria, chronic insanity, and hilarious insanity.

Volume II. discusses scrofula, unilateral hypertrophy of the skull, measles, Friedreich's ataxia, with knee jerks retained, and with main-en-Griffe; clinical significance of alterations of visual fields, such as hemianopsia, bilateral, partial, permanent, and temporary, and contraction of the field of vision due to lead poisoning; syphilis, Asiatic cholera, anticholeraic inoculation, exophthalmic goitre, acromegaly, general exfoliative epidemic dermatitis, and unilateral hypertrophy of the face.

Volume III. contains communications on the thyroid treatment of skin diseases, poliomyelitis anterior acuta, remarkable cases of cancer of the breasts, spleen, and other organs, congenital syphilis, progressive muscular atrophy, progressive muscular dystrophies, clinical points in cases of pseudo-hypertrophic paralysis, and other forms of progressive muscular dystrophy, cyanosis and congenital heart disease, calcareous degeneration of the heart and other organs, chlorosis, pernicious anæmia, and alopecia areata.

In a word, then, the talented and painstaking author has amply fulfilled his promise in giving to his readers an illustrated treatise on clinical and systematic medicine. It deserves the recognition of every medical scholar who has a wide mental horizon and who wishes to keep well in touch with modern medical thought.

Clinical Methods. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., Demonstrator in Physiology, London Hospital Medical College, and Harry Rainy, M.A., F.R.C.P. Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. Philadelphia: Lea Brothers & Co. 1897.

This is an excellent small manual for the technical investigation of disease, of service both to the student and to the busy practitioner. The different chapters embrace the entire category of observable regions and discuss the general methods of examination clearly and concisely. But few interpretations are given, the how rather than the why being the motto of the book.

The chapters on the urine, the blood, and the nervous system, especially the last, are to be commended in particular. The work is well written, and is worthy a place by the side of Vierordt's, Hare's, Von Jacksch's, and Semon's well-known volumes covering much the same fields.

Surgical Pathology and its Principles. By J. Jackson Clarke, M.B. Lond., F.R.C.S., Assistant Surgeon at the North West London and City Orthopædic Hospitals; Late Senior Demonstrator of Anatomy; Demonstrator of Bacteriology, and Curator of the Museum in St. Mary's Hospital Medical School, and Pathologist to St. Mary's Hospital. London, New York, Bombay: Longmans, Green & Co. 1897.

In the present volume the author considers the word pathology in its broadest sense, and treats of the pathological histology and pathological anatomy of most of the diseases of the body for the relief of which operative surgery is usually employed.

This method of interpretation forbids a full treatment, and therefore the different chapters present, in many cases at least, hardly more than an outline of the conditions. The work is an excellent one for students, but is not so complete along its own lines as are many of our American text-books on surgery.

The Psychical Correlation of Religious Emotion and Sexual Desire. By James Weir, Jr., M.D. Louisville, Ky. 1897.

This collection of essays touches lightly upon a very interesting subject, and one that has received much attention from students, viz., the forms of nervous diseases in which religious and sexual manias are allied. The author gives a short historical epitome of certain religions in which phallus worship was prominent, and has collected in a readable form a few of the data given by Spencer and others. He discusses various modern forms of degeneration that are of the same eroto-religious type as were those which passed for some forms of Oriental worship or sanctity in the middle ages. It is an entertaining little book which in no way taxes the mind of the medical man wearied in his endeavors to keep pace with the scientific literature on this subject.

The Trained Nurses' Directory. Compiled and Edited by M. Louise Longeway. Published annually in November.

This will be found a useful and convenient handbook for physicians, containing as it does a very desirable list of carefully selected names.

Vade Mecum of Ophthalmological Therapeutics. By Dr. Landolt and Dr. Gygax. Philadelphia: J. B. Lippincott Company. 1898.

For so small a book many subjects are touched upon (three hundred and twenty-six), some more useful and more practical than others—thus, No. 315, "trional," with its dose, without indication as to what eye affection it is to be employed in. There are too many unnecessary cross-references; the space could have been better utilized. The value might have readily been increased by going more fully into some of the important topics and using smaller type for headings to keep within bounds of space.

Manual of Mental Science. By J. A. Fowler.

This most interesting volume is from the pen of J. A. Fowler, of phrenological fame. Its purpose is a free use in the schoolroom to impress on the mind of the child that he has bumps of localized genius, varying from three to seven, whose exact nature can be diagnosed only by the authoress or one of her persuasion.

A gentle didactic method is used in the first chapters to familiarize the children with the lobes, fissures, and nerves of the brain. For instance, the imaginary Harry steps promptly to the board and writes down all the convolutions, including the gyrus fornicatus, the hippocampal and paracentral lobules, in a manner that might well put to shame any graduate of medicine of a year's standing; while Alfred locates the pons Varolii, the crura cerebri, and the interpeduncular space with an ease that would be envied by a candidate for an M.D. degree.

The lesson on temperaments impresses the fact that the Jew has one of a bilious nature, the German is sanguine-vital but slow, and the American has a mental-motive tendency. But the major part of the book is occupied in pointing out to children the locality of their regions of alimentiveness, combativeness, and philoprogenitiveness, etc. To aid in this, there is a number of illustrations taken from the gallery of a children's photographer, such as are commonly used to advertise the merits of some infant food, but which are here carefully selected to illustrate certain marked traits of character. For instance, a beautiful infant of nine months bears on his hairless crown a small star that indicates a large development of conscientiousness. A similar mark on the curls of a three-year-old who illustrates "sublimity" indicates a large development of the brain that will make him an orator. A cherubic infant, destitute of clothes, shows decided "eventuality;" another in a bewitching bonnet wears a patch over her eyebrow, that marks her perception of time in music. The text that amplifies these desirable qualities abounds in forceful anecdote. George is largely endowed with "benevolence," and chops the wood for his

widowed mother. "Alimentive" Lucy, who stole some grapes, confesses: "Mother, I am the disobedient child, for I did not resist temptation; but they do not taste at all nice now." In short, this handbook is an admirable illustration of the "science" of phrenology, which, as the authoress defines it, is a complete system of mental or moral philosophy.

PARACENTESIS OF THE PERICARDIUM AND ITS ANATOMICAL PRINCIPLES (RUSSIAN). By A. R. VOÏNICH-SÏANOJENTSKIÏ. With 88 Illustrations in the Text. St. Petersburg: S. P. Iakovlev. 1897.

THIS is a most exhaustive monograph on paracentesis pericardii, including a report of a comparatively large number of cases in which the operation was performed to meet various indications. The bibliography is very complete, comprising one hundred and seventy-five references to English and American, Russian, German, and French literature.

AN EPITOME OF THE HISTORY OF MEDICINE. By ROSWELL PARK, A.M., M.D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Illustrated with Portraits and other Engravings. New York, Philadelphia, and Chicago: The F. A. Davis Company. 1897.

THE history of the science and art of healing should be a subject of absorbing interest to every practitioner of medicine, for it is the history of the age-long strife of truth and error which is to end, we may surely hope, in the gradual triumph over ignorance and superstition. Unfortunately, however, this fascinating study has been beyond the possibility of the average practitioner, since the works on medical history are usually ponderous tomes written by prosy bookworms. Dr. Park has changed this, and has given us a book of moderate size, written in pleasing style, and one which can be depended upon as an accurate sketch of the progress of medicine from the dim past of Æsculapius to the bright present of Lister. Some theologians may take issue with certain portions of the book in which the author complains of the unhappy influence exerted by conservative and bigoted churchmen on medical progress, but no one who believes that there can be no real conflict between true science and true religion will find anything to wound in Dr. Park's statements or comments.

A PRACTICAL TREATISE ON SEXUAL DISORDERS OF THE MALE AND FEMALE. By ROBERT W. TAYLOR, A.M., M.D. New York and Philadelphia: Lea Bros. & Co. 1897.

THE learned author, in this his most recent work, has given us the fruits of his long and varied experience. The anatomy of the sexual organs and the characters of different secretions are given in full detail. Impotence and its functional and organic causes are studied in the most thorough manner. Sterility claims full attention, and after that masturbation, spermatorrhœa, varicocele, and sexual perversion are duly considered. Next comes the subject of sterility in the female, and after that follow several chapters devoted to new growths and other diseases of the female genitals. The entire work is handsomely illustrated, special attention being given to the microscopical appearances of the different lesions.

THE PIONEERS OF HOMŒOPATHY. Compiled by THOMAS LINDSLEY BRADFORD, Author of "Homœopathic Bibliography of the United States," etc., Librarian at Hahnemann Medical College of Philadelphia. Philadelphia: Boericke & Tafel. 1897.

PART I. of this volume of six hundred and seventy-five pages is devoted to the story of the "provers who assisted Hahnemann," Part II. to the pioneer practitioners of homœopathy. An alphabetic table of contents precedes the opening chapters. There is no index.

The biographic part starts off with Adam. After reading the first few lines of this prover of natural products one discovers that not he but a Russian who lived some time later and devoted himself to provings of vegetable charcoal rather than of apples, was the original member of this family. The next candidates for historic recognition, Abner, Anton, and Boehr, have a chapter devoted to them that reads like that well-known one upon the snakes in Ireland. It says: "No data has been obtained regarding these provers." This is almost the shortest chapter in the book, but by no means on that account the best.

Much information of interest has been collected by the author. After Becher is disposed of by quoting Hering to the effect that he "went to parts unknown," we come to Caspari, who, in an attempt to follow the advice of Saint Paul and "prove all things," seems to have got only as far as carbo vegetabilis before he took his departure to realms equally ill defined. As Hahnemann did not seem to have held the gentleman in very high esteem, it is to be presumed that the least said about his destination the better. He left behind him a long list of writings, including a "handbook for the newly married." For any one interested in looking up the men who practised homœopathy prior to 1835 this compilation will be of decided aid, as it is intended to embrace all who in every land had at an early period embraced the faith.

A HANDBOOK OF THERAPEUTICS. By SYDNEY RINGER, M.D., F.R.S., Holme Professor of Clinical Medicine, University College, Physician to University College Hospital; and HARRINGTON SAINSBURY, M.D., F.R.C.P., Physician to the Royal Free Hospital and the City of London Hospital for Diseases of the Chest, Victoria Park. Thirteenth Edition. New York: William Wood and Company. 1897.

THE mere announcement of a new edition of this classic is sufficient for the general run of readers whose guide in the art of healing Dr. Ringer has been for so many years. But a long interval has elapsed since the publication of the twelfth edition, and a new generation has grown up to whom this work may not be so familiar as it ought to be. To them we can only offer our felicitations that they too have the opportunity to turn to Ringer's "Therapeutics" for help in the management of puzzling and refractory cases of disease. The work, as most of us know, is, before all, practical, dealing with the clinical indications and contraindications for the employment of the different remedies rather than primarily with the physiological action of drugs. Much that is new has come up since the twelfth edition was published, and the revisers have added several sections in order to treat of this new matter, which comprises orrhotherapy, the new digestive ferments, the Schott treatment of heart disease, etc. A wise conservatism has, however, marked the work of revision, and no mention is made of many of the new drugs of unknown properties whose only recommendation to professional favor is the assurance of the manufacturing chemist that they will cure anything from hallux valgus to loss of memory. We predict for this latest and therefore best of the many editions of "Ringer" a popular reception equal to if not greater than that given any of its predecessors.

A SYSTEM OF MEDICINE. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Gaius College. Vol. V. New York: The Macmillan Company. 1897.

THIS fifth volume of Allbutt's "System" treats of diseases of the liver, pancreas, kidneys, lymphatic and ductless glands, and of the nose, pharynx, and larynx, and of obesity. Among the contributors are Drs. Hale, White, Mayo Robson, Dickinson, R. H. Fitz, George R. Murray, Sir Dyce Duckworth, Sir F. Semon, and others whose names are less familiar in this country. The articles are all well written and show fewer marks of the extreme condensation which has marred some of the contributions to the earlier volumes. This is no doubt due to the conviction, which the editor tells us in the preface has forced itself upon him, that it will be impossible to compress the system in five volumes, or in six, including the one on gynæcology, the interjection of which caused such confusion in the numbering of the subsequent volumes of the series. We are glad of this determination of the editor to increase the size of the work rather than to compress injuriously the individual articles. Such well-written and well-constructed articles as are most of this series ought not to be mutilated ruthlessly in order to squeeze them within the pasteboard covers of a single volume. The subscribers to the work would, we are sure, feel amply compensated for the increased expense of the work by the increased value of the separate articles.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 28, 1898.

ARTHUR M. JACOBUS, M.D., PRESIDENT.

Rheumatic Cardiac Diseases and Treatment.—DR. HENRY N. HEINEMAN read a paper with this title. He said that degeneration of the coronary vessels might exist without arterial change elsewhere in the body. In gouty subjects especially all symptoms referable to the heart, whether functional or otherwise, should receive early and careful investigation. In individuals of this class there could be no doubt that the regulation of the diet and proper hygiene were absolutely essential. Meat should be taken in moderation, and, as a rule, liquors should be forbidden. The use of diluted whiskey should be permitted only in times of fatigue, and then only in very minute doses. Some patients, who had long been accustomed to indulgence in wine, did well if allowed a small quantity of claret with meals. The excessive use of liquids at any time should be avoided. The most common cause of cardiac disease was chronic rheumatic endocarditis. Of course, nearly all forms of endocarditis were bacterial in origin. In most cases the mitral or aortic valves assumed a funnel shape, the apex of the funnel pointing toward the heart. At times, the chordæ tendineæ entirely disappeared. What had long been described as "vegetations" on the edges of the valves had been shown by careful miscroscopical examination to be the degenerated remains of the valves themselves. By treating the acute attack of articular rheumatism with large doses of salicylic acid, the valvular complications seemed to have been largely prevented. A fact which had been recognized more than half a century ago, but had been strangely neglected, was that nothing was worse for the welfare of a heart muscle which had once become degenerated than sloth, prolonged sleep, and physical inertia. Twenty-five years ago it was the belief of many that the springs abroad were of value in heart disease chiefly because of the absence of the patient from home and business cares, and also because of the influence of "suggestion." The condition of mind brought out by suggestion exerted the same effect on other diseases than cardiac, and in the same degree, but it was more quickly noticeable in cardiac cases.

Baths.—The famous resort at Bad Nauheim was favorably and pleasantly situated, and had two springs, respectively six hundred and eight hundred metres below the surface. The former threw a jet of water one foot in diameter to a height of fifty feet. Sodium, potassium, and magnesium salts with calcium chloride constituted the principal ingredients, but perhaps the most important ingredient was the free carbonic-acid gas. These were natural thermal waters. They were utilized in the following ways: (1) They were received into reservoirs and were then supplied to the baths at a temperature of from 80° to 94° F.; (2) the waters were received in closed reservoirs; (3) they flowed through iron conduits directly into the bath tub, thus supplying the maximum of heat and carbonic-acid gas; and (4) they flowed into the tub directly, but flowed out again from the openings in the upper part of the tub. When effervescent baths were prepared artificially by chemical means, the gas escaped too rapidly and was of very uncertain quantity. It was well to begin with a bath of four minutes' duration, and gradually increase it to ten minutes. The bath for a woman should be, generally speaking, slightly warmer than for a man, and emaciated persons should receive warmer baths than those who were well nourished. Cold sponge baths were absolutely harmful in cardiac cases, and no patient who had had attacks of angina should be permitted to use them, no matter how long accustomed to them. In the beginning of a course of treatment with these baths, the temperature should be from 32° to 35° C., and it should not be allowed to go lower than two or three degrees below this during the whole course of the treatment. An absolute rule was that a bath the temperature of which was uncomfortable to the patient was one which would fail of its purpose. The baths were best administered in the forenoon, and no exhausting work or walking should precede them. Careful notes should be made, and preserved, of the effects of the baths on the pulse and respirations, and care should be taken to waft away the carbonic-acid gas, which had a tendency to accumulate. The patient avoided inhaling it by turning the head in the opposite direction. The bather should rest for one hour after the bath, partaking meanwhile of some very light and nourishing food.

Exercise.—Massage should be applied in the form of gentle stroking with the flat of the hand. This stimulated the return venous circulation, and equalized its distribution throughout the body. In the later stages it might be applied in the ordinary and more vigorous form. Heart massage, suggested by Oertel, was useful in convalescent cases, and especially when compensation began to fail. It consisted of making compression over the cardiac area during systole of the heart and relaxing it during diastole. For walking, the patient should be clad in warm flannels, and women should wear no stays or corsets. The patient was to be directed to take deep and regular respirations. The walk should be gradually lengthened from a few steps to a walk of five minutes, or possibly even ten or fifteen minutes, provided always it caused no dyspnœa. Hillside climbing might be imitated by going up stairs. No form of exercise out doors subjected the patient to greater danger than hillside climbing, and consequently it should be carried out under direct medical supervision. Treatment by gymnastics consisted in making slight passive movements of the limbs only until the patient was out of bed; then the trunk might be moved, with varying degrees of resistance. No movement should be repeated. The patient's respirations should be deep and regular, and all movements should be performed without jerking. In persons of large physique and flabby muscle these movements might produce enough strain to produce intermittence of the heart action, which was more noticeable in some cases with the movements of the left arm. The Zander movements were characterized by mechanical means under medical supervision.

In conclusion, the speaker said that the baths produced their action (1) by imbibition, some of the salts being absorbed, but more especially by the carbonic acid which reached the nerve-endings and by reflex action influenced the heart; and (2) by the warmth of the baths. In a considerable number of the cases, changes in the size and shape of the heart would be found to take place, the heart becoming firmer and smaller. This had been determined beyond doubt by careful observation. The bath made the pulse fuller and slower. If the pulse became quickened, it should be taken as an indication that the bath had been unduly prolonged. Carbonic-acid gas when inhaled produced a quickening and a hardness of the pulse, which was very different from the effect of these baths.

Recent Improvements in the Treatment of Chronic Heart Disease by Exercises and Carbonated Brine Baths.—DR. T. E. SATTERTHWAITE, in a paper on this subject, stated that he used the resistance movements almost exclusively, the patient making movements

which were resisted by the physician. There was always an intermission after each movement. The hand which resisted grasped the limb with only sufficient force to accomplish the resistance. The patient was instructed to breathe naturally. The movements themselves were flexion, extension, abduction, adduction, and rotation of the neck or limbs or trunk. At first the changes were not very marked. He usually began by simple flexion and extension.

The Special Exercises.—The more important of the exercises were described and demonstrated as follows:

No. 1. The hand of the patient is grasped by the physician with one of his hands, and flexion and extension of the wrists are made.

No. 2. Flexion is made at the elbow, the patient flexing the forearm, the operator resisting, and the arm being returned gently by the patient to the original position.

No. 3. With the forearm flexed, the operator makes resistance while the patient endeavors to straighten the forearm.

No. 4. The patient holds the two wrists parallel, and then they are separated gradually until the arms are stretched out to their fullest extent laterally. The arms are not returned to their original position, because this produces an unpleasant sense of constriction in the chest.

No. 5. The patient, being seated, swings the arm around slowly in a complete circle, the operator resisting.

No. 6. The patient stands with the arms pendent and close to the side. The operator grasps both wrists and makes resistance while the patient raises his arms laterally, and then upward to the full extent above the head. Here again the arms are returned without resistance, to avoid the unpleasant effect on the pectoral muscles.

No. 7. The operator, standing behind the patient, makes resistance while the patient carries the arms outward and upward until they are brought parallel to each other above the head. The return movement is made with slight resistance.

No. 8. The operator stands behind the patient, and makes resistance while the patient, with one foot placed in advance of the other, raises both arms forward.

No. 9. The patient stands against the wall, with one foot seven or eight inches in advance of the body. The operator makes resistance while the patient bends the body forward at an angle of about 45°.

No. 10. The operator twists the patient around a vertical axis, and then the patient untwists himself.

No. 11. The operator makes resistance while the patient endeavors to twist himself around a vertical axis in the direction opposite to that of the preceding exercise.

No. 12. This consists in lateral flexion of the body, assisted by the operator, and then resistance is made by the operator while the patient restores the body to the vertical position. Lateral flexion is then made in the opposite direction.

No. 13. With the patient's leg resting on the operator's knee, the latter makes flexion and extension of the ankle.

No. 14. Flexion and extension are made at the knee with proper resistance.

No. 15. Flexion and extension of the thigh on the trunk are made.

No. 16. This consists in making abduction and adduction of the lower extremities.

A moderate amount of exercise in the open air daily should, whenever possible, be a part of the treatment.

Duration and Temperature.—In the treatment of heart disease by baths, the speaker said, their duration should vary from four to twenty minutes. Their temperature should not exceed 95° F., and should rarely go below 85° or 90° F. At first the baths should be given every other day, but the interval should be progressively increased. The course lasted four or five weeks. The speaker said that there was nothing distinctive about the waters of Nauheim, and the means for artificial baths possessing the same advantages could now be easily obtained in very convenient tablets and powders.

The Treatment Not of Universal Application.—Dr. William H. Thomson said that he would not like the impression to go abroad that heart disease should be subjected in a routine way to baths and exercise, irrespective of the particular lesion and of the individual to be treated. Of course, nothing that had been said by the preceding speakers should be considered as applicable to any case of acute endocarditis. In his opinion, percussion of the heart, as ordinarily performed, gave no information of absolute scientific value. It should never be done with the patient in the prone position, but always when the person was sitting up and leaning forward. Without such precautions percussion was wholly valueless. At the outset treatment must be governed largely by whether the trouble was in the pulmonary or in the systemic circle. If in the pulmonary circle, the treatment of the bronchitis and emphysema would give better results than all sorts of baths and exercises. In a primary endocarditis the valves were everything; in a secondary endocarditis they were almost nothing, the main thing being the condition of the heart wall. He had no question about the benefit to be derived from these baths, provided they were used in properly selected cases. This improvement was due to the peripheral irritation produced. He fully believed that a permanent dilatation of the cutaneous arterioles took place as a result of the baths.

No More Specialists Wanted.—He was afraid that many would gain the impression that these exercises and movements were so complicated that it would be necessary to send patients with cardiac disease to "heart specialists," and he desired, therefore, to protest most earnestly and emphatically against the creation of any more specialists. These movements were not intricate, and could be readily carried out. If after such exercise it was found that the patient's pulse improved and that the respirations became deeper, one could be sure that the treatment was in the right direction.

Dr. W. H. McEnroe took exception to the statement made about salicylic acid preventing the occurrence of rheumatic endocarditis. After the urine had been made decidedly alkaline by the old alkaline treatment, then the salicylates could be used with benefit.

Useful in Other Diseased Conditions.—Dr. J. C. Minor said that if it were once understood that this method offered all the advantages of digitalis and strychnine without any of their limitations; that it had all the advantages of bleeding, without the loss of blood; and that it possessed, to a marked degree, the power to stimulate functional activity generally—it would be readily accepted as a method having a firm and rational basis. We must assign to the saline ingredients of the baths a reflex action through the terminal nerves of the skin—the theory advanced by Dr. Theodore Schott. That the nerve centres were powerfully influenced seemed to be proved by the marked trophic changes observed after such a course of treatment. The improvement progressed sometimes for months after discontinuance of the treatment. The carbonic acid of the baths acted directly upon the vascular system, and so afforded relief to an overdistended and laboring heart. The treatment would also be found useful in other conditions. It had seemed to

him a rational one for exophthalmic goitre, and a case of this kind now under the treatment had responded in an encouraging manner. In using these baths he ordinarily began with an effervescent bath, adding five pounds of chloride of sodium to fifty gallons of water.

Baths Act More Quickly than Exercises.—Dr. Reeves said it had been claimed that the Nauheim treatment was applicable in all cases of chronic heart disease, except those in which there was advanced arterial sclerosis, kidney disease, or acute pulmonary congestion. From observations at Nauheim he was convinced that such was the case. Marked chronic congestion of internal organs should be first relieved as far as possible. When these were not excessive, good results were obtained at Nauheim. The treatment was applied there, with success, in both aortic regurgitation and mitral disease. He had also seen very striking results in cases of cardiac degeneration —fatty or sclerotic heart. Our climate was not well adapted to this treatment; hence he was disposed to omit the baths from December to March. He shared the opinion of many others, that the baths produced quicker results than the exercises, and that the best results were seen from the exercises when the patients were well on the road to convalescence. It was very important to use a bathtub very much larger than those generally in use in dwelling houses. At Nauheim the tubs were large enough to allow of the immersion of the patient up to the neck.

No Peculiar Virtues in these Baths and Exercises.—Dr. Beverley Robinson said that he was sceptical about there being anything especially beneficial in these particular baths; equally remarkable results would be claimed by the physicians at the sulphur baths in the south of France. He was disposed to make a similar criticism about the exercises. In his opinion, it was time to protest most emphatically against attaching too much importance to any learned disquisitions on the very small features of a very large part of the daily practice in medicine.

Digitalis Made Available in Advanced Cases.—Dr. Heineman, in closing the discussion, said that a long series of experiments had been made years ago with saline and other baths of varying strengths, and it had been demonstrated beyond question that the results were different with different strengths of saline solution. The paper that he had just presented was based on much careful observation at Nauheim, extending over ten summers. It was only too well known that a time would come when digitalis would fail to do good. It would be found that after a course of these baths the digitalis would display all its old-time virtue. It was true that observers differed regarding the best method of percussing the heart, but for purposes of comparison it was necessary only to see that the same method was adopted in each instance. A number of *x*-ray photographs were then exhibited as conclusive proof of the statement that had been made regarding the diminution in the size of the heart observed in many cases receiving treatment at Nauheim.

Dr. Satterthwaite said that the series of gymnastic exercises described by him was simplicity itself, and it was for this reason that they had been particularized. Such exercises could be increased or diminished as required in the individual case, and they had the advantage of being safe. He wished to disavow most emphatically any desire to pose as a "heart specialist." His object in presenting the paper was, on the contrary, to show how much could be accomplished in chronic heart disease by any medical practitioner. It was the treatment *par excellence* for heart failure, especially after the ordinary medical treatment had failed.

Report of Special Committee on the Health Board.—Dr. H. G. Piffard, on behalf of this committee, reported that it had submitted to the legislature a brief, in which the main reasons for the passage of the health-board bill had been stated. As there had apparently been a good deal of misunderstanding regarding the purpose and provisions of this bill, the greater portion of this brief was read. He said that before its introduction into the legislature, the Brush bill had been indorsed by the two new commissioners of health. The chief objections made to it were: (1) that if it should pass, the health department would be unable to continue its laboratory work, as this was supported by the profits derived from the sale of the products of the laboratory; and (2) that its power to cope with tuberculosis would be seriously curtailed. The committee, however, was of the opinion that the private sale of the products of the laboratory was unwise and liable to serious abuse, and that the necessary means for laboratory work could be provided, as the public was in hearty sympathy with it. The omission of pulmonary tuberculosis from the list of contagious diseases to be reported hinged upon the question as to the advisability of including tuberculosis in a permanent enactment, as distinguished from a temporary enactment. The committee had now decided that it was wiser to withdraw all amendments to this section, leaving the charter as it stood before. The ultimate solution would be left to the wisdom and discretion of the municipal assembly of Greater New York.

Formal Indorsement of the Bill.—Dr. E. H. Grandin then moved that this bill receive the formal indorsement of the society. The motion was carried unanimously.

Dispensary Bill.—Dr. J. H. Burtenshaw stated that the dispensary bill was still in the committee on public health of the senate and assembly. In order to hasten its passage, the following resolutions were offered by him and adopted by the society:

"*Resolved*, That the Medical Society of the County of New York reaffirms its indorsement of the bill to amend the State charities law, regulating the licensing and regulation of dispensaries by the State board of charities, now before the legislature of the State, and that it urges the immediate passage of the bill in its present form; and

"*Resolved*, That this resolution be signed by the president and secretary of this society, and that copies be forwarded to the lieutenant-governor, the speaker of the assembly, and the chairman of the senate and assembly committees on public health."

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, February 15, 1898.

Dr. Louis Faugères Bishop, Chairman.

The Feminine Element in General Practice.—Dr. Eugene Coleman Savidge read a paper with this title (see page 405).

Dr. W. H. Draper said that there seemed a bit of opprobrium in the term "feminine element," and that he rather preferred to think of women in another relation than that suggested by the paper. He had had recalled by the paper some other transfers from medicine to surgery. He could remember the time when pleurisy with effusion, empyema, and pericarditis were treated by the physician. They were now surgical diseases. He thought the time would come when physicians would perform these operations themselves. He thought that most practitioners were conscious of a "feminine element," and modified their attitude accordingly; nevertheless he was not inclined to think he would treat scarlet fever or typhoid fever in a wo-

man any differently than in the case of a man; but he agreed with the writer of the paper that the genital organs of women when diseased would modify the general organism, and that the general practitioner was the sanitarian, and should have sufficient knowledge of these diseases to warn against their approach.

Dr. W. H. Thomson said that the subject had been ably presented, but it was large enough to reach around the earth. Limiting himself to a few points in regard to the feminine element, he would emphasize the fact that there were certain diseases that fell upon women a great deal more frequently than upon men; for example, membranous colitis, which was found six times as often in women as in men; and, again, hysteria, of which there were eighteen female cases to two male cases. There was also Graves' disease, which was essentially a female trouble, for he did not believe at all that it was because of any difference between the thyroid gland of the male and the female. He thought that if one could get at the reason why these troubles attacked the female more frequently than the male, he would get a clew to the feminine element. Dr. Thomson cited a case in which there had been sudden suppression of menstruation and urine, intestinal paralysis followed by stercoraceous vomiting, and a copious increase in activity of the salivary and lacrymal glands, the secretions of which when tested yielded crystals of nitrate of urea; in other words, the chronicity of the visceral functions had been arrested by pelvic irritation—by a cold during menstruation—and the poor girl had been literally turned upside down.

There was another point mentioned by Dr. Savidge which he wished to second heartily, and that was the modification entailed upon women by civilization, and the bearing of muscular power upon general and local conditions. Every cell in the body respired as well as the lungs; oxygen was necessary for all; but one tissue required more oxygen than any of the rest, not even excepting the nervous system, and that was the muscular tissue. And by muscular tissue he did not mean the skeleton muscles, but the rhythmic muscles lining the tubular canals of the body. Indoor life had so enfeebled the muscular powers of woman that she fell readily under the woes mentioned by Dr. Savidge. Among nomadic races, for example, he had himself seen an Arab woman carrying a bundle of sticks upon her head give birth to her child, deliver herself of her placenta, place the child with the sticks upon her head, and resume her journey. He believed that if we could collect a number of these women and let Dr. Savidge circulate among them, that gentleman would find very few of the long list of troubles he had enumerated in his paper; and the reason for the immunity was the outdoor life and consequent muscular power.

Dr. E. B. Cragin said that he supposed he was expected to say a word on the gynæcological side of the question. Inclination or opportunity had impelled men to take up separate lines of work. Some were surgeons and found themselves limited to surgery, and sometimes with regret realized that they were losing their former medical skill, when they were listening daily to chests. Others were medical men, with the limitations of medical men. He deprecated a too narrow specialism which would see everything through a speculum. There were a great many troubles which might be cured medically, which were nevertheless attacked surgically for the reason that it was shorter and more permanent in result; for example, curetting for an endometritis instead of the more uncertain treatment by ergot and hydrastis. He thought that Dr. Savidge bore quite evenly upon the gynæcologist and general practitioner. He had shown that the gynæcologist was as apt to overlook the medical side as was the medical man to neglect the local condition. He wanted to emphasize one point raised by the paper, and that was the importance of attention during the puerperium. By this he did not mean simply asepsis or care at the time of delivery, but during the subsequent period, when malpositions, subinvolution, lacerations, etc., could be easily corrected and many women saved from the gynæcologist. He thought that Dr. Savidge had presented a paper of great value.

Dr. Mary Putnam Jacobi expressed her interest in the paper, and likewise deprecated a too narrow specialism. She thought it a misfortune that because a practitioner was known to be skilled in a certain line the conclusion must therefore be drawn that all patients coming to him were necessarily afflicted with troubles in that branch of medicine. She wished to call attention to two details in the paper. One was that atmospheric pressure would affect the veins between the broad ligaments. Lowered atmospheric pressure would allow an increase in blood pressure in the superficial veins, but would deplete instead of engorging the viscera. The other detail was Dr. Savidge's statement that retrodeviation would cause a congestion of the uterus "like a string around the finger." She had heard Dr. T. Gaillard Thomas say the same thing twenty years before; but in the light of later literature it was now known that this uterine congestion was not caused by constriction, but by the difference in the curvature between the arteries and veins. Dr. Jacobi agreed with the author that fatigue and general debility and congestion very often affected the local organs. In some of these cases, however, she deprecated local treatment, as for example an engorged uterus, which was merely an expression of a congestion of the liver.

Dr. Charles L. Dana said that, speaking from his own individual experience, he was inclined to doubt the efficacy of local treatments in nervous disorders. He had always been conscientious in having local examination made when he suspected serious local disorder; but in some cases he thought it would do positive harm to have even so much as an examination made. He had seen at his office many cases that had been through gynæcological treatment, and had come to the neurologist as the last resort. In some cases the local examination would call a young woman's mind to her local condition and set her to speculating as to the location and condition of her ovaries and womb, and give her a trend of thought apt to remain a long time. He had even seen harm done to the nervous system by the minor procedures such as curetting. Perhaps he should not make a broad generalization from his own experience, but at least he had never seen a case in which true epilepsy had been caused by any pelvic condition or cured by any pelvic attention.

Dr. Savidge, in closing, said that he thought he had made out the contention of the paper, namely, that there was a common ground on the border line between the specialties which could be turned over with great profit.

Extra-Uterine Pregnancy.—Dr. J. P. Nedoroff (section for obstetrics and gynæcology. Moscow, August 24, 1897) says of extra-uterine pregnancy: 1. That ectopic gestations of one month's duration should be treated with the electric current, and that the middle of the fourth month should be looked upon as the border line of the period during which the electrical treatment is applicable. 2. That in hæmatoceles following extra-uterine pregnancy it is the only possible treatment up to the third month, and even older cases of hæmatocele should be dealt with in no other way. 3. The remaining cases are to be treated surgically.

Therapeutic Hints.

For Corns. —

℞ Potassii caust. 5
Aq. dest. 40
Glycerini 20
Tr. iodi 5
S. Apply morning and night with caution.

Burns.—Immerse the burned part in a bath containing a few teaspoonfuls of potassium nitrate, or apply a bandage wet with the solution. Phlyctenæ are said to be prevented.—Poggi.

Red Nose.—Scarification, acupuncture (forty sharp points mounted on a solid disc), by means of electromotor. In rhinophyma, ablation and Thiersch graft. —Lassar.

Intertrigo.—No treatment has been found superior to painting each day with:

℞ Methylene blue ..... gr. v.
Spt. vini rect. ..... ℥ss.
Liq. potassæ ..... ♏v.
Aquæ dest. ..... ℥ij.

A disadvantage is the staining of clothing.—C. W. Allen.

Seborrhœa Capitis.—

℞ Saponin ..... gr. xx.
Tr. benzoin ..... i.
Aquæ dest. ..... ss.
Glyc. ac. carbol. ..... i.
Spiritus odorati ..... ad iv.
M. S. Apply as shampoo.

—Skinner.

Furuncle of the Eyelid.—

℞ Tr. camphoræ ..... ♏xv.
Sulphuris precip. ..... gr. xv.
Aq. calcis,
Aq. rosæ ..... āā ℥iiss.
Gum. acaciæ ..... gr. iij.
M. S. Apply.

—Landolt *and* Gigax.

Bronchiectasis in Children.—

℞ Eucalyptol 10
Creasoti 25
Tr. benzoini 50
Copaibæ 50
Ol. amygd. amaræ ..... q.s. ad 200
M. S. Thirty drops daily, per rectum, in a little milk. Gradually increase dose to one or two teaspoonfuls.

—Molle.

Dysmenorrhœa.

℞ Ext. belladonnæ,
Ext. stramonii ..... āā 0.1
Ext. hyoscyami 0.2
Ammonii sulphatis 1.5
M. et ft. pil. No. x. S. One every four hours until relieved.

—Justin Steer.

Spasmodic Asthma.—

℞ Tr. stramonii ..... ℥ij.
Ammon. carb. ..... i.
Sodii bicarb. ..... ℥iij.
Magnesii carb. ..... i.
Pulv. rhei ..... gr. xx.
Chloroformi (purif.) ..... ♏xx.
Aq. menth. pip. ..... q.s. ad ℥viij.
M. S. One-half ounce to be taken t.i.d. with one ounce of water.

—Murray.

Chocolate Emulsion of Cod-Liver Oil.—

℞ Chondri mucil. N. F. ..... ℥v.
Ol. morrhuæ ..... ℥viij.
Glycerini ..... ii.
Theobromæ pulv. ..... i.
Tr. vanill. ..... ℥iij.

Rub the cacao with the mucilage, and heat until a uniform mixture is obtained. When cold, add the cod-liver oil and glycerin, and beat up with an egg beater.—W. A. McIntyre.

Sudorific for Children.—

℞ Infusi boraginis et sambuci 150
Vini portensis 50
Tincturæ aconiti 0.65–1.23
Sodii salicylatis 0.50–2
Syrupi diacodii 30
M. S. One tablespoonful every hour.

—Teixeira.

Acute Pneumonia, to Encourage Expectoration.—

℞ Tr. opii deodorat. ..... ♏v.
Ammon. muriat.,
Ammon. carb. ..... āā gr. vij.
Tr. cubeb. ..... ♏xv.
Syr. tolutani ..... q.s. ad ℥ij.
M. S. Every three hours.

—Adolph Zeh.

Gonorrhœa.—

℞ Methyl salicylate ..... gr. xv.
Bismuth subnitrate ..... ℈v.
Liquid vaseline ..... ℥ij.
M. S. Use thrice daily after passing water; retain injection as long as possible.

—Duquaire.

Whooping-Cough.—

℞ Potassii cyanid. ..... gr. iss.
Morphinæ acetatis ..... gr. ¼
Acid. acetici dilut. ..... gr. xxx
Syr. tolutani ..... ad ℥ij.
M. S. For a child of five years.

—Cleland.

Unilateral Parotitis with Carious Teeth.—

℞ Ung. belladonnæ,
Ung. hydrarg. ..... āā ℥ss.
M. S. Apply night and morning.

Also:

℞ Cinchonidinæ salicylat. ..... ℈i.
Div. in tabulæ No. xx. S. One every three hours.

—Eshner.

Mammary Abscess.—

℞ Glycerin ..... ℥ss.
Sterilized water ..... ℥vi.
Alcohol ..... ℥iss.
Biniodide of mercury ..... gr. ij.–iv.
Potassic iodide ..... gr. v.
M. S. Soak tarlatan in this and apply to the inflamed area.

—Tarnier.

Calomel Treatment of Hemorrhoids.—Detrue (*Arch. Méd. Belges*, No. 7, 1897) recommends Brindley's method, and employs powdered calomel or the following ointment:

℞ Calomel. ..... 2 gm.
Morph. hydrochlor. ..... 0.025 gm.
Bismuthi subnit.,
Vaselini. ..... āā 25 gm.
Glycerini ..... 8 gm.
M. ft. ungt.

To Cure Itch in Two Hours.—Vleminkx recommends fresh sulphuret of calcium made as follows:

℞ Sulphur (flowers) ..... ℥iij.
Quicklime ..... ℥vi.
Water ..... Oij.

Boil together till combined, then allow to cool and settle. Decant and preserve in hermetically sealed bottles. Application: Rub patient all over with soft soap for half an hour, then place in a tepid water bath for another half-hour. Next rub over with the solution and allow it to dry on the skin for a quarter of an hour. Complete by washing in the bath.—*Canada Lancet.*

Summer Diarrhœa.—In the treatment of the summer diarrhœas of children, S. Solis Cohen recommends, in addition to strict diet and mild laxatives, a combi-

nation of salicylate of bismuth and benzonaphthol. He gives a six-months child one decigram of each every two or four hours at the beginning; later less frequently.—*Medical News*, 1896, p. 203.

In Asthma Associated with Emphysema.—

℞ Potassii iodidi..... gr. v.
Liquor. potass. arsenitis..... ♏ iiss.
Elixir. simplicis.....q.s. ad ʒ i.
S. One drachm after meals and at bedtime. Increase the dose if necessary.

—J. C. Wilson, *Dunglison's College and Clinical Record*, January, 1898.

For Pigmentary Blemishes of the Skin.—

℞ Corrosive sublimate..... 0.5 gm.
White sugar..... 15 "
White of one egg.
Lemon juice..... 30 "
Distilled water..... 250 "
M. S. To be applied every morning and allowed to dry on the skin.

—*Journal de Médecine de Paris.*

For Bronchial Asthma.—

℞ Sodii iodidi..... 4
Ammon. carb..... 4
Tinct. lobeliæ..... 8
Spir. chlor..... 15
Vini ipecac..... 4
Infus. senegæ.....q.s. ad 180
M. S. Tablespoonful in water every three or four hours.

—Rainear, *in Codex Medicus.*

Treatment of Severe Syphilis.—In three cases of severe pulmonary, bone, and cerebral syphilis, when "mixed treatment" failed, metallic iodine gave good results.

℞ Iodini pur..... 10 gm.
Potass. iodid.....ad sol. q.s.
Glycerin..... 10 gm.
Acid. citric..... 15 gm.
Syr. simp.....ad 1,000 gm.
M. S. Two tablespoonfuls daily, increased by one, until daily dose equals nine.

—Bouveyron, *Klinisch-therapeutische Wochenschrift.*

Acetate of Aluminium in Uterine Hemorrhage.—Solution of aluminium acetate is recommended by Dr. Kalenscher (*Munch. med. Woch.*, No. 1) in all cases of post-partum hemorrhage, whether due to inertia, abnormal location of placenta, placenta succenturiata, etc. Injections of from twenty to thirty centimetres of the solution are made, through a curved hard-rubber uterine catheter.

Guaiacol in Gonorrhœal Epididymitis.—The scrotum is pencilled with pure guaiacol, or with a fifty-per-cent. solution in glycerin; or a salve, not weaker than twenty-five per cent., may be applied.

℞ Guaiacol..... 10
Lanolin,
Resorcin.....āā 15

After application the fever and pain disappear, and in a few days a complete cure results. The guaiacol is discontinued as soon as swelling ceases, since the drug has no resorptive power. On account of its liability to produce toxic symptoms, not more than 0.5 gm. should be used daily.—Goldberg, *Deutsche medicinische Wochenschrift*, No. 32, 1897.

Treatment of Neuralgia of the Spermatic Cord.—Domino (*Berliner klinische Wochenschrift*, September 27, 1897) recommends methylene blue. In a case that resisted all previous treatment, and when castration was being seriously considered, methylene blue was administered in doses of 0.1 gm. every two hours. After the third capsule the pain became less severe, and disappeared altogether after the fifth dose. In all, twelve capsules were taken. The patient has had no recurrence. A similar result was obtained in a case of neuralgia of the testicle.

For Pernio.—

℞ Plumbi acetat.,
Alum pulv.....āā 5
Cetac.,
Cer. alb..... 30
Ol. oliv..... q.s.
M. et ft. ung. molle. S. Apply evenings.

—*Centralblatt für die gesammte Therapie.*

Drugs which Should Not be Dispensed in Capsule Form.—Salicylate of sodium causes gastric disorders, with nausea and vomiting, and should therefore be administered diluted with plenty of water. Ulceration of the gastric mucosa has been observed after its use in capsule form. Antipyrin often irritates the digestive tract, and is best given in vichy or soda water. The following drugs are hygroscopic and therefore cause the capsule to become softened: acid phosphates and glycero-phosphates, sodium bromide, crystallized calcium chlorate, strontium chloride, piperazin, lysidin, chloral, the dry extracts of plants, and in general those preparations produced by evaporation in vacuum. Some solid drugs when mixed tend to deliquesce—mixtures of antipyrin and sodium salicylate, for example. Certain substances, when exposed to the air, become altered or at least discolored by the contained oxygen. The chief representatives of this group are the salts of iodine, the alkalies, and the alkaline earths; also aristol. Free iodine combines with the starch of the capsule, producing a bluish-black discoloration.

Palatable Castor Oil.—

℞ Pulv. acaciæ..... ʒ iv.
Ol. ricini..... ʒ i.
Elix. simp..... ♏ xx.
Ol. amygd. am..... ♏ i.
Ol. caryophylli..... ♏ ij.
Aq. dest.....q.s. ad ʒ ij.

Dissolve the gum in sufficient water and add the oil gradually; lastly add the flavoring.—*London Practitioner.*

Injections of the Benzoate of Mercury in Syphilis.—The benzoate of mercury should not be prescribed in saline solution, since double decomposition occurs with the formation of bichloride of mercury. Instead of sodium chloride ammonium benzoate should be employed as in the following formula:

℞ Hydrarg. benz..... 0.3 gm.
Ammon. benz..... 1.5 "
Aq. dest. ster..... 30 "
Of this inject from one to two cc. daily for one month.

—Gaucher.

For Fistula in Ano.—Olive oil, boiled and cooled, to which has been added one grain of carbolic acid to the drachm, makes a most grateful application after operation for fistula in ano. Apply by saturating aseptic gauze and packing the fistulous tract.—Hearn.

Picric Acid in Chronic Gonorrhœa.—Bochon (*Méd. Mod.*, No. 1) recommends picric acid in chronic gonorrhœa and claims cures after from four to ten injections. In cases in which the pus is free from gonococci and contains but a few formed elements, he employs a solution in the strength of 1 to 100; when the pus is rich in formed elements he begins with a 1 to 200 injection; as soon as gonococci are present, an injection of silver nitrate, 1 to 50 or 1 to 30, is made, and on the next day picric acid, 1 to 200, is used, and on the following day 1 to 100. The instillations are made every second day, are painless, and cause very slight reaction.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CONCLUSION OF THE DEBATE ON MAMMARY CANCER —DR. MAGUIRE ON PALPATION OF THE CHEST AND ABDOMEN — SMALL-POX AT MIDDLESBOROUGH — DEATHS OF SIR J. MACKIE, SURGEON-GENERAL MACLEAN, AND DR. DRUCE J. SLATER.

London, February 25, 1898.

The adjourned discussion on mammary cancer was resumed on Tuesday by Mr. Pearce Gould, who remarked on the difficulty of discussing a disease of so protean a character, which may kill in a few months or last for thirty years, remain local or become generalized, and whose secondary growths increase slowly or very rapidly. From the statistics of the Middlesex Hospital for the last ten years it seemed doubtful whether long immunity was due to operation; whether a return after long immunity was a recurrence or a fresh outbreak. He considered it to be the former, except when the growth appeared in the opposite breast; for late recurrences occurred in the same situations as early ones and in positions where primary carcinoma could not occur. As to the effect of operation, if it simply removed an infected and infecting centre, it was only like an amputation, which was not a "cure." The wider the operation the longer the immunity, the less likelihood of local but the greater of visceral recurrence.

Mr. Watson Cheyne advocated removal of the primary lymphatic area in every case, as recurrence was very irregular. He agreed with Heidenhain and Stiles. The question was whether to be content with from ten to eighteen per cent. of recoveries or to resort to more extensive operations that gave from forty to fifty per cent. The frequent recurrence in the axillary glands was a strong argument for their removal. As to the term "cure," statistics of the old operation showed that eighty-five per cent. of those who remained immune for three years had no recurrence. With the wider operation he anticipated that the percentage would be under fifteen. If there was no recurrence three years after removal of a large tumor, he would not expect any. But the prognosis of atrophic scirrhus was not so good. As to more frequent internal deposits after the Heidenhain-Stiles operation, he said ninety per cent. of all fatal cases had visceral growths. Under the old operation local recurrence might kill before the internal reached any size; but under the new, if any recurrence took place, it would be internally.

Dr. Norman Moore regretted that the pathological aspect of the question had been neglected in the discussion. He doubted if we had evidence that second attacks occurred. Two independent attacks in the same patient were extremely rare. An attempt should be made at the time of operation to discover if internal deposit had taken place. Much was known of the localization of secondary growths, but there were certain special groupings, such as that of the kidney and heart, secondary to cancer of the œsophagus.

Mr. W. H. Bennett protested against recurrences being regarded as repeated attacks, such as occur of pneumonia. This tends toward resolution, but cancer is naturally progressive. He removed the breast freely and cleared out the axilla, but left the pectoral muscle unless it was involved. He had seen recurrence in muscle, but it was very rare. He wished to know whether the benefit of the new procedure corresponded with its greater severity and whether the mortality was increased.

Mr. Treves said we knew little more of cancer now than at the beginning of the century. He thought the cases related did not show the new operation in a brilliant light, and the old did not deserve the contemptuous remarks made on it. He mentioned two cases with deplorable results—recurrence in a year—in both scar and axilla, arm fixed to trunk, hand œdematous, constant pain, and in one case paralysis.

Mr. Sheild then replied. Of course he could not go through the whole of this lengthy discussion again, and he had not anticipated that it would develop in the directions it had done. He agreed that terms should be used accurately and that "cure" should not be used of malignant disease in the same way as of a lipoma.

I may add that this is by no means the only word used indefinitely in the course of this debate. Old and new, complete and incomplete, small and large, and other phrases were used without much care; while immune, latent, and other words were used in diverse senses by different speakers.

Dr. Robert Maguire demonstrated at the last meeting of the Medical Society a method of palpation and auscultatory percussion which some of the journals, as well as a number of the audience, seem to regard as a novelty. It has, however, been used by a few for a long time with more or less success. The late Mr. Kingdon relied upon palpation to an extent which surprised some of his confrères and caused others to doubt the possibility of their attaining the same degree of accuracy. He held many years ago, among other appointments, the surgeoncy to a life assurance office, and although it was no part of his duty to auscultate the chest, having a medical colleague to do that, he would examine by palpation and reach conclusions which generally tallied with the physician's auscultatory results. This was particularly remarked after his deafness threw him altogether on this method of diagnosis, as I was informed by his colleague. Dr. Maguire has convinced himself of the value of palpation in both thoracic and abdominal examinations, and finds that the sternum does not hinder him from defining the outline of the heart by passing the fingers over the parietes. In the same way he can show the outline of the kidneys or the upper border of a pleural effusion, while small areas of former pneumonia or pleurisy may be discovered in this way when percussion fails. Of course every one who practises percussion knows that the sense of resistance is an important factor, and Dr. Maguire says that with increasing experience the operator comes to rely more and more on this and less and less on the sound elicited. He has reduced the method to a system, in which he presses lightly and alternately with the first and second fingers of his right hand on the body wall, using only a little more pressure than one employs in examining the eyeball for glaucoma. After a little practice, he says, it is unnecessary to use the two fingers alternately, and it suffices to pass the fingers over the chest-wall, pressing lightly. In this way the fourth interspace will be found harder than the first, from the presence of the heart beneath. So the seventh will give the liver resistance if compared, for example, with the second. He even asserts that on testing through the sternum opposite the first and fourth spaces, the resistance of the heart may be felt at the lower level. Again, over the abdomen he finds palpation more delicate than percussion.

After this it is a matter of course to hear that Dr. Maguire finds auscultatory percussion a valuable method of examination, though by no means capable of determining the size of the heart, as proposed at Nauheim.

Small-pox increases at Middlesborough. Up to yesterday four hundred and ninety-five cases were notified.

Sir James Mackie, M.B. Aberdeen, K.C.M.G., died on the 23d inst., at Alexandria, in his sixtieth year. He graduated in 1860 and went to Egypt the following year. He was for a long time on the Egyptian quarantine board and represented the British government at the international conference at Venice, 1891. He was the recipient of many honors and greatly esteemed.

Surgeon-General Alexander Maclean, M.D., died suddenly last week, aged sixty-six years. He entered the army in 1854 and served in the Crimean war and the Indian mutiny.

D. J. Slater, M.D., London, met his death by the discharge of both barrels of his gun as he was returning from a day's shooting. Both charges lodged in his chest, and he was able only to say "I fell," when found by the keeper. He was a keen sportsman. He took his M.B. in 1883, M.D. in 1888.

THE DIFFERENT FIELDS OF OPERATIVE SURGERY AND GYNÆCOLOGY IN EUROPE.

To the Editor of the Medical Record.

Sir: Dresden is southeast from Leipsic seventy-four miles. It is the capital of Saxony, and has been the home of sovereigns for nearly five hundred years. Though a city of only 335,000 inhabitants, it is a place of great splendor in art and culture. It has no university, but there are hospitals with abundant material and operators of a high grade, who give interesting clinics for graduates in medicine only. The Carola Haus has more than two hundred and fifty beds, mostly surgical, and under the direction of Hofrath Credé. His father was professor in the university at Leipsic, and first taught the expression of the placenta by external manipulation *à la mode* Credé nearly a half-century ago. The son may make a more lasting reputation from his investigations and experimentations with the silver salts. In his laboratory he showed me the effect of these salts on streptococci, staphylococci, and the various contagious and infectious cocci. The silver not only kills the bacteria but it prevents their growth. It also produces in culture media a sterile zone extending one and one-half or two inches from where it rests in the centre of the glass, while in a similar vessel with the same culture media he had negative results with iodoform, copper, and gold. He has been using chiefly the oxide and citrate salts of silver; the nitrate seldom. He showed me unminted pure silver, which is very brittle, and illustrated its solubility by dropping small pieces in simple drinking-water, which it readily turns dark. He drank it like claret, and at his urgent request I joined him. While not particularly palatable, is not unpleasant to the taste. It does not stain the teeth or the tissues; it colors dark the skin when strong, but the discoloration is easily rubbed off. Of this unminted silver he makes an ointment, combining it with vaselin in the strength of one to ten and flavoring it with compound benzoin ointment. He uses it for destroying sepsis by simply rubbing it into the skin—on the arm at one time and on the thigh at the next. In acute infectious and contagious diseases, such as diphtheria, scarlatina, erysipelas, phlegmon, etc., it is applied twice in twenty-four hours usually, but in no case oftener than three times, the third application being made after the lapse of twelve hours. He asserts that he has not found a case in which it was necessary to apply this ointment more than three times for the effective destruction of acute sepsis in the foregoing diseases. In cases of syphilis he has abandoned mercury and uses this ointment instead; but in these cases he applies it for an indefinite length of time. When first applied to the skin it colors it black or dark, but when rubbing is continued for fifteen to twenty-five minutes the dark color disappears. When I inquire whether there is danger of argyria from prolonged use of these drugs internally and endermically, he replies emphatically, No, except from the nitrate salt, which, he claims, is unlike his preparations in almost every respect. The other two salts which he chiefly uses are sold under the names of "itrol" and "actol." He explains that it is necessary to prefix one letter to each and we have the correct names, *c* before itrol making citrol, and *l* before actol giving lactol. The citrate, in a solution of 1 to 8,000, will kill gonococci, but it may be used as strong as 1 to 4,000, the latter being the saturated solution of this salt, and this is therefore the one to be placed in the hands of a patient. It is harmless in saturated solution. The lactol solution may be made as strong as 1 to 15, which is too strong for ordinary use and should never be placed in the hands of a patient except in such cases as a physician may indicate. In this strength the solution is for the physician only. In dressing wounds Credé doubts the efficiency of the saturated solution of the citrate and always uses the lactate; when a wound is aseptic, 1 to 5,000; when septic, 1 to 1,000. In the latter strength he prepares catgut sutures within a large-mouthed bottle, blackened to prevent action of light on the silver solution. Catgut remains in this solution one week; silk, two weeks. Before being sterilized in this solution catgut is cut into lengths of thirty centimetres, and when removed these lengths are wrapped in gauze, laid straight, and so placed in tin cans for a week, when they are put in alcohol, in which they remain until used, perhaps months later. Credé has one large flask of sublimate solution in his operating-room, simply because silver solutions are not permanent in light and there are times when he must have an antiseptic solution before he has opportunity to prepare one; the sublimate is always ready, though he seldom uses it. Except this sublimate solution, there is absolutely no antiseptic besides silver. The latter he prefers to sublimate, and uses it in nearly every case alone. He showed me a case of pyothorax operated on five days before and washed out only with silver solution. The patient was a lad of about fourteen years. The edges of the wound were not red, nor were they angry in any way. There were no eruptions around the border, no pain, no swelling. The cut surface was soft and flabby, not even tender to the touch. The little fellow helped to hold the tubing while the cavity was being douched, coughed when told to do so, and turned himself in the bed; he sat up or lay down as requested, without complaint or evidence of suffering. In the wards various wounds were shown me from operations for many kinds of sepsis, and the non-inflammatory soft condition of the tissue in and around the incisions was marvellous. Credé does not use iodoform gauze nor does he sterilize his gauze for dressing wounds; he does not sterilize cotton wool or bandages—not because he does not believe in antisepsis, but that it may not be said his results are due to asepsis or to antiseptics other than silver. He is convinced, and wants to convince others, that he has developed altogether the most potent antiseptic ever known to man and one of a most practical character, it being simple in application and economical in the small amount required for each dressing; the saving to the Carola Haus annually is quite material, since he uses only silver. After operation, when there is sepsis or when Credé is in doubt, he dusts into the wound a very minute quantity of the silver lactate. Over this he binds cotton or gauze that is neither medicated nor sterilized. He also has a gauze which is impregnated with a silver solution and is quite dark. This he tells me is quite expensive, but he uses it on rare occasions, when a

wound is deep, narrow, and oozes septic secretion freely.

The Corola Haus is not supported by the government or the city, the funds coming from endowment by wealthy individuals—patients and friends. Credé has had control of the surgical department for six years, and for two and one-half years has used only silver for antiseptic purposes, with much better results than were formerly obtained. He treats about one thousand surgical cases here annually. Some distance from the Corola Haus Credé has a private hospital for gynæcological patients, in which line he is a well-known operator.

Leopold has a gynæcological and obstetrical hospital and clinic at No. 25 Seminary Strasse, on the second floor. He has no amphitheatre and there is no good light in his operating-room, but I find some six or seven doctors attending his clinic. Leopold is a learned man in pathology and makes apt use of this knowledge in teaching diagnosis. He has rooms furnished and resides within the hospital, receiving besides 5,000 marks per annum. None of his assistants or visitors are permitted to attend any other clinic while attending Leopold's. All his assistants are not only German, but are strictly Leopold German. Leopold is not cosmopolitan in his ideas or in his operations, but he is a quick, nervous man, who wields a knife with admirable confidence.

From Dresden, almost due south one hundred and twenty miles, we are out of Germany and in the interesting Bohemian capital, where only a few weeks previously the storm in the parliament at Vienna had formed a new cloud which broke like a thunderbolt in the form of a mob before which the police force was as chaff before the wind, and which was quelled only by the soldiers, but not until after considerable bloodshed. The Emperor issued an edict that each and every man who made an inflammatory speech touching the political issue which had created this mob should be peremptorily hanged. I was in Prague at the expiration of this edict, which had been in force for thirty days, but I could detect no difference in the perfect peace which I had noticed on previous days. The route from Dresden is through the celebrated Saxon Switzerland, along the river Elbe, and affords the finest views of the scenery of that beautiful stream and its picturesque mountains. Prague has 183,000 inhabitants, is the capital of the kingdom and crown land of Bohemia, was founded in the eighth century, and has a university founded in 1346. The university has about 3,500 students, of whom 2,000 are Bohemian and 1,500 German. There are 1,000 Bohemian and 500 German medical students. Formerly there were more medical students, but within the last few years the faculty was obliged to limit the number which may attend owing to the overcrowding of all Bohemia with doctors of medicine. The university is supported by the government of Bohemia, of whose population three millions are Bohemian and two millions are German. Outside of Prague the Germans have perhaps the greater share of wealth, owning the principal factories, which are in the northern part of the kingdom; but in the city four-fifths are Bohemian and one-fifth is German. There are also 20,000 Jews and a garrison of 7,000 men in the city. Prague is a very wealthy city. The streets and sidewalks are from three to five times as wide as in Berlin and cities of northern Germany, and the sidewalks are of grooved tiling, mostly glazed and often ornamental in color. In the matter of race, feeling at this time is quite bitter between Bohemian and German, and that it never totally abates is in evidence on all sides. Theatres must be Bohemian or German, as must all places of amusement, and boldly bear the title of one or the other; there is no intermixture of languages in the play or in the audience. The same obtains at the university and clinics, except that patients are distributed in equal numbers to German and Bohemian wards.

The German clinic in general surgery is under the direction of Professor Wolfer and the Bohemian under Professor Maydl. Likewise the gynæcological and obstetrical Bohemian is under Professor Pawlik, and the German under Professor Rosthorn. Material comes from the kingdom without as well as from within the city, and is quite abundant.

Rosthorn has thirty-two beds in the gynæcological department and does about one hundred and twenty laparotomies annually. His record shows seventeen hundred patients treated in the hospital and eighty-two hundred ambulant patients in 1897. He is a comparatively young man, and succeeded Schauta, now of Vienna, six years ago as director of the German Frauenklinik and professor at the university here. As in all the surgical and gynæcological clinics at Prague, I find doctors here from all parts of the world, but especially from the larger cities of America.

Wölfer is a very learned man, and when one is first shown all the detail of his antiseptics he falters; but when one sees Wölfer go through with it he realizes it is less cumbrous than at first appeared. He has a large amphitheatre covered with a glass dome, affording ideal light for operations, which he does before the class, and here he conducts his public clinics. He wears perfectly white sterilized buckskin gloves while lecturing, nor will he touch a patient except with hands so gloved; but before operating he removes these, washes his hands, and covers his arms, which are otherwise bare nearly to the shoulders, with stocking legs from the wrists to above the elbows; next he puts thin rubber finger condoms over his thumbs and index fingers, and over the hands he draws long buckskin gloves with thumbs and index fingers cut off short so as to expose the condom-covered parts. He wears a rubber apron from neck to feet, over which he puts a linen robe with short sleeves. Here for the first time in Europe I see heads of the operators covered. They wear small white linen caps without bills. When I inquire the reason for wearing the hand coverings, whether to protect operator or patient, Wölfer says it is to protect both. They protect the operator against infection from the patient, and, again, obviate the danger of conveying infection from one patient to another. Like Zweifel and Meyer, Wölfer claims that the sense of touch is not lessened with condoms over the fingers. All assistants wear gloves, also caps, even while removing a cancerous breast: but Wölfer alone wears condoms on the fingers. He also has thin rubber gloves, which he wears in making rectal and vaginal examinations and in doing intrapelvic and abdominal operations. The rubber gloves and condoms are kept in lysol, 0.5 per cent. solution, within covered glass jars, and in similar vessels are kept the buckskin gloves, but in pure glycerin with five per cent. of carbolic acid. Immediately before use, the gloves are removed and the carbolized glycerin is washed off in sterilized water.

Before operating, Wölfer and all assistants wash: 1st, the hands with soap for three minutes; 2d, the finger nails with brush for two minutes; 3d, the hands and nails in ninety-five-per-cent. alcohol for five minutes; 4th, the hands in sublimate solution for three minutes. In dressing wounds he has totally discarded iodoform, and instead uses a bluish-gray powder, a preparation of bismuth which is called "airol." This is dusted over or into septic or suspicious wounds in precisely the same manner as iodoform is utilized by other surgeons. He has a metallic suture, made of aluminium bronze, which is so pliable that he ties it with knots the same as silk without breaking: but he values this especially when nicety is required in co-

apting the skin by subcutaneous suture through the entire length of an incision, because this suture will not enmesh itself in the tissues and therefore can be withdrawn without disturbing union of the parts freshly united. In his pathological department Wölfer has many interesting specimens, and among them I noticed a cherry seed impacted in a Murphy button. This case is of special interest, the patient having been operated on by Wölfer with every indication of good recovery, when in ten days after the operation the patient died with great pain in the bowels, which lasted less than twenty-four hours. Wölfer's specimens are preserved so as to retain their natural color, after the method of Kayserling, Virchow's first assistant at Berlin. I observed a papilloma of the tongue, removed six months ago, which was preserved by this method; it looked as though it might have been cut out ten minutes before it was shown me. Kayserling's solution contains: potassium nitrate, 10 parts; potassium acetate, 30; formalin, 250; water, 1,000. The specimen was submerged in this solution and kept in an absolutely dark drawer or closet for twenty-four hours, and for the next twenty-four hours in absolute alcohol, in a dark or a light place; lastly it was placed in a glass jar filled with the following solution: potassium acetate, 10 parts; alcohol, 100; glycerin, 500; water, 1,500.

Wölfer's records are worthy of note. He, like Trendelenburg, keeps photographic records of his greater deformities at different stages, and also Roentgen-ray pictures. The records show that he treats about seventeen hundred patients within the wards and seven thousand ambulant patients yearly.

Maydl is professor of surgery in the Bohemian department of the university and director for that race in the surgical clinic at the hospital. He has one hundred and five beds, and his record shows seventeen hundred patients treated in his wards and eighty-two hundred and twenty ambulant patients in 1897. The professor is of small stature, nervous temperament, and quick motion, and he is a very brilliant operator, of large experience and practice. He is father of some important operations in surgery, one of which, on the jejunum, it was my good fortune to see him perform.

What Maydl lacks in physical stature is more than made even by his first assistant, Dr. Kukula, who is six feet three inches high, and weighs two hundred and sixty pounds, though yet less than thirty years old. He has travelled more in America than I have, he having devoted nearly a year in "doing" the States. He is acquainted with the better clinics and operators in our larger cities, and has visited San Francisco, Portland, and Seattle. He hunted in Yellowstone Park, and witnessed the Corbett-Fitzsimmons fight in March of 1897. He speaks English with zest, and, like all Prague, manifests delight in the acquaintance of an American.

Perhaps the most conspicuous figure in medicine at Prague is Professor Pawlik, in the Bohemian department of the Frauenklinik and also of the university. A native of Bohemia, he was educated at Vienna and remained twenty years in that city, the last ten of which he served as first assistant in the K.K. allgemeine Frauenkrankenhaus, where he taught more Americans than Germans. Pawlik has been in his present position at Prague nearly twelve years, and an idea may be had of the esteem in which he is held by patients when one goes with him through the wards. I noticed this in no other place to such an extent as with Pawlik. Many of his patients grasp his arms, hands, or wherever they can, and cling to him with fervor, kissing hands, arms, or garments with adoration. Their words I cannot understand, but the meaning of their acts is unmistakable. He does not appear to court or specially to repel this, but when he turns to speak or to give personal attention to a patient, which he does rarely, the joy of the patient is often expressed by tears, but always with smiles and happiness. Pawlik is more than six feet tall, has light hair and full beard rather closely cropped, and is at once the most courtly mannered and finest presence I have met in Europe. As an operator he is very dexterous. By appointment I went about two miles early one morning to see him introduce his catheter into a ureter. He held aloft his instrument, directly before introducing it, and told who he believed was not the inventor. When I began to get ready to see him introduce it his hand went up again, and I noticed that only a very short part of the long instrument was to be seen; the catheter was left in the right ureter for twenty-four hours. He was perhaps fifteen or twenty seconds in introducing it, possibly not half so long; at least I had not time enough to mark the duration or even the method of this interesting manipulation. In preparing for operating he has discarded sublimate solutions, and gives as his reason experiencing very unpleasant symptoms formerly when he washed his hands and arms before each laparotomy, repeated as often as two and three times the same morning. He washes his hands in (1) hot water and soap, (2) lysol, and (3) alcohol, scrubbing the finger nails and fingers with a stiff brush in each.

From Prague, almost due south two hundred and fifty miles, I arrived at Vienna, the Mecca of medical pilgrims from America for many decades, and of which an account will be given in a future paper.

J. Preston Miller, M.D.

OSTEOPATHY IN VERMONT.

To the Editor of the Medical Record.

Sir: Your timely editorial in regard to the bill before the New York legislature legalizing osteopathy should meet with a hearty response from every physician in the State and from every member of the legislature who desires to look back upon his career with satisfaction. I had the honor and misfortune to be a member of the senate of Vermont when a similar bill was passed, and I regret to know that it went through both houses with little opposition. It had back of it the most powerful lobby that any measure commanded during the whole session, and those members who could in any way be influenced in its favor were kept closely in hand and supported the bill vigorously. Very recently I had the pleasure of learning from a prominent citizen of Montpelier, where osteopathy flourished in 1896, that to-day it had gone the way of every other movement that had preceded it upon no foundation and depending for support upon the emotions of the people regardless of good common sense. I trust that the State of my nativity will not repeat the error of the State of my adoption.

H. L. Manchester, M.D.

Pawlet, Vt.

Kidney Tumors.—Küster (Moscow Congress, surgical section) recognizes three groups of malignant kidney tumors which are characteristic: 1. Carcinomata. Hard tumors, felt late in the disease on the border of the kidney, perforate the capsule at an early period, and move with difficulty. 2. Sarcomata. Particularly in childhood. They grow rapidly, soon forming large tumors, perforate the capsule late, and form inflammatory adhesions. 3. Struma suprarenalis. Attack but one pole as a rule, may remain stationary for years, then grow suddenly and rapidly. They are very malignant.—*Wiener klinische Rundschau*, January, 1898.

New Instruments.

A NEW NEEDLE FOR OPERATIONS ON THE UTERINE CERVIX.

By H. W. CHAPMAN, M.D.,

WHITE HALL, ILL.

The frequency with which needles are broken in operations on the uterine cervix is well known to all surgeons engaged in this kind of work. The object of the needle here described is to prevent such accidents. It is round, about one and one-half inches in length. The point is a combination of the Hagedorn and trocar, which penetrates readily and causes the smallest amount of bleeding. The anterior third only is tempered. The posterior two-thirds, being soft or without temper, in being pulled through the dense tissues at the upper angle of the cervical wound in repair of lacerations, bends instead of breaking, as does a tempered needle, frequently coming out bent in a reverse curve, when it can be caught in the needle holder and returned to its former shape by the surgeon's fingers.

Should it not be curved sufficiently for any suture, the defect can be remedied in an instant by the fingers; if curved too much for the next suture, it can be reduced in the same manner. It will be found useful in operations on the perineum, and in many other situations. I originally made two from ordinary darning-needles, which, notwithstanding the weakness of the elongated eye, have been through a very large number of operations without a break. They are now made for me by Messrs. Truax, Greene & Co., of Chicago.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending March 12, 1898:

	Cases.	Deaths.
Tuberculosis	181	113
Typhoid fever	6	4
Scarlet fever	187	5
Measles	362	11
Diphtheria	162	11
Laryngeal diphtheria (croup)	15	2
Chicken-pox	31	0
Cerebro-spinal meningitis	0	0
Pertussis	1	0
Parotiditis	2	0
Erysipelas	2	0

Mr. Leonard Hill on Sleep.—In *The Lancet* of the 29th of January Mr. Leonard Hill has an excellent paper on some of the phenomena of sleep. In the course of his remarks he says: "Indians have a wonderful faculty of going to sleep. They seem to shut themselves up at will with a snap-like slamming down the lid of a box with a spring, and they are fast asleep in a second. Many men of great intellectual power possess the same faculty noticeably—we may cite Lord Brougham and Shelley. Other men, like Johannes Müller, have only to take up the recumbent position immediately to fall asleep. It seems, then, that consciousness can be abrogated either by a repetition of monotonous stimulation or by the voluntary withdrawal from stimuli, objective and subjective. In the dullard to produce sleep it is necessary only either to withdraw all external stimuli or to harp on one. On the other hand, the overexcitable, intellectual man is kept awake not only by the intensity of the present but by the recollection of the past. He attempts to woo sleep, not only by withdrawing from external stimuli, but by monotonously reviewing over and over again some one memory picture. Thus Southey records: 'I listened to the river and to the ticking of my watch. I thought of all sleepy sounds, and of all soporific things—the flow of water, the humming of bees, the motion of a boat, the waving of a field of corn, the nodding of a mandarin's head on the chimneypiece, a horse in a mill, the opera, Mr. Humdrum's conversations, Mr. Proser's poems, Mr. Laxative's speeches, Mr. Lengthy's sermons. I tried the device of my own childhood, and fancied that the bed rushed round and round with me. At length Morpheus reminded me of Dr. Torpedo's divinity lectures, in which the voice, the manner, the matter, even the very atmosphere and the streaming candlelight were all alike soporific; when he who, by a strong effort, lifted up his head and forced open the reluctant eyes, never failed to see all around him asleep. Lettuces, cowslip wine, poppy syrup, mandragora, hop pillows, spiders'-web pills, and the whole tribe of narcotics would have failed—but this was irresistible: and thus, twenty years after date, I found benefit from having attended the course.'"

An Original Way of Doing a Vaginal Hysterectomy.—Dr. J. D. Arnold, before the California Academy of Medicine, October 16, 1897, reported a case in which a midwife, after having delivered a woman, thought she saw the head of a second child protruding from the vagina. She seized it with both hands, and violently delivered, as she supposed, a second child. What she did deliver was an inverted uterus, completely tearing it away from its attachments. The physician who was called in did nothing but tampon the vagina, and the woman made a complete recovery. No arteries were ligated, either *en masse* or singly.

Loss of Vitality in Metals.—It is a fact of comparatively recent discovery in chemical metallurgy that metals lose their vitality from repetitions of shocks and strains, and may be said, as the expression is, to suffer from fatigue—that is, they may be worked till their molecules fail to hold together, and then they are in a state of exhaustion. As is familiarly known, bars of tin, rods of brass, and wires of any metal will separate, owing to fatigue, if bent backward and forward continuously. By careful experiments, however, the fact is made to appear that a remedy exists for this condition of metals if the overstrain does not border on rupture, and this remedy is very much like that which is applied in the case of an overworked human frame, namely, rest. Feather-edged tools recover their vitality better than any others. Of course, the length of time required for this rest varies with different metals and the amount of strain to which they have been subjected. Hard metals, such as iron and steel, use up one and two years' time in the process; on the other hand, soft metals, like lead, retain their cohesive force longer and also require less rest. —*New York Sun.*

Responsibility of Medical Men.—The American *Review of Reviews* says that "Dr. Brouardel, the distinguished doyen of the Paris faculty, discusses, in the *Revue des Deux Mondes*, the important question of medical responsibility. In spite of the numerous references in satirical writers to the 'license to kill' supposed to be enjoyed by every son of Æsculapius, Dr. Brouardel has no difficulty in showing that the idea of medical responsibility is practically contemporaneous with civilization. Of course attempts have been made to get rid of the doctrine, in the interest of incompe-

tent practitioners. For example, in 1696 the Parliament of Paris declared that the responsibility for the effects of medical treatment rested with the sick person who chose the doctor, but some years later the same parliament condemned certain therapeutic methods, notably the transfusion of blood. They even issued a decree against the use of emetics; but this they had to rescind, for it was Louis XIV.'s favorite remedy for his frequent attacks of indigestion. In 1760 the Parliament of Bordeaux gave the enormous damages of 15,000 livres for a broken limb which had been badly attended to and had to be amputated. In England, in 1886, a doctor was acquitted, although he had given a purgative to a patient suffering from heart disease, who had died in consequence. Not to multiply instances, it is clear that legislators have failed to establish a firm basis of medical responsibility, and consequently the application of it has greatly varied according to the existing trend of public opinion."

Intubation.—The faults of tracheotomy were fully appreciated even in Malgaigne's time, as the following saying of his shows: "If I do honor to the real author of tracheotomy, what honor will he not deserve who will arrive to deliver us from it." Dr. Joseph O'Dwyer is entitled to all the honor and praise which a grateful profession can bestow for delivering it from tracheotomy.—J. H. SEVMORE, *Southern Practitioner*, November, 1897.

For Lack of Serum. — Rauchfuss affirms that no other city has so high a death rate from diphtheria as St. Petersburg, and avows that the cause is to be attributed to the short supply of antidiphtheritic serum.

Vital Statistics of the State of Maine. — The fourth annual report upon this matter has just been issued. The population of Maine in 1890 was 661,086. In 1880 it was 648,936, an increase in the decade of 12,150. The total number of births registered in Maine in the year 1895 was 14,762, and the number of deaths was 10,464, the natural increase of births over deaths thus being 4,298. Brain disease caused 1,323 deaths, and pulmonary tuberculosis 1,195. Of the zymotic diseases, diarrhœal diseases claimed 635 victims, while typhoid fever was responsible for 185. The zymotic death rate per 10,000 was 17.12. Among the persons whose decease occurred in 1895, four had reached or exceeded the age of one hundred years. Two of these were women, and two were men.

The Manner in which the Law Forbidding the Public Representations of Hypnotism Ought to be Modified.—Dr. Croq (*Journal de Neurologie et d'Hypnologie*, No. 15) gives the following conclusions: 1. Hypnotism presents great dangers for the subjects and for society. 2. It is absolutely necessary that the law should prevent the occurrence of accidents. 3. It is possible to simulate all the experiments of hypnotism. 4. In educating (training) an individual one can succeed in developing in him a state which has all the appearances of the waking state, and yet reduce the individual to a condition of complete automatism. 5. It is sometimes absolutely impossible for the most experienced expert to say whether or not an individual is under hypnotic influence. 6. The public representations of simulated hypnotism present absolutely the same dangers as do the public séances of actual hypnotism. 7. In order entirely to prevent these accidents, the law must forbid not only the real representations of hypnotism, but also the simulated ones.

Water from a Biological Point of View.—While formerly the quality of water as to purity was thought to be a matter of chemistry and determinable by chemical analysis, the whole tendency of modern research has been, as Dr. A. H. Veeder has shown in a paper read before the American Microscopical Society, to cause the question of the spread of disease through the agency of water to be regarded rather as a biological one. The danger is determined by the presence of certain living organisms and of conditions on which their continued existence depends, and not upon the quantity of them. The smallest possible inoculation may be fatal through their power of self-propagation, and there is no fixed dose. But if their growth is hindered by unfavorable conditions they may become harmless, no matter how many of them there may be. The purification of water depends on the destruction of these organisms or the production of conditions unfavorable to their growth. — *Appleton's Science Monthly.*

Health Reports.—The following statistics concerning small-pox and yellow fever have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended March 12, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Corona	March 4th	1	
Horse Creek Mine	March 4th	3	
Mobile	March 4th	1	
Pattoo	February 1st to March 4th	9	
Indiana, Evansville	March 4th	1	
New Jersey, Westfield	March 4th	1	
Tennessee, Chattanooga	February 1st to 28th	7	
Jellico	February 1st to 28th	8	
Johnson	February 1st to 28th	11	
Knoxville	February 1st to 28th	11	
Lenoir City	February 1st to 28th	3	
Mingo	February 1st to 28th	2	
Morristown	February 1st to 28th	1	
Newcomb	February 1st to 28th	3	
Rutledge	February 1st to 28th	1	
Texas, Brownsville	February 12th to 26th	2	

SMALL-POX—FOREIGN.

Bohemia, Prague	February 6th to 12th	3	
China, Hong Kong	January 16th to 22d	9	5
Cuba, Cienfuegos	February 21st to 27th	..	12
Sagua la Grande	February 20th to 26th	170	10
England, Liverpool	February 13th to 19th	1	
Mexico, Vera Cruz	February 25th to March 3d	2	
Spain, Madrid	February 10th to 16th	..	1
Russia, Odessa	February 6th to 19th	16	1
St. Petersburg	January 30th to February 12th	24	3
Warsaw	January 30th to February 12th	..	14

YELLOW FEVER—FOREIGN.

Brazil, Para	February 13th to 19th	..	3
Jamaica, Kingston	February 15th to 28th	2	1

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

AIDS TO ASEPTIC TECHNIQUE. By Dr. A. D. Whiting. 8vo, 157 pages. Illustrated. J. B. Lippincott Company, Philadelphia. Price, $1.00.

WILLIAM HARVEY. By D'Arcy Power, F.R.C.S.A. 8vo, 283 pages. Longmans, Green & Co., New York.

SIR JAMES YOUNG SIMPSON AND CHLOROFORM. By H. Laing Gordon. 8vo, 233 pages. Longmans, Green & Co., New York. Price, $1.25.

RESEARCHES ON TUBERCULOSIS. By Dr. Arthur Ransome. 8vo, 84 pages. Smith, Elder & Co., London. Price, 2s. 6d.

CATAPHORESIS, OR ELECTRIC MEDICAMENTAL DIFFUSION. By Dr. W. J. Morton. 8vo, 267 pages. Illustrated. American Technical Book Company, New York.

THE AMERICAN YEAR BOOK OF MEDICINE AND SURGERY. By Dr. George M. Gould. Royal 8vo, 1,077 pages. Illustrated. W. B. Saunders, Philadelphia. Price, $6.50; half morocco, $7.50.

CLINICAL DIAGNOSIS. By Dr. G. Klemperer. Translated by Dr. N. E. Brill and Dr. S. M. Brickner. 8vo, 292 pages. Illustrated. The Macmillan Company, New York. Price, $1.00.

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Original Articles.

SOME OBSERVATIONS UPON MODERN SURGICAL TECHNICS, FROM AN ANALYSIS OF FOUR HUNDRED AND TWENTY-ONE OPERATIVE CASES AT THE CITY HOSPITAL.[1]

BY GEORGE EMERSON BREWER, M.D.,

ATTENDING SURGEON, CITY HOSPITAL; ASSISTANT DEMONSTRATOR OF ANATOMY, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

IN response to an invitation from the chairman of your section, I shall take pleasure in presenting for your consideration and discussion this evening a few facts observed during the past three years in a more or less systematic study of wound infection at the City Hospital. In accepting this invitation, however, my pleasure is mingled in no small measure with a feeling of hesitation, when I consider my own limited experience in this department of surgery, and when I also recall the fact that it was in the hospitals of Boston that the first systematic and successful efforts were made which resulted in the revolution of surgical procedures in this country. The facts which I shall present are doubtless familiar to you all, and I must confess that in bringing this matter before you this evening I am actuated more by the selfish motive of learning something from your discussion than by the hope of presenting anything new.

With a view of explaining the reasons which led up to this investigation, permit me to state that the institution in which they were undertaken is the largest public hospital in our city, and in the class of cases admitted to its surgical wards it may be said to occupy a position midway between the very acute at Bellevue and the very chronic at the almshouse hospital. Owing, however, to certain customs and regulations regarding the transfer of patients from other municipal institutions to Bellevue and the City Hospital, our wards were to a large extent filled with patients whose state of nutrition was conspicuously vitiated by dissipation and disease. From a careful review of the histories, it was estimated by the writer that nearly eighty per cent. of all patients operated upon during the year 1895 were the victims of alcohol, syphilis, tuberculosis, diabetes, or Bright's disease.

It is not surprising, then, that during the first month of the writer's service, in May, 1895, of the forty-three cases operated upon for various injuries and diseases, not one aseptic case escaped suppuration, and only seven infected cases were rendered sterile by our operative procedures. As these results were far worse than any previously observed by the writer, even before the days of aseptic and antiseptic procedures, a rigid investigation was at once undertaken to account for this unfortunate and mortifying state of affairs. The methods which were employed during this period to prevent and overcome wound infection, as well as the experiments which were carried out during the following five months, with a view of improving our technics, were fully described in a paper presented by the writer to the Harvard Medical Club in May, 1896, entitled "Operative Surgery at the City Hospital, with a Preliminary Report on the Study of Wound Infection." Without entering into details, I may briefly state that the following was the method finally adopted:

Preparation of Patients.—A hot bath was given, when practicable, the day before the operation, followed by shaving the wound area and the application of a soap poultice for at least four hours; then the part was scrubbed for from five to ten minutes with green soap and hot water, followed by the application of a wet bichloride dressing, the latter to be made only by the head nurse in the ward, after thorough sterilization of the hands. Upon the operating-table the bichloride dressing was removed and the part douched with ether, alcohol, and sterilized water. The entire body was then covered with sterilized towels. The operator and all assistants were clothed in sterilized gowns; gauze caps were worn, to prevent infection from falling dandruff and from perspiration. The hands were scrubbed for five minutes with green soap and at least two changes of hot water, after thorough attention to the nails. They were then immersed in a saturated solution of potassium permanganate for one minute, in a saturated solution of oxalic acid for one minute, in a 1 to 1,000 solution of bichloride of mercury for three minutes, then rinsed with sterile water. The catgut was prepared by scrubbing with soap and water, by washing in alcohol and ether, and by prolonged immersion in a 1 to 2,500 solution of biniodide of mercury in chloroform. Silk and silkworm gut were sterilized by boiling. The instruments were boiled and then immersed in sterile water in sterile trays. The dressings, gowns, gauze sponges, caps, towels, etc., were sterilized for one hour. Accidental contamination of instruments, hands, and dressings was guarded against, when possible, by the appointment of a censor, whose duty it was to watch every step of the operation and at once to condemn any hand, instrument, sponge, or dressing which had by any accident come in contact with unsterilized material.

In spite of our efforts, however, at least thirty per cent. of our clean wounds continued to suppurate, until the plan of operating without an assistant was undertaken in a few selected cases, and suitably prepared catgut was used. No infection occurred in any of these cases, but the plan obviously could be adopted only for a limited class of patients. This reduced the percentage of infection to twenty (two stitch abscesses only occurring in the remaining ten clean cases). We were, however, still laboring under difficulties, as our operating-room was cramped, badly lighted, and badly equipped. We had none of the modern sterilizing apparatus, and our entire house staff was changed every six weeks. The report referred to closed with the statement that it was "the writer's intention to continue these experiments, and, if necessary, to inaugurate a series of bacteriological investigations, with a view of locating and removing any sources of infection which had, up to this time, escaped observation; after which it might be possible to gather some data which would help to solve the question of how much (if any) unavoidable suppuration might be expected in this class of cases."

[1] Read before the section on surgery, New York Academy of Medicine.

The work of our second year was devoted largely to bacteriological investigation. During this period the hospital was furnished with two new well-lighted and well-ventilated operating-rooms, fully equipped with the most approved modern operating-room furniture and fixtures. A complete sterilizing-room was added, furnished with three Sprague-Kny autoclaves of the latest model, together with instrument boilers, water sterilizers, and hand basins with pedal attachments; the whole placed under the direction of a thoroughly competent operating-room nurse, who with her assistants had the entire charge of the rooms and the preparation of all material.

The same methods were followed which I described before, with the exception that the catgut ligature and suture material was, in addition, boiled in alcohol under pressure, and the dressings, gowns, towels, etc., were submitted to three half-hour exposures to live steam.

During the first ten weeks of the writer's service in 1896, no case of infection occurred in a patient whose wound area had been clean before the operation. During the next ten weeks, however, four infections occurred, three stitch abscesses, and one case of fatal septic meningitis following an exploratory osteoplastic resection of the skull for traumatic epilepsy. It was then decided to inaugurate a thorough bacteriological investigation of our methods and materials. This investigation covered a period of about two months, and was carried out by Dr. Philip H. Hiss, assistant in bacteriology in the College of Physicians and Surgeons, and assistant bacteriologist to the New York board of health, and was fully reported in a paper read by us jointly before the surgical section of the New York Academy of Medicine, in March, 1897.

During this investigation numerous experiments were made in hand disinfection, the preparation of the patient's skin, the preparation of all ligature and suture material, and the sterilization of our dressings, gowns, towels, sheets, etc. Experiments were also made with a view of testing the possibility and probability of air infection. As a result of these experiments, three sources of infection were found to be possible in the technics hitherto employed. These were, first, from the dressings; second, from the hands of the operator and his assistants; and third, from the air. To remedy the first, one hour of continuous sterilization with live steam, under ten pounds' pressure, was adopted. To remedy the second, the Fürbringer method of preparing the hands was employed (which gave us the nearest approach to perfect sterilization), and, in addition, all assistants wore rubber gloves, which had been rendered sterile by boiling for five minutes and subsequently kept sealed in jars of bichloride. To remedy the third, no adequate means could be devised, although we adopted the plan of keeping our instrument trays and solutions under tents of sterilized muslin supported on wire frames.

By far the most important change in our technics which resulted from our bacteriological experiments was the adoption of the rubber gloves. This was first suggested to the writer by a former house surgeon who had seen them employed at the Johns Hopkins Hospital, in the service of Dr. W. H. Halsted. Although we had employed a number of well-known and highly recommended methods of hand disinfection, none gave satisfactory results when subjected to bacteriological tests; moreover, if the hands could have been rendered sterile by any of the methods employed, it is more than probable that they were very soon afterward contaminated from the air or from perspiration, the infectiousness of which no one will for a moment question. We found by experiments that rubber gloves could be rendered sterile by boiling for two minutes. At first, however, coarse gloves were used by the house surgeon, senior assistant, and operating-room nurse, the hands of the operator only remaining uncovered. This reduced the possibility of hand infection seventy-five per cent. A number of experiments were made, with a view of rendering practicable the use of very thin, closely fitting, pure gum gloves for the operator. As it was extremely difficult to draw these on the hand when wet, gloves were not used constantly by the operating surgeon until the autumn of 1897, when the following method was suggested to the writer by Dr. Charles McBurney, who was the first in our city, to the writer's knowledge, to adopt the systematic use of rubber gloves upon the hands of all connected with the wound during operation. The gloves were boiled for two minutes, then removed from the water to a large sterilized towel, and thoroughly dried by the operating-room nurse after thorough sterilization of her hands. The finger and thumb openings of the gloves were packed with sterile gauze and the gloves sealed until used. Before they were drawn upon the hand, the interior was dusted with starch powder which had been rendered sterile by dry heat. Gloves prepared in this way are worn with the greatest comfort and with practically no impairment of the tactile sense. At the close of our second year of investigation the following report was made:

"Of the 109 patients operated upon, 64 were infected at the time of operation, 43 were clean, and in 2 no incision was made. Of the infected cases, in 17 an attempt was made to establish asepsis and bring about healing by first intention or granulation without suppuration, and in 13 instances, or 76 per cent., we were successful. In the 43 aseptic cases a serious infection occurred in but 1 instance. If, however, we include the 3 cases of single-stitch infection, the whole number showing evidences of infection was 4, leaving 39, or 91 per cent., in which perfect asepsis was maintained."

These statistics, although markedly in advance of those during the first year, were still far from perfect, and in beginning again our work of investigation in January, 1897, it was with the firm determination to bring about if possible a still further improvement in our results.

As a sequence of our clinical and bacteriological investigations, and the resulting changes in our technics, we had practically excluded all sources of wound infection but three—the hands of the operator, the skin of the patient, and infection from the air. During the first five months of 1897, the same technics were employed as during the latter part of 1896, with the exception that a number of experiments were made with a view of rendering more complete the sterilization of the patient's skin, and of overcoming as far as possible air infection, which was thought to be responsible for a certain number of our suppurations.

The plan of rescrubbing the wound area of the patient on the operating-table, for one minute just before the application of the ether, in alcohol and sterile water, was employed. This was done by the house surgeon, after thorough sterilization of the hands, for which a freshly sterilized brush, sterile water, and a specially prepared sterile liquid soap were used. To avoid air infection, at the suggestion of Dr. Albert H. Ely, visiting gynæcologist to the hospital, the plan of douching cutaneous wounds with peroxide of hydrogen, just before the application of the sutures, was employed in a limited number of cases. This was done with a view not only of destroying any micro-organisms which might have fallen into the wound during operation, but also of disinfecting the track of the cutaneous sutures, and overcoming, if possible, infection by the staphylococcus epidermidis albus. A stitch infection occurred in but one instance when this method was employed.

A 1 to 1,000 solution of bichloride of mercury was employed in the same manner in a few cases, but was

later abandoned, both for theoretical reasons and for a practical demonstration of its uncertainty.

The use of formaldehyde for disinfecting septic wounds, as well as for sterilizing the air of operating-rooms and preventing infection in clean cases, was suggested, and a number of experiments were carried out with this agent. The first experiments with formaldehyde were made with glutol, or powdered formalin gelatin. My attention was first called to this substance by a paper upon the subject, read before the surgical section of the New York Academy of Medicine in 1896, by Dr. E. M. Foote, of New York, who advocated its use both in clean and in infected cases. Our first experiment with it was a striking one. The patient was admitted to the hospital in the spring of 1897, suffering from an extensive cellulitis of the foot. Free incisions were made on the dorsum under ether, and a number of necrosed tendons were removed. After several weeks of careful dressing, it was found that the presence of a number of other necrosed tendons and tendon sheaths prevented the healing, and an extensive sloughing ulcer remained. The patient was then advised to submit to another operation, and the question of amputation was seriously considered. As the patient refused a second opportunity for operative relief, the wound was dressed for two months with various solutions and applications, without improvement. Powdered glutol was finally applied after careful preparation of the wound. The suppuration ceased at once; healthy granulations appeared, rapidly covered, and finally completely buried the necrosed tendons and sheaths; the wound healed firmly. The patient was kept under observation for two or three months, during which period no trouble appeared from the buried tendons. Shortly after this experiment, during an excision of the wrist for tuberculous disease, it was discovered, after six of the eight carpal bones had been removed, that the disease had extended to the metacarpals. The operation was abandoned, with a view of allowing the patient to recover from the anæsthetic, when amputation of the arm would be advised. During the dressing my house surgeon suggested the use of glutol. Accordingly the cavity was freely dusted with the powder, and then thoroughly packed with gauze which had been impregnated with the agent. No reaction followed the operation, although the patient complained of considerable pain. At the first dressing, ten days after the operation, the wound was found to be filled with healthy granulations and absolutely free from discharge. The second dressing was removed ten days later, when the wound was found to be reduced to one-half its original size. A few weeks later it had completely healed. Although the patient was urged to remain in the hospital under observation, he insisted upon leaving, and shortly afterward began to use the hand. He returned several weeks later, thoroughly alcoholic, with the evidences of an acute inflammatory process at the site of the old operation. The wound was reopened, the two remaining carpal bones and the heads of several metacarpal bones were removed, and the wounds dressed as before. Healing was prompt and complete without suppuration, the patient this time remaining under observation for several weeks after complete healing, during which period he showed no evidences of trouble.

This agent was also used in a large number of other infected cases, with satisfactory results. Its use in aseptic wounds with a view of preventing infection was attempted in but a single instance. The patient was an old and enfeebled subject, probably tuberculous, and showed many evidences of malnutrition and bad circulation. The Bassini operation for inguinal hernia was done on both sides. Before the cutaneous wounds were closed, powdered glutol was freely dusted over the skin and subcutaneous tissues, and the wounds were then closed without drainage. No reaction followed. At the first dressing, on the tenth day, there was no redness or evidence of infection, but there was no union. One wound was opened and a large amount of semi-solid gelatinous material removed; the edges were allowed to fall together, the other wound remaining as it was. The final result was delayed healing, but there was no infection. The wound which had been opened healed first; both were solidly united in five weeks.

With a view of testing the antiseptic value of formaldehyde gas, the following experiment was undertaken: A room was selected in the hospital, the air of which was known to be badly infected. The capacity of the room was about twenty-eight hundred cubic feet. In this room were placed a large number of test tubes containing gauze soaked with pus taken from suppurating wounds in the wards; also tubes containing Subtilis spore threads obtained from the pathological laboratory of the College of Physicians and Surgeons. These were placed at a number of levels and more or less completely embedded in masses of gauze, towels, and sheeting. The room was then closed as tightly as possible, and formaldehyde gas passed from the Trillat generator through the keyhole in the door. The gas was turned on at 2:40 P.M., and allowed to flow in for one hour. The room was opened three hours later. The various pieces of pus-soaked gauze and the spore threads were then transferred to bouillon tubes; also scrapings from the floor and side walls, window sills, and board shelves. These were sent to Dr. Hiss for incubation. No growths were obtained from any of the tubes thus inoculated. These experiments demonstrated conclusively the powerful antiseptic properties of formaldehyde gas.

Our attention was next directed toward the use of some other preparation of formaldehyde, which would not exhibit the disadvantages of glutol. The preparation sold under the name of formalin was employed in a number of experiments. The first experiments were in the direction of hand disinfection. The following plan was adopted: The hands, after thorough attention to the nails, were scrubbed with green soap and hot water for five minutes; then scrubbed for three minutes in a 1 to 100 solution of formalin; after which they were immersed in sterile water. Six culture tubes were inoculated from the nail scrapings and interdigital scrapings from three of my house staff after preparation of the hands in this manner, with the result that five of the tubes remained sterile and one tube only showed growth. Later nine tubes were inoculated in the same manner, a 1 to 50 solution of formalin being used, with the result that no growth occurred in any of the tubes. As a result of these experiments, this method of hand disinfection was adopted, and was used by the writer not only in his hospital service but in private practice, until the final adoption of sterilized rubber gloves.

The next series of experiments was in the disinfection of acutely septic wounds. One of the first patients presented a very extensive and particularly foul perirectal suppuration. The wound was opened under chloroform anæsthesia, thoroughly curetted, irrigated with a 1 to 300 solution of formalin, and packed with gauze wet in a 1 to 50 solution of formalin. The first dressing was made two or three days later, when the wound was found to be perfectly clean. Repacking, however, with the same agent caused great suffering.

The next experiment was with an angry cellulitis of the leg; the procedure was practically the same, packing with gauze wet in a 1 to 100 solution of formalin. Result, a clean wound with considerable pain. Later, a wound of excision of a large carbuncle on the back was dressed with a solution of 1 to 300 of the formalin. Result, clean wound with moderate pain after

second dressing. A large perinephritic abscess was treated in the same manner with 1 to 100 formalin gauze. Result, clean wound with excruciating pain after second packing, which lasted two or three hours. A large intraperitoneal appendicular abscess was irrigated and then lightly packed with formalin gauze, 1 to 100, with the result that the cavity was not rendered aseptic. Seventeen other infected cases of about the same class were treated in this same manner, making twenty-two in all. Of this number, eighteen were known to have been rendered aseptic; in three the suppuration persisted; and in one instance the records failed to note the result. Of the three in which suppuration persisted, one was the appendix case referred to above. One was an extensive cellulitis of the thigh necessitating several incisions; at the first dressing pus was found in only one of the incisions. The third case was a necrosis of the superior maxilla with antrum disease; a large amount of dead bone was removed and the antrum packed; the nasal foramen, however, was patent.

From an analysis of these cases, I think it may be fairly stated that solutions of formaldehyde exert a marked germicidal effect when brought into contact with septic wounds, but that its use has the disadvantage of producing considerable temporary pain. This factor led us to discontinue its use in subsequent dressings, and the plan finally adopted was to employ the agent in the strength of 1 to 50 while the patient was under an anæsthetic, in the hope (which was generally realized) that the wound would be sterile at the first dressing, after which only plain sterilized gauze was employed for packing.

While these experiments were in progress, we were disappointed in finding that our records of aseptic cases operated upon were not showing the same improvement. The technics which we employed during the first five months were the same which we have described, and I can conscientiously state that they were carried out to the letter. In spite of our efforts, however, six clean operative wounds became infected during the first five months of 1897. Two of these infections were easily explained, as the patients were both operated upon during one afternoon and each wound was drained by a small strip of rubber protective tissue, which we were afterward led to suppose had not been thoroughly sterilized. Three of the remaining four cases were simple stitch infections, practically without symptoms and in no way interfering with the ultimate recovery of the patient. The sixth case was a virulent and rapidly fatal septicæmia, following an operation for hernia, in a young and apparently perfectly healthy patient. Immediately after this unfortunate event, the house staff, operating nurse, and one or two who witnessed the operation were called together, and careful inquiry was made in regard to every step of the operation and the preparation of all the material used, without eliciting any clew which would lead toward the discovery of the cause or revealing the smallest error in our technics on that occasion. It was therefore decided that some energetic measures must be undertaken to overcome the possibility of air infection, which we knew to be present in our operating-room, as well as the probability of hand infection from the operating surgeon. As our experiments with formaldehyde had been so successful in septic cases, I determined to follow the simple plan of wiping the divided tissues in each aseptic case with gauze sponges wet in a 1 to 50 solution of formalin just before the wound was closed, of inserting a small gauze drain at one or both angles of the wound, and of applying several layers of wet formalin gauze next to the skin, and then the usual dressing of sterilized gauze and cotton. Shortly afterward the regular use of rubber gloves by the operator was adopted, which removed all possibility of infection from bare fingers. This plan succeeded admirably in preventing infection. Not a single case of infection of a clean wound occurred in our service during the remaining four months.

A brief review of the results obtained during the three years would show that during our first year 147 cases were operated upon; in 38 of these the wound area was presumably free from infection at the time of operation; of these, 15 suppurated and 23 remained aseptic; ratio of infection in clean cases during 1895, 39 per cent. Second year—total number of operations, 109; clean cases, 43, of which 4 became infected and 39 remained sterile: ratio of infection in clean cases during 1896, 9 per cent. Third year—total number of operations, 165; clean cases, 83, of which 6 became infected and 77 remained clean; ratio of infection in clean cases during 1897, 7 per cent. If, however, we divide the service of the nine months during the last year into two periods—one of five months before the systematic use of formalin and gloves in clean cases, the other of four months after the adoption of these methods—the first period will show that of 40 clean cases operated upon 6, or 15 per cent., became infected; while, during the last four months, in 43 clean operations there was no case of wound infection.

From a careful view of the facts presented by this investigation, I think we are justified in urging the necessity of what might be termed an exaggerated system of surgical technics when dealing with the class of cases in which resistance to infection has been markedly diminished by dissipation or disease. When, in addition, we are obliged to carry out our operative work in an atmosphere which is badly infected, the possibility of air infection must be guarded against by the use of antiseptic measures in addition to our aseptic technics. That in formaldehyde we have one of the most powerful disinfecting agents which can safely be used in surgery, and that the systematic use of sterilized rubber gloves by all taking part in an operation, will, in connection with an otherwise perfect system of technics, be found to be of the greatest value by those caring for this unfortunate class of patients, seem to be established.

TREATMENT OF CHRONIC DISEASES OF THE HEART IN THE LIGHT OF ROENTGEN RAYS.

BY THEODOR SCHOTT, M.D.,

BAD NAUHEIM, GERMANY.

SEVEN years ago I published in this journal[1] a paper concerning my late brother's and my treatment of chronic diseases of the heart by means of baths and therapeutic exercises. Since that time I have had the gratification of observing that the new method has attracted the attention and insured the approval of medical men abroad, not only in Russia, Sweden, Holland, Denmark, Belgium, etc., but more especially in England, the United States, and those countries where the English language is spoken. This was greatly owing in England to the treatises published by Bezly Thorne, Sir William Broadbent and John Broadbent, Wethered, Bowles, Saundby, etc., and to the discussion drawn forth by Sir Thomas Grainger Stewart at the meeting of the British Medical Association at Carlisle. In the States attention was drawn to the method by the publications of Babcock, Osler, Rives, and others, and interest in it was kept alive by the discussions at medical meetings in In-

[1] "Balneo-Therapeutics and Mechano-Therapeutics Applied to the Treatment of Chronic Heart Diseases," MEDICAL RECORD, February 14, 1891.

dianapolis, Baltimore, Philadelphia, Buffalo, etc. Among the many patients and practitioners coming to Bad Nauheim from all countries I have especially noticed the steadily increasing number of sufferers and medical men from the United States. The latter especially have come to Nauheim partly to undergo treatment themselves, partly to study the system of treatment in a practical manner. I most willingly comply with the wishes of many of these colleagues to report my experiments with the Roentgen rays, with the view of furnishing an evident incontestable proof of the effect produced on the heart by this therapeutic method.[1]

FIG. 1.—Boy (Thirteen Years) before Therapeutic Exercises.

The fact that measuring the heart muscle post mortem, which has served till now as a basis for judging of the increased size of the heart, is wholly unreliable and, further, the fact that the physical means of diagnosis in the living are insufficient, have given rise to another fact, that many colleagues, though through observations and experience perfectly convinced of the therapeutical effects, have been unable to account satisfactorily for the immediate effect of the baths and exercises. Some were even so sceptical as to doubt the effect on the heart and attributed the undeniable apparent reduction of its size to an increased overlapping by the lungs. This supposition, as I have demonstrated verbally and by writing, can be easily refuted. After the exercises, for instance, the apex beat works visibly and palpably upward and inward, while the diaphragm rises simultaneously and the margins of the lungs—behind, above, and below—remain unchanged. But it is evident that even this rational refutation has not been sufficient to remove in some minds every doubt regarding this subject.

The question was in this state when there intervened the stupendous discovery of Roentgen. As soon as the possibility of rendering the heart's action visible by means of skiagraphs or the fluorescent screen was demonstrated I commenced my experiments, in which I was efficaciously supported by Professor Koenig, director of the physical institute at Frankfort-on-the-Main and by some colleagues of mine, to all of whom I am much indebted. In the beginning of my experiments I selected by preference children of nine to fourteen years of age, because at that period the technique was not yet sufficiently perfected to insure a quite satisfactory reproduction of the organs of adults.

As the object of the hereinafter-described experiments is to ascertain the changes of the dimension of the heart produced by baths, exercises, etc., it must be taken into account that the apparent size of the heart varies according to the relative distances between the Crookes tube, the patient, and the photographic plate. The more the distance between these three is reduced, the larger the reproduction of the heart will appear. It follows therefrom that if we want to exclude every mistake from this source it will be indispensable always to maintain the same relative distances for each experiment with the same individual. This can be managed in the following manner: The patient lies on his back in a perfectly horizontal position, stretched out on a large table; this position is exactly marked by means of outlines of the figure, so that when the experiment is repeated the former position can be accurately resumed. The tube is fastened always in the same spot beneath the table. The photographic plate in the first experiments rests on a support, and afterward to give a still steadier hold is screwed to four arms firmly fastened to the table. The photographic plate is placed as near as possible to the body, but still at such a distance that the respiratory movements cannot touch and disturb it. The distance between tube and plate has always been one-half metre, experience having shown that this distance reproduces the natural size of the heart. By raising the head moderately I obtain quiet respiration. I need not add that during the whole experiment the person is admonished to keep as motionless as possible. I have recently placed on the nipples small pieces of lead which, as this metal is but slightly penetrable by x-rays, appear as dark points on the skiagraphs as well as on the screen. By this method one obtains a better control of the effect, especially with regard to the physiological movements of the heart.

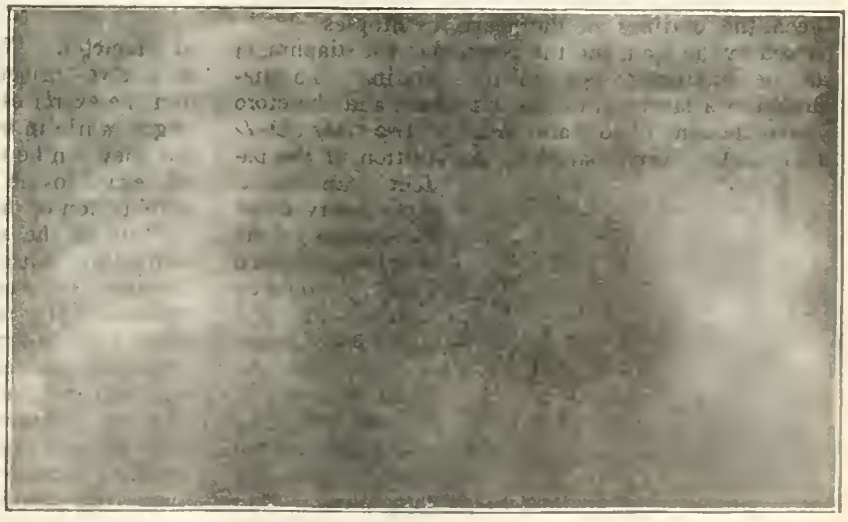

FIG. 2.—Boy (Thirteen Years) after Fifteen Minutes of Therapeutic Exercises. The patient rested fifteen minutes before the second skiagraph was taken.

In order to demonstrate the effect of the therapeutic

[1] A special article concerning the treatment of chronic diseases of the muscle of the heart will be published by me in a short time.

exercise I select one of the earliest experiments. A boy, thirteen years of age, was extremely weak and anæmic. Percussion showed an evident dilatation of

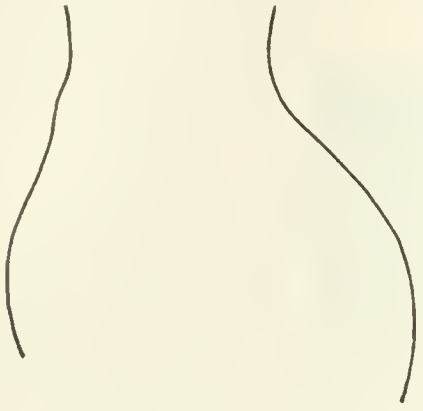

Fig. 3.—Before Therapeutic Exercises. (Diagram from Fig. 1.)

the heart. Two skiagraphs were taken, one before and the other fifteen minutes after a quarter-hour exercise with middling resistance. The second skiagraph demonstrated well the change of the size of the heart in such a way that it became evident the heart had contracted strongly on both sides. The round form of the heart had changed to a flat one and, as some colleagues justly observed, the heart which had had the form of an orange had assumed that of a lemon. This was most evident on measuring the size of the heart, as shown on the fourth rib: before exercises, 10.4 cm.; after exercises, 9.2 cm.: that is to say, the heart had contracted 1.2 cm., equal to one-half an inch.

In earlier publications[1] my brother and I have demonstrated how by these means the tonic effect on the heart is insured. Promptly and in an unrefutable manner the reduction of the heart can be demonstrated *ad oculos* by means of the fluoroscope. For this purpose I fixed on the fluorescent screen a thin layer of gelatin and designed thereon the outlines of the heart, before the exercises with black ink, and after with red ink. (In the figures broken lines are substituted for the red ones.) If you put the person between the tube and screen, the outlines of the heart, the nipples marked by the lead, and the position of the diaphragm can be distinctly seen on the gelatin. The diaphragm oscillates a little up and down, and therefore I have thought fit to mark this with two lines (*D–D* in Fig. *A*). Every change of the position of the patient can be at once observed by the change of the position of the black points (lead), and thus the small pieces of lead give the certainty that the position of the person remains unaltered during the experiment.

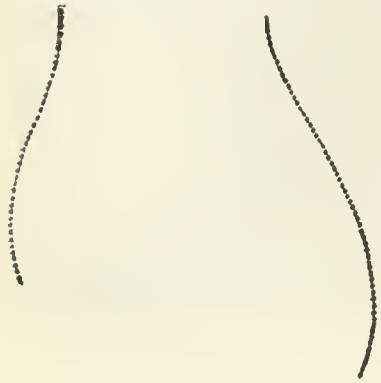

Fig. 4.—After Fifteen Minutes of Therapeutic Exercises. Patient rested fifteen minutes before second skiagraph was taken. (Diagram from Fig. 2.)

The next diagram (Fig. *A*) is that of a girl, thirteen years of age, who suffered from weakness of the heart subsequent to a rheumatic fever. The horizontal diameter at the level of the nipples is: before exercises, 11 cm.; after exercises, 9.4 cm.; equivalent to a reduction of 1.6 cm. At the same time the diaphragm has risen a good deal, from *D–D* to *D'–D'*, a further proof of the reduction of the size of the heart. The reduced size of the heart, the lungs remaining normal, will now permit the diaphragm to move upward, while if the lungs were distended by the exercises, the heart remaining unchanged, the diaphragm would be pressed downward. But just the contrary takes place and is made evident by the fluoroscope. In the case of a girl, fourteen years old, suffering from dilatation of the heart, the effect of an insufficiency of the mitral valve, I had occasion to demonstrate by means of the screen at Würzburg, in presence of a large number of physicians and students, the reduction of the size of the heart after one-half hour of therapeutic exercises.

The effect of a Nauheim effervescent bath upon a girl, fourteen years of age, I have already described in the *Deutsche medicinische Wochenschrift*, No. 14, 1897, and have made it evident by means of the reproduction of a skiagraph. In order to ascertain the effect of the bath distinctly and subject to no other influence, I had the child carried to the bath and after the same transported back directly to the table. The heart contracted nearly one centimetre in the horizontal diameter. The immediate effect of the bath is, as I have formerly stated, not quite so marked as after the exercises, but it has the advantage of lasting longer, while in favor of the exercises it may be stated that they can be used repeatedly in one day and without regard to the place. The diagram (Fig. *B*) is a reproduction of the last-mentioned skiagraph.

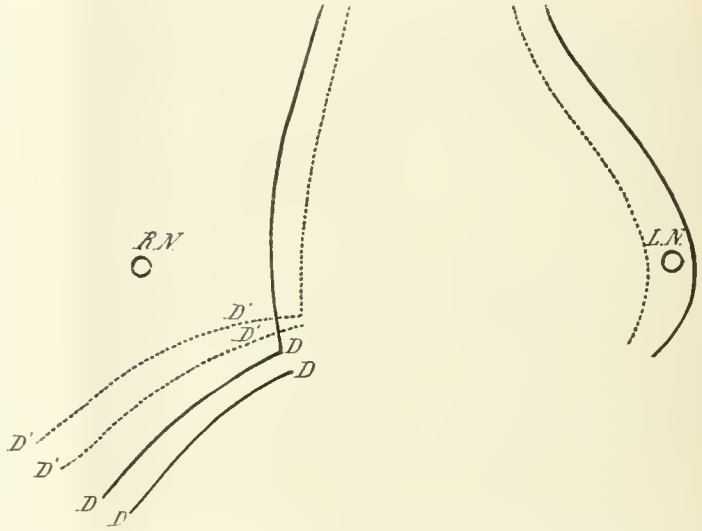

Fig. *A*.—Outlines of the Heart before Exercises. *D*, *D*, Diaphragm before exercises; *R.N* and *L.N*, right and left nipples. (Dotted lines, outlines of the heart after exercises; *D'*, *D'*, diaphragm after exercises.)

While in the above statements I have proved the contracting, that is to say, the tonic effect of baths and exercises, it can easily be shown, on the other hand, by application of *x*-rays, how overstraining produces dilatation, *i.e.*, weakening of this organ. For this purpose I repeated some experiments which I had made eight years ago and detailed before the meeting of the Society for Internal Medicine at Vienna. They were based on my having caused people to wrestle until the breathing became very short. Tachycardia, often combined with arrhythmia and dilatation of the heart, was the immediate consequence. The following skiagraphs show the effect upon a boy, twelve and one-half years old, of strong muscles, in perfect health. The small pieces of lead greatly facilitate the observation of this process. Fig. 5 was taken before the wrestling and Fig. 6 after ten minutes' wrestling and three minutes' rest. This rest served to reduce the movements of the heart and the diaphragm. The dia-

[1] Medical Record, February 14, 1891.

phragm is moved downward and the heart shows an enlargement in its vertical and principally in its horizontal diameter. Thus, for instance, I could find at the level of the fourth rib an increase of 1.3 cm.

The dilatation of the heart can be accelerated if, before wrestling, we compress the belly by means of a

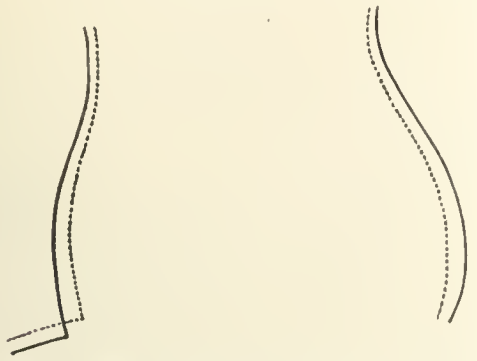

Fig. 3.—Before the Bath. (Doted lines, after a Nauheim effervescent bath, 88° F., ten minutes in duration.)

strap beneath the ribs, which, as it is generally known, forces the heart to work with more than usual strength. With the view of preventing any injury to the health I never allowed the boys to wrestle longer than three minutes. Before this time palpitation and dyspnœa became evident. At the end of this process, as might

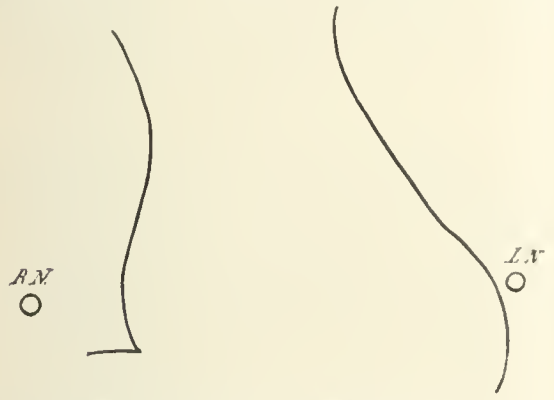

Fig. 5.—Outlines of the Heart before Wrestling. *D*, Diaphragm before wrestling; *RN* and *LN*, right and left nipples.

naturally be expected, the right ventricle showed at first more marked dilatation, viz., 1.3 cm., while the left one was dilated only 1 cm. But the left ventricle returns more quickly to its normal state, and thus we see after some time, as after the taking of a skiagraph—an operation which formerly required some time—that

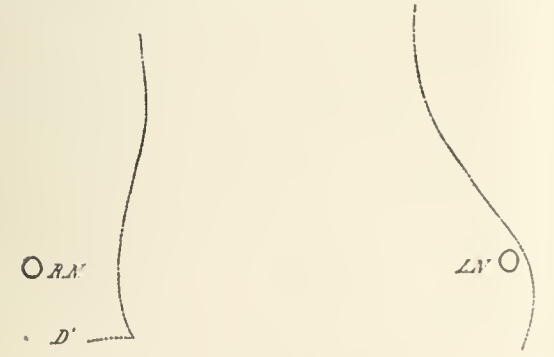

Fig. 6.—Outlines of the Heart after Ten Minutes of Wrestling. *D'*, Diaphragm after ten minutes of wrestling; *RN* and *LN*, right and left nipples.

the left continued dilated while the right one had recovered its original size.

In a paper on overstrain of the heart [1] I reported several years ago some cases of heart disease arising from overstrain. In the course of recent years I have had under my treatment an increasing number of patients in whom excessive bicycling has produced an injurious effect upon the heart in the form of dilatation. I could, indeed, demonstrate through the person of a colleague of mine, with the help of Roentgen rays, that bicycling on bad roads or against a strong wind easily produces dilatation of the heart.

In conclusion I may say that these photographs and diagrams of the fluoroscopic image are not only a valuable addition to physical diagnosis, but they at the same time show in a most reliable way the process which takes place directly in the heart. Through its means we recognize distinctly how baths and therapeutic exercises stir the heart to make powerful contractions, that is to say, exert a tonic effect upon the heart. On the other hand we see that overexertion dilates the heart and leads to a *debilitas cordis*, the latter of which is likely to be the cause of a chronic weakness of the heart, with all its ruinous consequences.

The relative signification of therapeutic exercises and of such physical acts as wrestling, running, climbing, etc., which may lead to overexertion may be best explained in the plain words which I used before: "Unsystematic exercises weaken the heart; systematic exercises, on the contrary, strengthen the heart."

I hope that my colleagues abroad will after an attentive perusal of this paper convince themselves of the correctness of my statements, for "seeing is believing."

[1] "Zur akuten Ueberanstrengung des Herzens und deren Behandlung," Wiesbaden, T. F. Bergmann. Second edition.

THE SYMPTOMATOLOGY AND TREATMENT OF THE COMMON CLINICAL FORMS OF LITHÆMIA.

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In current medical literature, lithæmia in its various aspects receives a great deal of attention. Recent writers, in dealing with this subject, recite cases which so strongly suggest errors in diagnosis that the tendency of clinicians of the widest experience and best training is to be sceptical in regard to what has been variously termed uric-acidæmia, lithæmia, irregular gout, etc. Indeed, so strong is this tendency that there is danger of going to the other extreme in classifying as intrinsically organic many affections which there is abundant reason to suppose are due to poisons circulating in the blood.

The clinician's rôle in the investigation of lithæmia is peculiarly difficult, because, looked at from whatever standpoint, a vast amount of conflicting evidence confronts him. Physiological chemists, pathologists, and clinicians secure irreconcilably different results when working with the same subject. However, sufficient evidence has been obtained to justify the statement that lithæmia is a result of faulty nitrogen metabolism, and our knowledge on the subject must come from the analytical chemistry of the blood and of the excretions. The object of the present article is to call attention to a class of cases of very common occurrence both in dispensary and private practice, which have at least one point in common—*i.e.*, their rebelliousness to ordinary treatment. These cases, while presenting symptoms referable to several different organs and structures of the body, are probably common in their etiology, and are undoubtedly benefited by the treatment detailed below. The term lithæmia, in the sense in which it was originally employed by Murchison, can be used to embrace these cases.

Pathology.—In spite of the fact that the pathology of lithæmia has been recently investigated and made the subject of extensive report by such men as Neus-

ser, Von Noorden, Leveson, Klemperer, and Kolisch on the continent, Duckworth, Garrod, and Haig in England, and Rachford, Futcher, and others in this country, comparatively little is definitely known on the subject. Upon one fact, however, all investigators whose work is entitled to serious consideration agree: and that is that uric acid has very little, if anything, to do with the symptoms of lithæmia. Uric acid is physiologically inert; its injection and ingestion in the lower animals are unattended with toxic symptoms. It is probable that the agents responsible for the symptoms of lithæmia are the xanthin bases, one of the three groups of alloxuric bodies, of which the hypoxanthin bodies and uric acid make the other two groups. The alloxuric bodies are probably all due to the catabolism of the nucleins of the body. Horbaczewski's well-known work is conclusive as to that origin of at least one of these groups (uric acid), but it is not yet so certain as to the origin of the hypoxanthin and xanthin bases. It is true, however, that when a faulty nitrogen metabolism takes place, as is the case in lithæmia, the formation and consequent excretion of the alloxuric bodies are increased. The elimination of these bodies takes place by means of all the emunctories, but principally by the kidney; consequently the urine contains an excess of these bodies in lithæmia. Kolisch has shown that in gout, undoubtedly very closely allied to certain forms of lithæmia, the xanthin bases are increased and the uric acid is diminished—facts which Futcher's recent work has confirmed.

Rachford asserts that after certain lithæmic paroxysms he has always been able to demonstrate in the urine the presence in excess of heteroxanthin and paraxanthin (two members of the xanthin group), and to these two alkaloids he ascribes as causative factors the symptoms of lithæmia. Furthermore, this investigator has induced attacks in the lower animals, very similar to those of lithæmia, by injecting heteroxanthin and paraxanthin. It is probable, however, that other of the xanthin bases as well as certain leucomains will be found to be etiologic in these conditions. That heteroxanthin and paraxanthin are responsible for some forms of lithæmic paroxysms, there is but little doubt, yet it is unreasonable to suppose that symptoms so manifold as those of lithæmia are caused by these two bodies alone. Briefly, then, the toxic symptoms of lithæmia are due to the circulation of the xanthin bases in the blood, while the pains so common among lithæmics are probably due to the mechanical irritation of uric-acid salts upon the peripheral nerve endings.

Symptomatology.—The symptomatology of lithæmia as described in this article is made up from the clinical records of a large number of cases occurring principally in dispensary practice among the poorer classes of people. These symptoms, while seemingly diverse and referable to many organs and tissues, can be arbitrarily arranged in several groups. It is a curious fact that lithæmia in the same individual may manifest itself as a paroxysm, the symptoms of which are largely referable at one time to one organ, and at another time to some other and distant organ. For instance, a lithæmic may have at one time a typical attack of what is ordinarily termed "biliousness," while the next paroxysm will be one of migraine, unattended with symptoms indicative of disturbance of the stomach or liver. It is the writer's opinion that the clinical records of most dispensaries would reveal many cases classified as chronic rheumatism, nervous dyspepsia, chronic gastric catarrh, migraine, neurasthenia, anæmia, and various forms of headache, in which the real etiological factor—a lithæmic habit—has not been suspected. This is particularly true of a large proportion of cases of very common occurrence, in which the stomach and intestines present symptoms of chronic indigestion. These patients also are depressed mentally, are irritable, often irascible, and at times melancholic. Certain functional disturbances of the stomach, liver, and intestines are caused by a lithæmic condition, and it is not the case, as is often maintained, that the general symptoms of lithæmia are due to functional or organic disorders of the above-mentioned organs. In other words, lithæmia stands in the relation of cause and not effect. There can be no more convincing proof of this statement than the fact that the stomach, liver, and intestines may be appropriately treated without effecting a change in the general symptoms.

On the other hand, antilithic treatment is followed by prompt disappearance not only of the supposedly secondary symptoms, but also of those due to disturbances of the stomach, liver, or intestines. Furthermore, in these cases I have repeatedly been able to precipitate true paroxysms of lithæmia by a nitrogenous diet, at the same time administering remedies to restore the function of the above-mentioned organs.

Gastro-Enteric Symptoms.—The gastro-intestinal symptoms of lithæmia are divisible into two general classes. The first class comprises many cases ordinarily designated nervous dyspepsia, gastralgia, or gastrodynia, in which the symptoms manifest themselves continuously, without periodic intensifications. The second group comprises those in which the symptoms, while present more or less constantly, occur in periodic exacerbations, constituting what are generally called "bilious attacks." These cases are commonly classified as chronic gastric catarrh or indigestion.

The nervous element in the first-mentioned class of cases is the most characteristic and striking feature. These patients are generally ill nourished, weak, sometimes sallow, with an appearance bespeaking general wretchedness. The appetite is variable, although generally good, with a craving for unusual articles of food. The digestion of the food is apparently normal, there being freedom from distressing symptoms of acid dyspepsia. The bowels are usually costive.

The nervous features of the case require special consideration. Pain in the epigastric region while the stomach is empty is always present. Its intensity varies from a slight uneasiness to a degree which leads to exhaustion. Headaches of neuralgic character—to be described later—and dysmenorrhœa are of common occurrence. In one of my cases the dysmenorrhœa was supposedly due to an anteflexed uterus, and the cervix was forcibly dilated: but painful menstruation continued for more than a year, until relieved by antilithic treatment. These patients complain of general nervousness, have frequent attacks of palpitation of the heart, suffer from insomnia, and are subject to periods of profound mental depression. Exaggerated cases of this nature present the clinical picture of neurasthenia, and, indeed, are most commonly treated upon that basis. Particular care, however, has been taken to exclude the class of cases described by De Dominicis[1] and commonly called oxaluria, but which are in reality cases of neurasthenia. Briefly stated, these latter patients suffer from dyspepsia, constipation, indisposition, apathy, irritability, hypochondria, loss of muscular and sexual power, and emaciation. Examination of the urine and results of treatment will bring out the points of difference necessary to a differential diagnosis. In lithæmic cases the urine is high colored, of a specific gravity ranging from 1.022 to 1.030, and generally strongly acid, while it contains a striking excess of urates and very few, if any, oxalates. The treatment of neurasthenia by rest, tonics, stimulants, and a meat diet yields good results, while such measures are of no value in lithæmia.

[1] Wiener medizinische Wochenschrift, vol. iv., Nos. 25 and 26.

The second group of cases, presenting symptoms commonly ascribed to chronic gastric catarrh, is of very frequent occurrence. The characteristic feature is that, while the symptoms manifest themselves in more or less severity, there are periodical exacerbations which prostrate the individual for periods varying from one to several days. The generally accepted view regarding the cause of these cases—namely, that the organ primarily at fault is the stomach, which by long disturbance secondarily involves the liver, thus causing the explosion of symptoms termed "biliousness"—is erroneous. It is true the stomach and liver are disturbed; but the etiological agents which are responsible for the disordered functions of these organs are, probably, certain toxins in the blood.

The individuals presenting the second group of symptoms are of typically lithæmic habit. They are generally well nourished, in the prime of life, and given to excesses in food and drink. The symptoms referable to the stomach appear soon after eating. There are pain and a sensation of fulness in this region, with evidences of slow digestion and acid eructations. The pain is generally more severe than in the regular forms of acid dyspepsia, and sometimes amounts to cramps, the pains shooting backward from the stomach. Nausea, vomiting, flatulence, and constipation are often present. Dr. David D. Stewart tells me he has found that pains variously ascribed to the stomach, intestines, appendix, etc., are very often due to the mechanical irritation of uric acid in the kidneys. Such an origin of the pains in the second group mentioned above is highly probable.

Soon after a meal the patient becomes dull, apathetic, loses the power of concentration, is mentally depressed, wants to sleep, and has dull, unpleasant feelings in the head. Vertigo is not uncommon, and hemorrhoids are present in a considerable proportion of cases. In many of these there is a history of what are commonly called rheumatic pains. These disorders partake of the nature of dull aches or sharp pains in the back and legs, with occasional attacks of quite pronounced pains in one of the joints in some cases, during which attacks the dyspeptic symptoms commonly disappear.

The periodical exacerbations of the digestive symptoms, occasioning attacks of biliousness, are particularly distressing. The frequency of the attacks varies; an average interval is from four to eight weeks. In women they are very liable to occur just previous to, during, or immediately after menstruation—a very significant fact, since it has been observed that the toxic agents which are probably the cause of the paroxysms are found in larger quantities in the urine at these times. The attacks sometimes resemble true migraine. They develop in the course of one or two days, during which the individual feels wretched. The initial symptoms are generally dull pains in the head, apathy, loss of appetite, closely followed by the nausea and vomiting which compel the individual to seek absolute rest. The nausea and vomiting constitute the most striking objective symptoms, while gastric pain is almost invariably present. Fever, varying from 100° to 103° F., and dyspnœa are to be noticed. In one case which I observed during several paroxysms, the pain in the region of the stomach was so severe, the vomiting so persistent and ejaculatory, and the subsequent collapse so complete, that the presence of gall stones was suspected. Another case under treatment for several months had at one time an explosive bilious attack; at the next period—four weeks—a typical attack of migraine, in which the stomach symptoms were comparatively obscured. After the paroxysms—be they of bilious or migrainous nature—the patient becomes dull, at times stuporous, the conversation shows confusion of ideas, and the general condition is strongly suggestive of narcotism. The attacks generally last from one to three days. The urine during the attack is very scanty, of high color and specific gravity, and contains an excess of urates. One case during the paroxysm resembled identically the clinical picture of typical uræmia; but the daily examination of the urine, of both morning and evening voiding, and of the total daily quantity excluded nephritis, either with or without albuminuria. In another curious case, the subject of lithæmic paroxysms could always predict the exact day of a bilious attack by the appearance of herpes preputialis and a mild non-specific urethritis.

Migraine.—Many if not most of the cases of migraine are lithæmic in their origin. A history of irregular gout or rheumatism which is hereditary can often be elicited. Lithæmic migraine differs in no particular from that due to other causes. Premonitory symptoms, generally of the special senses, are common. The headache begins as a burning spot about the cheek, eye, or temple, from which it spreads until the whole side of the face and head is involved. Redness of the affected side, particularly of the upper part of the face and ear, can be noticed. Nausea and vomiting are commonly present, but the attack may be strictly confined to the head. Numbness of the affected side, associated with a sensation of tingling, the writer has noticed in most cases. The attacks may last from a few hours to several days, and may be precipitated by gross errors in diet. Narcotism following immediately upon an attack of migraine is not uncommon, although not so frequent as after bilious paroxysms. The association of migraine with attacks of biliousness, and their alternation one with the other, have already been commented upon. The work of Rachford upon the urine of patients suffering from migraine is particularly interesting. After paroxysms of this nature he has been able to separate two of the xanthin bases in considerable quantity from the urine, and by injecting these substances into the lower animals has induced attacks very similar to migraine in human beings.

Headaches.—Besides the headache which accompanies migraine or other lithæmic paroxysms, the writer has noticed two forms of headache occurring in persons of lithæmic habit. Among a large number of patients, headaches are so very common and so often secondary in origin that all reflex causes must be excluded. The facilities afforded by the various clinics in dispensary work—the eye, the ear, throat, and nose, and the gynæcological—enable the clinician to have a thorough examination made in every case of obstinate headache or in any in which there is the slightest reason to suppose the trouble is reflex.

Particular care, too, has been taken to exclude the headaches—so common among the poorer classes in dispensary practice—that are due to bad hygiene, poor food, long hours of work, shortened rest, various excesses, etc. A change in the habits of life and tonics are specific in these cases.

The first class of headaches occurring in lithæmics, most commonly in women about thirty-five or forty years of age, is that in which no reflex cause—particularly uterine—can be detected. These are of long standing, more or less constantly present, and subject to periodic exacerbations. The pain is most commonly occipital, quite severe in character, and sometimes extends to the neck. These patients are not neurasthenics, and organic heart disease is not present. There are evidences of increased vascular tension, viz., a somewhat rigid artery, full between the beats, and an accentuated second aortic sound; but chemicals, the centrifuge, and the microscope fail to reveal other evidences of kidney disease. These headaches are not, in the writer's opinion, those of

general arterio-sclerosis. The exacerbations are neuralgic in character, but not severe enough to constitute a regular attack of neuralgia. Regulation of all the functions of the body fails to relieve these cases, and the drugs commonly used for headache have little or no effect.

Another class of lithæmic headaches occurs in young adults. The headache is notably worse in the morning, is not particularly severe, and is not generally attended with exacerbations. The pain is located in the frontal or the temporal region, or in both regions. Acne is very often present. As etiological factors, anæmia, organic heart or kidney disease, neurasthenia, and chronic constipation can be excluded. Here, as in the first-mentioned class, the arterial tension is raised. Antilithic treatment is the only method which will effectually cure these headaches.

Arthritic and Muscular Symptoms.—The symptoms referable to these systems are probably not due to the same etiologic agents which induce migraine and other lithæmic paroxysms, but certain other products of faulty nitrogen metabolism—possibly excess of uric acid—are probably the causative agents. These cases are commonly diagnosticated subacute or chronic rheumatism and myalgia. Antirheumatic remedies are of value only as analgesics, but a non-nitrogenous diet and general eliminative treatment are followed by permanent freedom from symptoms.

These patients have more or less constant pains in the back and legs, with an occasional outbreak of pain in one or more joints. Very often they complain of a general pain and soreness in the back and limbs, resembling that from a severe beating. The association of symptoms indicative of chronic indigestion with arthritic and muscular pains is very constant. The patient immediately volunteers the information that he has suffered for years from chronic rheumatism and dyspepsia, and the fact that the dyspeptic symptoms disappear during an outbreak of pain in the joint is easily elicited.

Other symptoms of a nervous character which are commonly observed in all lithæmics are irritability, instability of temper, mental depression, and insomnia. Careful attention to family history shows that heredity plays an important rôle.

Treatment.—The treatment of lithæmia is generally very satisfactory, both in avoiding the distressing paroxysms and in securing freedom from the symptoms more or less constantly present. The two cardinal rules which sum up the whole subject are: eliminate the toxic agents which cause the symptoms and avoid nitrogenous food, from the metabolism of which the toxic agents result. It is often a matter of considerable difficulty to feed lithæmics properly, because generally a complete change in diet is necessary, and the monotony of non-nitrogenous food is very unpleasant.

Milk, vegetables, and cereals are the best food for lithæmics, and all cases marked by pronounced symptoms should be kept strictly to the above articles. However, in the management of most cases it is necessary only to direct the patient to eat sparingly and of simple food, and to caution particularly against overindulgence in food of any kind. Stress should be laid upon the latter, because it is certain that overeating constitutes the cause of many cases of lithæmia. To proscribe proteids entirely means to eliminate from the dietary most of the ordinary articles of food, and this is practically impossible. Indeed, some nitrogen in the food is necessary to replace the waste occasioned by metabolism. Meat, fish, poultry, eggs, tea, and coffee should occupy an inconspicuous place in the dietary; while carbohydrates, fats, and milk should make up the list from which the patient can choose. Vegetables in general and fruits are well borne; so also are cereals and small quantities of cheese. It is not necessary to eschew meat entirely; it may be allowed in small quantities at the midday meal, if special injunctions are given that moderation must be observed. The meat may be stewed, as recommended by Kolisch, by which process it is deprived of most of the extractives. If desirable, boiled fish or poultry in small quantities may be substituted for the meat. It is observed that occasionally certain vegetables and fruits disagree with the patient, in which case the offending article must be avoided. Other foods to be interdicted are salads of all kinds, fries, sweet articles—such as preserves, candies, pastries—and malt liquors. Spirits, as a general rule, are injurious, but the writer has observed that their moderate use in some cases is not disadvantageous.

Not infrequently the sudden change in the chemical composition of the diet will, as Haig pointed out, cause an increase in the severity of the symptoms. This condition, however, is explained on physiological grounds, and, because evanescent, should be ignored. During this period of exaggeration of symptoms, it is well to insist upon freedom from the cares of business and a few days rest in bed.

The fact that the causative toxic agents are eliminated by the kidneys, bowels, and skin gives the clew to the medicinal treatment of lithæmia. These emunctories should all be gently stimulated by non-irritating agents. The treatment is best begun either by a brisk mercurial purge or with small doses of calomel and soda, given until free catharsis is produced. If constipation be a marked feature, this must be overcome by carefully adapted doses of cascara, given preferably in glycerin once or twice a day as the case requires.

The drugs which, in the writer's experience, produce the best results as general eliminants are the phosphate of sodium and the bitartrate of lithium. The salts of lithium have for a long time enjoyed the reputation of being of especial value in the treatment of lithæmia. A series of experiments conducted by myself to determine the relative values of the citrate, carbonate, and bitartrate of lithium in these cases was conclusive as to the vast superiority of the last-mentioned salt. Not only is it a better diuretic, but it seems to have a specific eliminative power on the alloxuric bodies which are probably the cause of the lithæmic manifestations. Furthermore, its prolonged use is unattended by any disturbances whatever.

While it is necessary to secure satisfactory bowel movements, it is equally important to avoid drastic purgation, as this interferes with free diuresis. In most cases the phosphate of sodium has the desired laxative effect; moreover, its cholagogue action in these cases is particularly valuable. The best routine treatment for most cases of lithæmia consists of the administration of the phosphate of sodium in drachm doses once a day, taken preferably in a glass of hot water before breakfast, and from five to ten grains of bitartrate of lithium taken in a glass of water three times a day. These quantities must, of course, be varied to suit individual cases. One drachm of phosphate of sodium may sometimes be repeated to advantage in the course of a day, but the quantity of the lithium salt must be determined by the amount of diuresis produced. One, one and one-half, or two of the effervescing lithia tablets, three times daily in a glass of water, will be found to meet the requirements of nearly all cases. In accordance with Klemperer's observations, that drugs calculated to eliminate toxic agents resulting from faulty nitrogen metabolism are given to best advantage about four hours after a meal, the writer has followed that rule in the administration of the bitartrate of lithium, and has obtained the happiest results.

In nervous dyspepsia, chronic gastric catarrh, myal-

gia, and very often in migraine, the prognosis is favorable; but in those cases in which the clinical pictures are almost identical with these affections, but in which a lithæmic condition is present, antilithic treatment is the only method attended with good results. There can be little doubt as to the accuracy of this statement; its truth the writer has many times demonstrated to the satisfaction of himself and others.

The value of the salicylates in the treatment of lithæmia is, in the writer's opinion, decidedly negative. Their powers of elimination have been greatly overestimated. It is true that their ingestion is followed by increased excretion of uric acid, but this is due to an increased production of this constituent. It is well known that the salicylates increase leucocytosis; and, as Horbaczewski demonstrated, much of the uric acid excreted comes from the catabolism of the nuclein of the leucocytes. It is, therefore, manifestly improper to administer a remedy which causes increased production of any of the alloxuric bodies. Just at this point the writer would like to express an opinion, based upon several years of clinical observations, concerning the therapeutic value of the salicylates in those affections for which they are commonly given. In acute rheumatism they are of decided value as analgesics; but in many cases of chronic rheumatism, and in all cases of lithæmia and gout, they are of doubtful therapeutic effect.

The excretory activity of the skin is best maintained by frequent bathing. Hot-water baths, taken either every day or on alternate days, are of positive value in the treatment of lithæmia. The reputation of the many lithia waters is probably due more to the water they contain than to any of the salts; at any rate they are not to be relied upon, exclusive of other medication. Good pure water, taken frequently during the day in liberal quantities, is to be commended.

The general treatment above detailed—viz., the use of a non-nitrogenous diet and frequent bathing, the administration of phosphate of sodium and bitartrate of lithium, given preferably in the form of effervescent lithia tablets—will generally suffice to rid lithæmics of not only the distressing bilious and migrainous paroxysms, but also of the symptoms referable to the gastro-intestinal tract.

The two classes of headaches mentioned above have yielded to this treatment when cannabis indica, the iodides, salicylates, methyl blue, and the host of other remedies ordinarily used for obstinate headaches have failed. It is often necessary to treat individual symptoms when pronounced enough to occasion distress. In those cases in which the symptoms of acid dyspepsia are more or less constantly present, which symptoms occasionally culminate in an attack of biliousness or "sick headache," the remedy popularized by Dr. J. P. Crozer Griffith has given excellent results. It is an alkaline aromatic, the formula of which is:

℞ Ol. caryophylli ..... ʒ i.
Sodii bicarb ..... ʒ ij.
Chloroformi ..... gtt. cxx.
Tr. cardamomi comp. ..... q.s. ad ʒ iij.
M. S. Teaspoonful to be taken after each meal.

The writer has found the efficacy of the above mixture increased by the addition of the oil of cajuput in doses of from five to ten minims. In this class of cases, particularly those in which there are present much flatulence and other symptoms of intestinal indigestion, associated with headaches, a compound tablet of bismuth beta-naphthol, containing bismuth beta-naphthol, 3 gr.; eucalyptol, ¼ gr.; guaiacol, ¼ gr.; thymol, ⅛ gr., given three times daily, is of value. The best results are obtained in the general treatment of lithæmia by adopting a brisk eliminative measure during the first two weeks, then reducing the quantities of the drugs for the second fortnight, then again reducing to a minimum, or intermitting them entirely for the fifth and sixth weeks. In many cases small doses of phosphate of sodium and bitartrate of lithium, given continuously, will keep the symptoms in abeyance.

THE METHOD OF OPERATING FOR SMALL EPITHELIOMATA OF THE LIP.[1]

By CHARLES N. DOWD, M.D.,
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Cancers which come on the lip are situated in a most favorable position for cure. They are seen soon after their inception. The tissues can easily be removed about them, and the lymphatics through which they spread are so situated that enlargement can readily be noticed and their removal quickly accomplished. Yet

Fig. 1.—Case I., Two Months after Operation.

in spite of these favorable conditions the mortality from these growths is large. The report of 305 cases from Bruns'[2] clinic gives the following details: 28 cases were inoperable or declined operation for other reasons. Of the 277 patients who had been operated upon, 99, or 35.7 per cent., died of recurrence; 16, or 5.7 per cent., died from the operation; 71, or 25.6 per cent., died from other diseases without recurrence; 89, or 32.1 per cent., were living and healthy; 2, or 0.7 per cent., were living with recurrences. Two hundred and twenty-seven of the cases were operated upon three years or more before the report, and 106, or 46.2 per cent., had lived three or more years without recurrence.

Of 62 cases reported by Winiwarter,[3] 4 were in-

[1] Read before the Medical Society of the County of New York, December 27, 1897.

[2] A. Wörner: "Ueber die Endresulte der Operation des Lippenkrebses." Beiträge zur klinischen Chirurgie, ii., p. 129. 1886.

[3] A. von Winiwarter: "Beiträge zur Statistik der Carcinome," Stuttgart, 1878.

operable. Of the 58 operable patients, 14, or 24.1 per cent., died of recurrence; 2, or 3.5 per cent., died from the operation; 4, or 6.9 per cent., died from other disease without recurrence; 29, or 50.7 per cent., were living at the time of the report without recurrence; 3, or 5.2 per cent., were living with recurrence or were untraced; 6, or 10.3 per cent., were healed. Their history after they left the hospital was unknown.

FIG. 2.—Incisions for Operation in Case I.

Of the 48 patients whose operations had preceded the report by three or more years, 21, or 43.7 per cent., had lived three years or more without recurrence.

These tables certainly indicate the gravity of the disease, but as the earlier cases of the series date back many years they do not fairly show the present status of the subject, since patients now seek surgical aid at an earlier date than formerly and operation is much more successful.

The advanced stage which the growths had reached at the time of operation is indicated by the fact that out of 290 patients in whom the location of the growth is recorded 66 had all, or nearly all, the lower lip involved.

The disease is not uncommon. Wörner, from the statistics of several European clinics, found that 32.4 per cent. of all the epitheliomata which came to operation were upon the lip. They constituted 54.5 per cent. of all those upon the face and scalp. At the New York Cancer Hospital during the last five years patients with cancer of the lip have been admitted at the rate of about one a month.

Each year patients are seen there who have been previously operated upon but who have recurrences in the tissues beneath the lower jaw. In the hope of helping to prevent such recurrences I venture to call the attention of the society to certain elements in the treatment of these growths when they first appear. The patients usually consult a physician before the growth has reached a large size. Frequently it is not larger than a split bean when it comes under medical care. The persistent ulceration is the most important element in the diagnosis, although a hard base is usually present and at least a part of the margin is usually excavated. The ordinary method of treatment is by excision of a wedge-shaped piece of the lower lip and sewing the edges of the wound together—an operation which is easily done, which gives a good cosmetic effect, and which in the main is successful. It is very generally done by physicians who do not undertake the severer kinds of operations. The later history of such patients is not usually followed. They will not report to their surgeon or physician, as they consider their ailment a slight one and they are usually lost sight of. Still a sufficient number of them are afterward seen with recurrences to indicate that the operation is not all that could be wished.

Gussenbauer[1] has made an exhaustive study of lymphatic infection in cancer of the lip, and has found that it almost always exists. Among thirty-two ordinary cases which came to him for operation, from six months to two years after the beginning of the growth, he found lymphatic cancerous disease present in twenty-nine, and in the remaining three there were such changes as indicated a beginning infection. He found the lymph nodes which lie in front of the facial artery close to the upper border of the submaxillary salivary gland to be the ones most frequently infected. He advocated their removal.

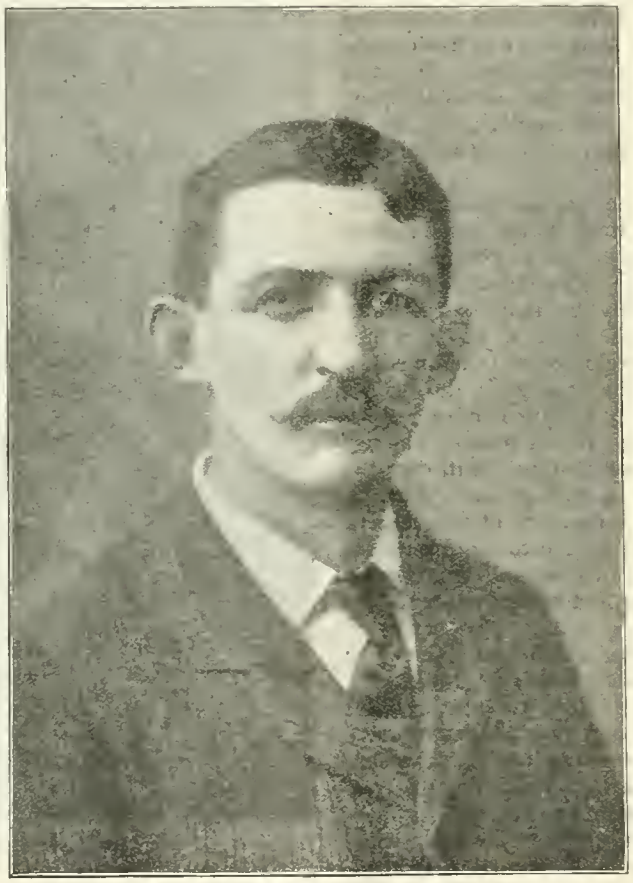

FIG. 3.—Case II., Two Months after Operation.

Wörner also advocated the exploration of the submaxillary tissues in operations for cancer of the lip, whether enlarged lymph nodes could be felt or not, and stated that he had often found them present when they could not be felt before exploration was made. Among 123 patients in whom the clinical appearance was noted the submaxillary glands alone were enlarged in 34; the submental glands alone were enlarged in 30; both submaxillary and submental glands were enlarged in 27; no enlargement was detected in 32.

Winiwarter states that the ordinary course of lymphatic involvement is, first, the submaxillary group, then the submental group, then those on both sides of the neck down to the clavicle.

It is to this submaxillary group that I wish particularly to call your attention. These glands bear a relationship to beginning epithelioma of the lower lip very similar to that of the axillary group to cancer of the breast. Enlargement is usually first noticed in one or more lymph nodes which lie contiguous to the anterior border of the submaxillary salivary gland, and which can ordinarily be palpated if one

FIG. 4.—Incisions for Operation in Case II.

[1] Gussenbauer: Zeitschrift für Heilkunde, 1881, Bd. ii., S. 17.

finger is put in the floor of the mouth under the lower margin of the body of the jaw, just in front of the facial artery, and counter-pressure made with the fingers of the other hand on the outside. A very small amount of swelling can thus be discovered. During the past year it has been my fortune to operate upon four cases of small epithelioma of the lower lip, which had been examined by men who were careful in diagnosis, but who had stated that there were no lymphatic enlargements. Yet when examination was made in the manner indicated, enlarged lymph nodes were detected in each case.

The fact that these glands are enlarged does not necessarily mean that they are cancerous. Instances are recorded in which palpable lymph nodes have been left after removal of a portion of the lip, and in which the swelling has subsided. In those of my case, specimens from which were examined microscopically, no cancer cells were found; the lymph nodes from the fourth case were lost before reaching the pathologist. Still one must feel that enlarged lymph nodes near a cancer are a great menace and that they should be removed. Gussenbauer's researches and the recurrences which are seen from time to time strengthen this belief to the extent that a failure to remove them seems very culpable.

The method which seems best adapted for these cases is to make an incision under the body of the

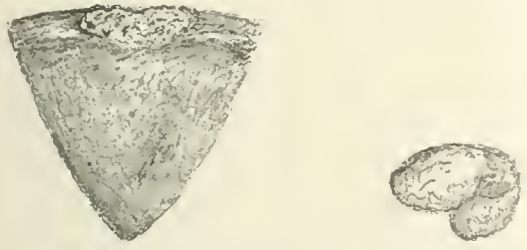

FIG. 5.—Case III., Showing signs of visible epithelioma, the portion of lip removed, and the submaxillary lymph nodes.

jaw, about an inch in length, reaching forward from the position of the facial artery; this is carried through the skin, superficial fascia, platysma, and deep fascia, down to the submaxillary salivary gland, to the anterior border of which the lymph node or nodes are attached. The posterior border of the mylo-hyoid muscle may be pulled forward to facilitate their finding and removal. Through the incision the adjoining tissues can be examined for the purpose of detecting other enlarged lymph nodes, particularly along the facial artery and in the floor of the mouth. If such are detected they should be removed, and of course the incision should be made as large as necessary. Incisions which are not more than an inch in length on each side do not make a scar which can be considered a deformity; if situated just below the border of the jaw, they are hardly seen. This procedure should not lengthen the time of healing from the operation, as the submaxillary regions should heal as quickly as the lip does.

The chief objection is the fact that an anæsthetic has to be given—a very slight objection when compared with the benefits of the operation—so slight that it need not be considered.

There may be some exceptional instances when these incisions need not be made, as there are some persons with thin necks in whom enlarged lymph nodes can be detected by proper palpation, if they exist. But so thorough and careful a bimanual examination should be made in each case that slight enlargements can be detected, and if they exist, or if there is any doubt about it, the exploration should be made. On this basis there will be very few patients with even small epithelioma of the lower lip in whom the submaxillary spaces will not be explored. The recurrent cases and the records of operations indicate that this is not often enough done, although the subject has been fairly before the profession for a number of years.

The removal of the growth itself from the lip should be accomplished by taking away a good-sized wedge of tissue. The cut should be one-fourth to one-half an inch from the visible edge of the epithelioma. A large portion of the lip can be removed without making an unsightly deformity.

The accompanying illustrations indicate the good cosmetic results which are obtained even when large portions of the lip are removed. If more than two-thirds of the lip is taken away, it is usually wise to make a small incision outward from the angle of the mouth, cutting the mucous membrane one-half or one-third of an inch higher than the skin, sewing this over to the skin margin so as to form a good vermilion border, which will be a part of the newly constructed lip, and then sliding the flap toward the median line. A compensatory V-shaped piece may be taken from the tissue above the incision, if necessary.

Clinical Department.

REPORT OF A CASE OF SUBCUTANEOUS FACIAL HEMORRHAGE IN EPILEPSY, WHICH FOLLOWED A SINGLE FIT.

By L. PIERCE CLARK, M.D.,

FIRST ASSISTANT PHYSICIAN AT CRAIG COLONY, SONYEA, N. Y.; MEMBER OF THE NEW YORK NEUROLOGICAL SOCIETY, ETC.

MANY writers upon epilepsy have mentioned the occurrence of subcutaneous hemorrhage throughout all the organs of the body, and especially in the condition status epilepticus, but few of these writers have made any more extended remarks than simply to note its occurrence. Gowers ("Diseases of the Nervous System," vol. ii., p. 744) states that the strain of a seizure in epilepsy may cause small vessels to rupture, usually in the face and conjunctivæ, so that the face may be spattered, as it were, with small hemorrrhagic points. After death in a convulsion hemorrhage may be found in the internal organs. No further remarks are made by this writer in regard to the frequency or infrequency of subcutaneous hemorrhages in epilepsy. It is not an uncommon observation to see this hemorrhagic condition in epilepsy when the patient has had status epilepticus or many seizures occurring in series. The writer can find no case on record in which hemorrhages have followed a single grand-mal seizure or petit-mal attack. In the case which is to be here reported the patient has for two or three years had subcutaneous facial hemorrhages after having had a single attack. The history of the case is as follows:

C. F——, female, aged seventeen. Epilepsy began at the age of eleven, supposed to have been caused by shock on hearing of a sister's death. The family's history is as follows: Paternal grandfather died of phthisis; maternal grandfather and grandmother both died of hemorrhages of the brain at the age of sixty-five; a maternal aunt died of apoplexy at the age of thirty-seven; an elder sister had chorea and died of phthisis at the age of thirteen; a younger sister is at present suffering from phthisis; all the brothers and sisters have had night terrors and disordered sleep in childhood—in fact, these have always been present in all the patient's paternal relatives. The patient's mother has had hysteria and hysterical convulsions on several occasions for eight or ten years prior to the birth of the patient; one hysterical attack occurred when the mother was two months pregnant; another attack occurred while the patient was being born. Nothing pointing to a hemorrhagic diathesis was found in the

family history. The patient had scarlet fever at seven years of age, and scarlatinal nephritis followed. She has had frequent attacks of headache from earliest infancy, which have been termed by the relatives "ner-

vous headaches;" such attacks have occurred most frequently in the early morning hours. The patient has never been regarded as a healthy child, and received the greater part of her education in private schools. She has a very large appetite and is prone to bolt her food and to eat large and inordinate quantities of food several times a day. On several occasions after having had a large number of epileptic seizures the patient has lost the power of both hands, so that she could not pick up small articles from the floor or hold them when once grasped. This condition lasted only a few hours after her attacks, which occurred in series. (This is an illustration of the post-paroxysmal paralysis in epilepsy described by Hughlings-Jackson.) She has never had a sleep stage after her attacks. She has never done much work. Since her epilepsy began she has suffered from considerable impairment of memory. A few light attacks have been aborted by shaking and rubbing the patient's arms. She presents marked stigmata of degeneration, which are as follows: palate Gothic: torus asymmetrical: ears asymmetrical.

The patient was admitted to Craig Colony for care and treatment, March, 1897. Three days after admission she had a slight seizure which was attended by a slight muscular convulsion. After this attack a profuse rash or a subcutaneous hemorrhage appeared on the face and extended down the neck on the right side. This rash remained for two days, and then finally faded out in the characteristic manner in which recovery from purpura hæmorrhagica takes place. This hemorrhagic condition is shown in the illustration presented here, which is from a photograph taken one day after the hemorrhage occurred. In the first few hours the hemorrhagic foci resemble India-ink tattoo marks, or, as the huntsman would term it, "powder marks."

A description of one of her attacks which was witnessed by the writer is as follows: Patient gave the characteristic epileptic cry; a convulsive movement began in the feet, followed immediately by severe muscular contraction throughout the entire body. Patient had labored breathing and frothed at the mouth. After this convulsive movement had ceased, at the end of twenty seconds, the patient succeeded in standing up and gave two short screams; then she lay down on the bed again and fell into a stupor which lasted about ten minutes. During the clonic stage of the spasm a fine eruption rapidly appeared on the face and neck.

After several of her epileptic seizures had occurred and the hemorrhage had made its appearance after each attack, she was placed upon three minims of the fluid extract of ergot twice a day. This resulted in marked diminution of the quantity and area of the hemorrhage on the face and neck. When she had taken the ergot for two weeks the facial hemorrhages ceased to appear after the convulsions, and she has had none since.

HEMILINGUAL ATROPHY WITH COEXISTING BULBAR SYMPTOMS, ASSOCIATED WITH INSANITY OTHER THAN GENERAL PARALYSIS.

By WARREN L. BABCOCK, M.D.,
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This rare symptom of nuclear disease has always received considerable attention from neurologists. Somewhat over a year ago C. W. Burr[1] contributed an elaborate review of the subject and reported an additional case. The last twelve months have brought forth several new cases. Under the head of "Trophoneuroses" in the "Twentieth Century Practice," Charles K. Mills writes interestingly and gives all known information regarding its etiology and pathology. He corroborates the conclusion of Burr that "hemiatrophy of the tongue with palsy can be caused only by a lesion of the hypoglossal nerve or its nucleus in the medulla." The greater part of the evidence adduced shows that in the majority of cases it is due to nuclear disease of the hypoglossal, although the lesion seldom involves the twelfth nucleus alone. More often the accompanying paralysis of palatal, laryngeal, and other groups of muscles: the frequent association with tabes, paresis, and the myelitic degenerations; and the sensory implications, show that it may be simply a symptom of an extensive nuclear degeneration. The case reported below is one of some interest, owing to the accompanying bulbar symptoms and associated mental condition. After a careful review of the literature, the reporter is unaware that a case associated with insanity other than general paralysis has heretofore been reported.

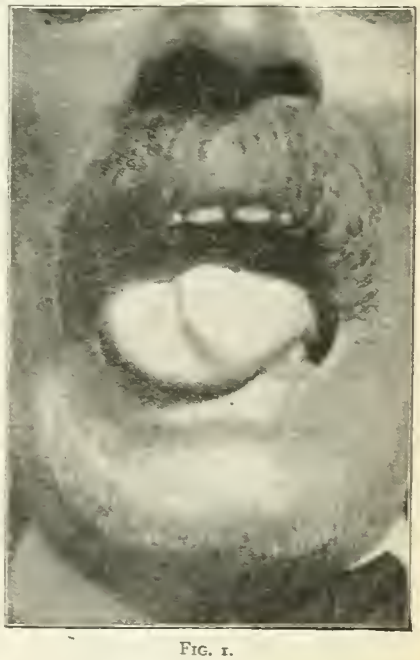

Fig. 1.

[1] Journal of Nervous and Mental Disease, 1896, p. 2[illegible]

Case No. 2,727.—Admitted to St. Lawrence State Hospital, April 1, 1897; male, aged fifty-seven years, married, native American; laborer and a veteran of the rebellion. Occasional drinker, but seldom given to excesses. No history of syphilis. Father intemperate, but family history otherwise good. Diagnosis, melancholia with hypochondria, beginning three months previous to admission. Patient's wife states that he suffered a "congestive attack" in December, 1895. He regained consciousness in a few minutes, and soon observed partial loss of muscular power on the left side of the body, with almost complete loss of sensibility of the right side of the face, left arm, and left thigh and leg. The physician who was called in found greatly contracted pupils, tongue protruding to right, speech somewhat thick and guttural, and loss of muscular power and sensibility of the left side of the body. Later the patient regained partial use of the left arm and leg; he had some difficulty in swallowing, which soon passed off, and he became able to articulate distinctly. Still later all symptoms disappeared except the pupillary contraction, deviation of the tongue to the right, and some slight difficulty in deglutition. The condition remained stationary for four months, when he began again to lose use of the left arm and leg, swallowing became more difficult, speech thick and jerky, and he suffered severely from headaches limited to the right side of the head. Following the return of his symptoms he became depressed, threatened suicide, and had emotional outbreaks followed by periods of great irritability. In this condition he was admitted to the hospital.

Examination, physical: Temperature normal; pulse, 118, soft and regular. Heart moderately hypertrophied, with roughened second sound. Lungs normal. Bowels constipated, prostate hypertrophied, and bladder irritable. Urine: Specific gravity, 1.013; trace of albumin with many coarse granular casts; urea, one per cent. Eyes: Convergent squint, right eye; pupil contracted nearly to a pin point; visual field normal in left eye; inferior, superior, and temporal field blind to right eye; fair central vision; iridoplegia present; no diplopia; ophthalmoscope gave shrunken arteries, dilated and tortuous veins, and sluggish circulation. Tongue: Heavily coated white, moist, deviating to right; right hemisegment greatly atrophied (see Fig. 1); antero-posterior median line prominent; marked fibrillary twitching on protrusion. Palatal and laryngeal muscles of right side of pharynx and throat paralyzed and atrophied, rendering deglutition difficult; fluids only could be swallowed, part of the same usually flowing back into the nares and out of the nostrils. Uvula deviated to right. Mucous membrane of mouth smooth and without folds; semisolids had a tendency to collect in right cheek; he constantly drooled saliva at night; taste and smell normal; speech thick and guttural and attended by considerable effort in articulation. Labials only could be pronounced with ease. Patellar reflexes normal; no ankle clonus; superficial reflexes of right side absent; no inco-ordination of arms or legs. Sensibility completely lost over the right side of the face, partially lost over the left arm and shoulder. Trophic ulcers on right side of face and in right nostril. Cephalagia at times intense and usually located over right side.

Examination, psychical: Depressed and despondent; threatened both suicide and homicide; notional, demanding that his wife or nurse wait on him constantly; wished food served eight or ten times daily, and changed physician six times in two months. Often irritable, and if crossed in any way would scold and threaten, break furniture, or beat his wife. Thought family desired to have him out of the way. Exceedingly introspective and hypochondriacal, spending the greater part of the day in self-analysis or review of subjective symptoms. Wept frequently and without apparent cause. Loss of memory for recent events, with slowly progressing dementia.

Progress of Medical Science.

A Clinical Study of Tachycardia and its Relation to Uræmia and Graves' Disease.—R. G. Curtin (*International Medical Magazine*, 1897) says that in certain cases of so-called "nervous" palpitation, the underlying cause is an uræmic intoxication. In other cases the tachycardia is the first symptom of Basedow's disease, and precedes by many years the other symptoms. Of fifty-five cases of Basedow's, thirty-four came under this heading.

Streptococcus Erysipelatos and Streptococcus Pyogenes.—Contrary to Koch, Petruschky, and others, C. Parascandolo (*Wiener klinische Wochenschrift*, 1897, Nos. 38 and 39) is of the opinion that there is a difference between the above streptococci. In favor of his view he advances the argument that the serum of an animal which has been rendered immune with the streptococcus of erysipelas does not protect against infection with streptococcus pyogenes.

Varicosities.—They result in part from a general slowing of the pelvic circulation, with consequent engorgement of all the pelvic viscera and the damming back of the blood in the enlarged veins, and in part from direct pressure of the pregnant uterus upon the engorged pelvic vessels. Generally the varicose condition is first manifested in the appearance of hemorrhoids, from which many patients suffer severely. If the condition becomes aggravated, the veins of the vulva and of the legs distend, often to an enormous extent. We have seen in a Hungarian woman a mass of varicose veins as large as a man's fist, pendent from the right labium. A curious feature noticed by some writers is that varicose veins of the legs are commonest upon the left side, and when present upon both limbs are more marked upon that side (H. C. Bloom). This is by no means invariably the case. The veins of the bladder may partake in the general distention, and should rupture of one of these veins occur hæmaturia will be produced.—W. A. Newman Dorlan, "Manual of Obstetrics," page 86.

On the Etiology and Therapy of Uncontrollable Vomiting in Pregnancy; Treatment with Subcutaneous Injections of Cocaine, Tibone's Method.—A. Pozzi (*Therapeutische Wochenschrift*, No. 37, 1897), in an exhaustive *résumé* of the literature of the past one hundred and fifty years, introduces his subject by quoting Charpentier, who says that the large number of remedies recommended by various writers from time to time is in itself sufficient proof of their uncertain value. He states that Oribasius and Paulus were the first to observe that the vomiting of pregnancy could prove uncontrollable. In 1641 Guillemeau differentiated a form of vomiting characterized by its severity and long duration, and requiring energetic treatment. Mauriceau (1738) claimed that obstinate vomiting was a purely functional disorder and required suggestive therapy. He believed that a direct connection existed between the sympathetic nerves of the stomach and those of the uterus, so that dilatation of the uterus caused reflex nausea and vomiting. His treatment was dietetic and purgative, and in severe cases dry cupping in the epigastric region or the wearing of a vulture skin. His theory remained in general

acceptance up to the middle of the present century. Some writers locate the seat of trouble in the uterus, others in the cervix, and still others in the adnexa. Bretonneau (1854) believed that the reflex vomiting resulted from the stretching of the rigid uterine wall and recommended the use of belladonna. Horwitz thought that extensive metritis and parametritis caused vomiting by interfering with dilatation, and that deviations of the uterus and inflammation of the cervix increased this difficulty. Giordano considered as a causative factor the irritation of the ovaries produced by contact with the fundus uteri, and regarded induced abortion as the only proper treatment in severe cases. Tyler-Smith and Schröder claimed that stretching of the uterine nerves causes the vomiting; Galabin, that it is due to the tension of the swollen ovary. Cazeaux regarded flexion of the fundus on the cervix as the causative agent; Clay, hyperæsthesia of the cervical mucosa. The patient was therefore kept on her back with the hips elevated, and leeches were applied. Bennet recommended the application of nitrate of silver in inflammation, erosion, or ulceration of the cervix. Copeman advised forced dilatation of the cervix, and this was concurred in by Marcow, Sims, Calebrini, and others. The good results of this method strengthen the theory that the cervix is the seat of irritation. More recently La Torre recommends the application of ichthyol-glycerolate tampons to the cervix, and believes venous congestion of the cervix to be the causative factor. Among the authors who regard uterus deviation as the etiological basis are Guéniot, René Birau, Moreaux, Cazeaux, Munro, and Ulrich. The chief advocate is Graily-Hewitt (1871), who believes deviation to be the sole factor in uncontrollable vomiting. At the point of flexure there arises an irritation of the nerves of the uterus which calls forth reflex vomiting, varying in intensity with the degree of flexion. Correction of the deflection is the only method for procuring relief. Braxton-Hicks claims that in addition to the above adhesions must be present to call forth obstinate vomiting. Various other causes are mentioned, such as enlarged placenta (Taggard); a peculiar form of dyspepsia, due to the unusual food often used (Levai); constipation (Donzellini); and increased nervous excitability causing predisposition, with constipation as the exciting cause (Fischel). One of the latest advanced theories is that of Kaltenbach, who places obstinate vomiting in a category with hysteria. Vomiting and salivation, according to him, are simply the manifestations of an increased reflex neurosis caused and maintained by pregnancy. He admits that the relation to hysteria is not a constant one. Friedreich regards hyperemesis gravidarum as a reflex neurosis, best treated by large doses of potassium iodide. These are the main etiological theories and the treatment dependent upon them. Counter-irritation, vesicant plasters on the epigastrium, emetics and laxatives, aromatics, alkalies, and antispasmodics have all been recommended. As a sedative opium, given internally, in clyster or hypodermatically, does well in certain cases. Sometimes belladonna applied to the cervix or cocaine internally is good. Among the empirical agents employed are the salts of copper, potassium cyanide, aqua laurocerasi, tincture of iodine, potassium iodide, potassium bromide, calomel, and nux vomica. Cerium oxalate in doses of from three to five grains gives good results. Lately local application of ether to the epigastrium and spine has been recommended. Gautier observed that the galvanic current has a quieting action. With a weak, descending current of from eight to forty milliampères applied for fifteen or thirty minutes, with the negative pole placed on the navel and the positive pole between the insertion of the sterno-cleido-mastoid muscle, a sedative effect on the sympathetic, vagus, and phrenic nerves is produced. With an ascending current, positive pole in the region of the stomach, vomiting can be again called forth. Lastly, when all other methods fail, it is proper to induce abortion. In the year 1813, Simmons recommended the induction of premature labor at the seventh month, for uncontrollable vomiting. Abortion should be resorted to only after all other methods have failed to control the vomiting, when loss of flesh and strength makes absolute rest imperative, when fainting-spells occur, and when high and constant elevation of temperature exists. The writer next compares the picture of the physiological with the pathological form of the vomiting of pregnancy. Ordinarily the vomiting begins shortly after conception, lasts from one to four months, is easily controlled, or passes away without treatment; it is almost painless, or associated with epigastric pain; it occurs before and after eating; the vomit consists simply of mucus, or is mixed with the food ingested; the patient may lose flesh and strength. On the other hand, gradually or suddenly, it may pass over into the uncontrollable form, which at first is difficult of differentiation. Usually constant nausea and salivation are then present. The ejected material consists of mucus, food, or bile; vomiting may be painless or painful. There are remissions permitting the ingestion of food; later this becomes impossible, and then loss of flesh and physical and mental depression occur. This marks the beginning of the second period, in which all the former symptoms are intensified, and constant vomiting and fever are added. The third period is recognized by the development of cerebral symptoms, the vomiting ceases, there are delirium, hallucinations, neuralgias, and finally coma and death. The author comes to the following conclusions: 1. No constant pathological lesion is demonstrable in hyperemesis gravidarum; pregnancy is the predisposing cause, but in most cases the exciting cause cannot be discovered. In these cases pregnancy must be regarded as being also the chief cause, either on account of some abnormal course—twin gestation, hydramnios—or as occurring in a person of high nervous temperament. 2. In cases in which the exciting cause is discovered we may expect relief by removing this cause, ulcers of cervix, by dilatation and cauterization, correcting malpositions, or finally by resort to Copeman's method. These methods are not always applicable, and are not without danger; abortion or cervical stenosis may occur. 3. Tibone, who believes that vomiting is reflex and due to impulses originating in a nerve of the reproductive tract, being transmitted through the sympathetic nerves to the vomiting-centre in the cord, recommended breaking this circuit by paralyzing the genital nerves by means of hypodermatic injections of a one-per-cent. solution of cocaine in the epigastric region. This method the writer considers the best therapeutic agent for action on the nervous system in controlling the vomiting, since bromides, chloral, etherization of the spine, etc., merely diminish the nervous irritability. He injects before each meal 0.01 to 0.02 cgm. of cocaine, in difficult cases, three times a day. Excellent results are obtained. Giacosi claims that the action of cocaine on the terminal ends of the sensory nerves is similar to that of curare on the motor-nerve endings, and that the action extends peripherally. Reclus says that in mixed nerves cocaine first paralyzes the sensory fibres and then the motor fibres without previous excitation. The anæsthesia extends along the nerve branches in the skin, is most complete by subcutaneous injection, lasts from ten to fifteen minutes, and affects the superficial before the deeper tissues. Paralysis of the sensory nerve prevents reflex irritation. To overcome the vasoconstrictor action of the cocaine nitroglycerin is added to the solution.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PATHOLOGY OF SHOCK.

MANY contributions have been made to the pathology of shock, but they have all been clinical rather than pathological. It has been only within recent years that the searching analysis of the cell has been able to afford morphological data upon which a rational pathology of shock could be based. Quite recently two noteworthy contributions have appeared which seem worthy of comment.

Lutzenberger ("Contributo all' anatomia patologica del trauma nervoso," *Annali di Neuroglia*, 15, 1897, fasc. 5) studied the changes occurring in the nervous system of guinea-pigs, following slight trauma to the head and the spinal column. He found that the general disorders of nutrition in these cases shows itself above all in the increase in number of the ganglion cells in all regressive phases. In the ganglion cells situated in the general region about the site of trauma grave alterations are described. These consist in general of a sort of polar distribution of the chromatic substance. The rapid dislocation of the cerebro-spinal fluid could cause a laceration of the spinal cord, which would result in an alteration in the disposition of the white and the gray substances simulating a heterotopia. Lutzenberger also found that in the spinal cord, following trauma, sclerotic plaques are found, and especially in places where the effect of the laceration has been most intense. Dilatation of the capillaries and of the veins is also present. In the medulla are found a great many cellular alterations. If the traumatism is followed by cachexia, the alterations of the cells are marked and resemble those produced by grave pathological alteration of the brain, such as, for instance, those changes noted in general paresis.

C. Parascandola ("Recherches histo-pathologiques sur l'état des centres nerveux dans la commotion thoracique et abdominale expérimentales," *Archives de Physiologie Normale et Pathologique*, 30, 1898, page 138) gives a very extended series of observations on guinea-pigs. He stretched the animals out flat by their feet and gave them a sharp blow upon the abdomen with a flat ruler. The animals reacted in various ways to the traumatism, but the greater number of them after a period of temporary quiet became apparently well, but in from thirty-six to forty-eight hours they died with the symptoms of exhaustion or shock. The cerebrum, cerebellum, medulla, and cord were removed and preserved in appropriate fixatives, and studied by the Golgi, Marchi, and Nissl methods.

The alterations found by the Golgi method consisted in a deformity of the cell body advancing to the grade of actual atrophy, node-like swellings on the dendrites, and fragmentation of the same. By the Marchi methods he noted simple marginal degeneration of Lissauer's zone and of the posterior roots proceeding to degeneration of the posterior columns; in some instances Gowers' tract, the crossed pyramidals, and the direct cerebellar tracts were involved, and sometimes there was a total degeneration of the entire cord. As observed by the methods of Nissl, the cytological alterations were various but pronounced. Chromatolysis was present in a large number of cells. In those affected in a mild degree only, the chromatolysis was more peripheral than central: in the severer grades the chromatolysis was complete. In a large number of the cells peculiar abnormalities in the distribution of the chromophilic granules were noted; there were peculiar perinuclear bonnet-shaped masses, or fusiform, or like a crown about a rarefied perinuclear space. Further, changes in the protoplasm were noted, rarefaction going on to vacuolization, to total disappearance of the cytoplasm. Changes in the achromatic reticulum were noted by the author, consisting in a widening of the mesh and a contraction of the protoplasm within the mesh, resembling an atrophy. Changes in the nucleus were also observed. At times there was an unimportant dislocation, but the gravest changes consisted in a vesicular swelling of the nuclear protoplasm, which varied to a notable degree—at times very slight, at times marked. In some sections there were pronounced abnormalities in the coloration of the nucleus.

With a few more contributions of this nature the involved questions of fatigue, shock, traumatic neurasthenia, traumatic hysteria, and allied phenomena will be understood, and more rational hypotheses bearing on treatment can be evolved.

TESTIFYING AGAINST EACH OTHER.

THE charge against a very reputable physician of this city, of causing the death of an infant by an overdose of medicine, is lamentable from many points of view, all of which must seriously affect the particular parties concerned and also the profession at large. At best we are all liable to errors of judgment, and even when such are committed there is a great deal of room for the exercise of that becoming charity which is as much a professional as it is a Christian duty. The readiness with which some medical men are willing to testify against their brethren in cases of this sort is a deplorable evidence of the weakness of professional vanity and the malignity of personal jealousy. What makes the case more than an ordinary one for these comments, is the fact that there was no proof of any relation of cause and effect in the administration of the medicine and the death of the patient.

It is to be sincerely hoped that thus much will be proved in the forthcoming trial, and that the ungracious and misguided expert witnesses for the prosecution will reap the full benefit of their unenviable position in the matter. At present there is no doubt in the mind of every self-respecting member of the profession that the prosecutors pose as exponents of a very dangerous principle reflecting on the honor and standing of scientific medicine before the public. It is hard enough for any medical man to make a reputation and a living, to discharge the varied and weighty responsibilities constantly thrust upon him, to prove his fitness for his patrons, to solve the many difficult problems of diagnosis and treatment which daily beset him, to balance right motives and good reasons against inevitable risks and constant anxiety—without having his work criticised by some presumptuous and eager professional witness against him.

If such proceedings are allowed to go on without a becoming rebuke, it is not difficult to see what will eventually become of the practice of the best of our men. When brother can thus be arrayed against brother, what must be the ultimate fate of the family? In the hands of shystering lawyers such witnesses lend themselves to the most powerful influences for evil against the entire brotherhood of the profession that can possibly be imagined. They become the wilful betrayers of a trust which should be guarded with as much vigilance as that of personal honor, which, aggregated as a whole, makes the profession what it is. Whatever may be the outcome of the trial, the bad taste, poor judgment, and questionable motives of the experts for the prosecution cannot fail to be strikingly manifest. At best it will be interesting to watch the proceedings, and coax ourselves into the delusive hope that the "better-than-thou" men will prove their right to the future respect and esteem of their brethren.

SOCIAL AND PHYSICAL CONDITION OF NEGROES IN CITIES.

The degeneration of the negro race on this continent has of late attracted much attention, and the reason for this unhappy state of things has been explained in various ways. From the testimony of those who have made a study of the subject, it would appear evident that the chief cause of the degeneracy among the colored people is the sudden alteration in their mode of living that took place after the civil war. They were like children who were freed from any control before they had learned to take care of themselves, and in consequence of this ignorance plunged into dissipation and vice, without thought of the after-effects. Atlanta University has just published in pamphlet form a report of an investigation made by colored graduates under the direction of the university, and also of a conference on negro city life, at which only negroes took part in the discussions. *Outlook*, March 5th, commenting on this report, says: "The facts set forth, therefore, are not to be discredited on the ground that the separation of races has prevented knowledge or distorted that which was obtained. The five cities covered in the report are Atlanta, Ga.; Baltimore, Md.; Charleston, S. C.; Memphis, Tenn.; and Richmond, Va. The average death rate of the whites in these cities during the fifteen years ending in 1895 was twenty-one per thousand; the average death rate among the colored was thirty-six per thousand. In other words, the death rate among the negroes was seventy-four per cent. greater than among the whites. The reasons assigned by the negro investigators for the excessive death rate among their race are of especial interest. In the first place, they find that it is not due so largely as has been supposed to the overcrowding of tenements. Only one-tenth of the negro families investigated lived in one-room houses. In the next place, they find that the sanitary condition of the houses is not primarily responsible for the terrible death rate. The first positive cause assigned for the greater mortality among negroes is the excessive numbers of colored women who must daily abandon their children by going out to work to help support their families. Only one colored man in four, it was found, supported his family without assistance. The other reason assigned by the investigators for the greater mortality among their race is the general ignorance and disregard of the laws of health."

THE DISCOVERIES OF JOSEPH JACKSON LISTER.

That Lord Lister's father was a very great man is a fact that does not seem to be generally known. He was almost as eminent in his particular branch of science as is the discoverer of antisepsis, but the fame of the father has been overshadowed by that of the son. Joseph Jackson Lister, although a man of business, found time to make perhaps the most important improvement in the microscope ever effected and to render possible the marvellous researches in bacteriology of modern times. In addition to this, he was also the first to describe the tendency of the red corpuscles of the blood to arrange themselves in rouleaux. Dr. Henry Smith Williams, in the current number of *Harper's Monthly Magazine*, referring to the older Lister, says: "To Joseph Jackson Lister is due the chief credit for directing those final steps that made the compound microscope a practical instrument instead of a scientific toy, combining mathematical knowledge with mechanical ingenuity; and, having the practical aid of the celebrated optician Tulley, he devised formulæ for the combination of lenses of crown glass with others of flint glass, so adjusted that the refractive errors of one were corrected or compensated by the other, with the result of producing lenses of hitherto unequalled powers of definition. . . . Lister had begun his study of the lens in 1824, but it was not until 1830 that he contributed to the Royal Society the famous paper detailing his theories and experiments. Soon after this various continental opticians, who had long been working on similar lines, took the matter up, and their expositions, in particular that of Amici, introduced the improved compound telescope to the attention of microscopists everywhere."

News of the Week.

Obscene Medical Literature.—We read in the *Southern Medical Record* that the editor of an Iowa medical publication has been convicted on the charge of sending obscene literature through the mails, the ground for the charge being the reproduction of some blackboard vulgarity intended by the students of a medical college for the benefit of the "co-eds."

The New York Hospital.—Extensive changes are soon to be made at the New York Hospital. It is intended to raze the old Thorne house on Sixteenth Street, together with adjoining buildings recently acquired, and to erect three new buildings. On the Sixteenth Street front will be the administration offices, with an out-patient department in the basement. There will also be an eight-story building for the accommodation of private patients and the house staff, and next to this will be the residence of the superintendent. Another building will contain the ambulance stables, laundry, and dormitories for the female servants. Alterations are to be made to the old hospital building, which will give increased facilities in the children's ward, the operating-theatre, the apothecary's department, and the reception wards.

Plague Riots in Bombay.—Serious rioting broke out in Bombay on March 8th among the low-caste Hindus and Mohammedans, against the Europeans. It had its origin in an attack upon a plague-search party. Two soldiers were killed, and the police fired on the mob, killing seven persons and wounding many others. The mob attacked one of the plague hospitals, burned the offices and stores, and savagely assaulted the doctors, killing one of the latter. Three soldiers on police duty were stoned to death by the rioters.

Dr. Waldemar v. Schroeder, professor of pharmacology in the University of Heidelberg, died on January 28, 1898, of heart disease, in his forty-eighth year. When in 1890 the chair of pharmacology was added to the university, Dr. v. Schroeder received the appointment, and was also director of the new institute.

Kissing the Bible.—Justice Kudlich has ruled that in his court witnesses need not "kiss the book." In announcing this the other day he said that an instance of transmission of disease, due to the custom, had come under his observation. In this decision the justice proves himself true to hereditary instinct as well as a wise judge, his father being a well-known physician.

Medical Charity Abuse.—At a recent meeting of the Medico-Legal Society, held in Philadelphia, this subject was discussed at some length. It was held that the chief cause of the abuse lay in the medical profession. It was suggested that a hundred physicians should be appointed a commission, which should meet from time to time and discuss things of interest to the profession. It was decided that the co-operation of all general and special practitioners should be enlisted in the work; that medical education should be so modified as to limit the number of specialists; that the government should control its own benevolent institutions and separate these from corporations of medical men who conduct hospitals for their own benefit; and, finally, that appropriations of public money should be made only to charitable medical institutions under the supervision of the commission to be created.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C., March 21, 1898.—Changes in the medical corps of the United States navy for the week ending March 19, 1898. March 10th.—Medical Inspector W. S. Dixon detached from the *Brooklyn* and ordered at once to the hospital, Norfolk, for treatment; Medical Inspector P. Fitzsimons detached from duty as a member of the board of inspection and survey, Washington, D. C., and ordered to the *Brooklyn*. March 17th.—Surgeon J. E. Gardner ordered to the *Dolphin*, March 24th; Passed Assistant Surgeon T. W. Richards detached from the New York navy yard and ordered to the *Machias*, March 22d; Passed Assistant Surgeon M. R. Pigott detached from the *Machias*, March 22d, proceeding home and awaiting orders.

Obituary Notes.—Dr. Thomas J. Moore, of Richmond, Va., died on February 24th, aged fifty-eight years. He was a graduate of the medical department of the University of the City of New York in the class of 1868. He was chairman of the medical department and professor of clinical medicine in the University College of Medicine, and visiting physician to the Virginia Hospital, Richmond.—Dr. J. T. Conkling died at his home in Brooklyn, on March 17th, after a long illness. He was a graduate of the College of Physicians and Surgeons in this city in 1855, and was at one time a health commissioner of Brooklyn. He leaves a son, a physician, and a daughter.—Dr. John B. Brooke, of Reading, Pa., died on March 19th, at the age of sixty-two years. He was graduated from the Jefferson Medical College in 1858.—Dr. Elizabeth S. Dalbey-Norred died in Minneapolis, Minn. She was born in Wells County, Ind., October 14, 1843, and was graduated from the Woman's Medical College of Chicago in the class of 1881. She was a member of the Illinois State Medical Society, the Minnesota Medical Society, and the American Medical Association.

Proffers of Medical Service.—Surgeon-General Van Reypen, of the navy, has received over three hundred offers from physicians of service as acting assistant surgeons in the navy. These offers cannot be accepted until Congress authorizes the temporary appointment of acting surgeons. There are about twenty vacancies in the regular service, for which there are few or no applications because of the humiliating treatment to which newly appointed assistant surgeons are subjected. If Congress will remove these objectionable features and will authorize the appointment of acting assistant surgeons, there will be no lack of competent men for the vacancies.

The Sale of Patent Medicines.—A bill now before the New York State legislature, which was reported out of committee on March 16th, provides that no pa-

tent medicine shall be sold or exposed for sale in this State, unless the formula is printed on the label of the bottle or package containing such medicine, and also on the outside wrapper. The printing of an incorrect formula or the sale of a patent medicine without the formula provided for in the act shall be a misdemeanor, punishable by not less than three months' nor more than one year's imprisonment, or by a fine of not less than $50 nor more than $500, or by both.

Regulating the Practice of Midwifery.—A bill, entitled "An Act to Regulate the Practice of Midwifery in Montgomery County by Others than Legally Authorized Physicians," has been reported to the New York assembly from the committee on public health. It provides for the examination and licensing of midwives who wish to carry on their calling in Montgomery County, but forbids the use by them of instruments or of any "poisonous or dangerous drug." The attempt to practise midwifery without a license constituted a misdemeanor.

The Paternal Government of our Health Board.—The therapeutists of the New York City board of health are constantly widening their sphere of usefulness, and now announce that any one bitten by a mad dog can step up to the laboratory and be cured at the city's expense. The person in charge of this new venture has reported to Colonel Murphy that "the new laboratory in the vaccine building contains every means for carrying on the treatment in the most satisfactory manner. As the treatment reduces the mortality of those bitten by rabid animals from ten per cent. or more to less than one per cent., and as there is now no place where the very poor can receive free treatment, it is respectfully advised that the department of health authorize the administration of this treatment to those who have been bitten by rabid animals and who may present themselves for treatment." Colonel Murphy has given the desired authorization, and now the press agent of the department tells the newspapers that seven fortunates from the borough of Richmond are at present under treatment, and that there is every prospect of their returning home alive. It is not said whether the dog that bit the seven was mad or only angry.

Dr. William S. Playfair has resigned from the chair of obstetrics and diseases of women at King's College, London, which he has filled for twenty-five years. It was reported that his resignation was necessitated on account of his having reached the age limit, but he says this is not so, as he has nearly four years before reaching that limit. His only reason is that, as he writes to *The Lancet*, "having completed a quarter of a century's service as professor of obstetrics, he thinks it is now high time to make way for others."

The German Balneological Society recently held its ninth annual meeting in Berlin, under the presidency of Professor Liebreich, who delivered the opening address. Among the communications were: "The Question of Contagiousness of Tuberculosis," by Römpler, of Görbersdorf; "The Effect of So-called Indifferent Mineral Waters," by Liebreich; "The Hydrotherapy of Simple Ulcer of the Stomach," by Winternitz, of Vienna; and "Vegetable Diet Cures," by Strasser, of Vienna.

The Tsarina of Russia has been ill with measles but is now convalescent.

Mr. Gladstone's Health is again a cause of anxiety to his friends. The severe neuralgic pains from which he has suffered during the past winter continue, and now the strength is failing and the heart's action is becoming very weak.

The Late Dr. E. C. Seguin.—The following resolutions have been adopted by the New York Neurological Society:

"The New York Neurological Society records with profound sorrow the death of Dr. Edward Constant Seguin, who died of cirrhosis of the liver, on Saturday, February 19, 1898, aged fifty-four years. Dr. Seguin was one of the founders of this society and its president during 1877–78, and was for many years a constant attendant at its meetings, taking a leading part in its scientific discussions, his opinions being always listened to with that respect to which his vast clinical experience and his sound judgment entitled them. For many years Dr. Seguin was placed with the foremost neurologists of the world, and his original contributions to science were valued highly.

"*Whereas*, This society has lost by the death of Dr. Seguin one of its original incorporators and an earnest supporter; therefore be it

"*Resolved*, That in his death this society has lost a valuable and honored member. In his professional attainments he was most eminent; enthusiastic in his devotion to his special field of work, in which he was justly esteemed an authority. As an author he was remarkable for his acute observation and logical reasoning, while the clearness of his style gave evidence of the directness of his thought. By his death scientific neurology has lost a zealous and successful disciple, while the community has been deprived of the services of a skilful counsellor and practitioner. The members of the Neurological Society desire thus to give expression to their feelings of respect for his memory, and, sympathizing sincerely with his family in their loss, offer them respectful condolence.

"*Resolved*, That this minute be entered upon the records of the society, and that a copy be sent to the family of Dr. Seguin and to the medical journals.

"J. Arthur Booth, M.D., M. Allen Starr, M.D., George W. Jacoby, M.D., *Committee*."

Hospitals in Need of Funds.—Several of the hospitals in the borough of Queens have become financially distressed in consequence of the new conditions prevailing since the creation of Greater New York, and it is a question whether some of them will not be compelled to close their doors. They depend for their support, as a rule, upon voluntary contributions, as few if any of them have an endowment fund sufficient for their needs. Formerly they received a liberal appropriation from the local government for their care of

indigent patients committed by the overseer of the poor, but they are now deprived of the larger part of the revenue derived from this source, in consequence of the more stringent regulations governing the care of indigent patients in New York.

The Medical Association of Missouri will hold its annual meeting at Excelsior Springs on May 24th, 25th, and 26th, instead of May 17th, 18th, and 19th, as previously announced, the reason for the change being that better accommodations can be secured at the time now appointed. The president of the society for the present year is Dr. Jacob Geiger, of St. Joseph. The preliminary programme contains the titles of fifty-two papers announced for presentation at the meeting.

The Menace of Cuba to the Public Health.—Under the slovenly rule of Spain, Havana has continued to be the worst breeding-place of yellow fever on the face of the earth, when all that is needed to put an end to it is the application of a little science to the harbor and city. Yellow-fever scares and yellow-fever epidemics cost this country millions of dollars almost annually, and yet until the insurrection is put down and intelligent government established on the island, the United States will have to suffer for the sins and neglect of their neighbors. Havana is so near to Key West that the movement of people between the two countries is quite considerable, and it is useless to deny that we have great interests at stake in the safety and well being of the island, to say nothing of the claim of humanity involved.—*The Evening Post.*

Dr. Mark Chado, surgeon-general for the past three years of the eastern division of the Cuban army under Gen. Calixto Garcia, arrived in New York on Monday last. He is here for medical treatment of the results of exposure, privation, and a bullet wound received while discharging his duties as surgeon on the field.

Foreign Students in Prussia.—A decree has been issued by the Prussian government, forbidding the future attendance of foreigners in the machinery and engineering department of the Berlin Technical High School. This action has caused much consternation among the foreign-born students in Germany, as it is believed the discrimination against foreigners will be extended to the universities in Prussia and to all the faculties, medical as well as engineering.

Pasteurized butter is the latest antiseptic novelty. It consists of butter made from pasteurized cream, and is thought to have a better flavor and to keep better than the ordinary butter.

Quarantine Physician for Baltimore.—Dr. John M. Ruhräh has been appointed quarantine physician at Baltimore in the place of Dr. G. Lane Taneyhill, who declined. Dr. Ruhräh was graduated from the College of Physicians and Surgeons in Baltimore in 1894, and since that time has been connected with this school in various capacities, and has been up to the present time head of the Pasteur Institute in Baltimore. He is especially fitted for his new position and is quite acceptable to the profession and to the public.

Johns Hopkins University.—Since the Johns Hopkins University has asked the State of Maryland for $100,000 a year for two years, there have been such strong objections to this proposed appropriation that recently by a large vote of the legislature it was refused. Fifty thousand dollars has now been asked for, and it is more likely to be given. Friends of education have fought bitterly for an appropriation, while the taxpayers, especially those outside of Baltimore, have opposed the giving of any sum at all, because they maintain that the tax rate would be raised to too high a point. Other educational institutions are now boldly asking for larger sums than they ever dared to suggest in years past.

A German Department of Public Health.—A dispatch to *The Sun* says that a movement has been started in Berlin in favor of the creation of a separate State department of medicine under a responsible minister, on the ground that the public hygiene is insufficiently protected by the medical bureau, which is merely a subordinate section of public instruction. Hamburg's cholera epidemic is instanced as a justification of the demand.

Gift to a Brooklyn Dispensary.—Mr. Henry Batterman has made a gift of $25,000 to the Bushwick and East Brooklyn Dispensary as a memorial of his daughter, Laura Frances Batterman, who died about six years ago.

Assault on Professor Grocco.—Dr. Pietro Grocco, professor of clinical medicine at Florence, was recently brutally assaulted by two men whose brother had died of tuberculosis in his ward at the Hospital Santa Maria Nuova. According to the usual custom, an autopsy was performed. When the deceased's two brothers learned of this, they went to Dr. Grocco's house, and, gaining admittance to his office under the guise of patients, set upon him and beat him very severely before assistance could be obtained.

The Tri-State Medical Society of Iowa, Illinois, and Missouri will hold its annual meeting at Dubuque, Iowa, on April 5th and 6th, under the presidency of Dr. Emory Lanphear, of St. Louis. The programme contains a long list of papers with interesting titles.

Sir William Stokes.—A fund has been organized for the purpose of presenting to Sir William Stokes, of Dublin, a testimonial to celebrate the occasion of his silver jubilee as professor of surgery in the College of Surgeons, Ireland.

The Medical-Practice Law in Maryland.—The right to practise medicine in Maryland is now restricted to those who have a degree from a reputable medical school and those graduates since 1892 who have passed the State board examination. The extreme dissatisfaction caused by the rejection of so many candidates at a recent State board examination has been the motive for introducing a new bill in the legislature. The result of this bill, if passed, would be to make the restrictions very light, especially for graduates of Maryland schools.—*Maryland Medical Journal.*

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Thirty-Seventh Regular Meeting, Held on Friday, February 4, 1898.

DR. W. GILMAN THOMPSON, PRESIDENT, IN THE CHAIR.

On Castration, with Avulsion of the Cord.—DR. ROBERT F. WEIR read a paper on this subject, and presented a patient upon whom he had performed the operation. Dr. Weir said:

"In the performance of the operation of castration for a tuberculous disease of the epididymis or of the testes, the surgeon endeavors naturally to get well beyond the disease, but in this operation his efforts are often hampered by the involvement of the vas deferens. He is therefore compelled to cut across this tube and the accompanying vessels, etc., either at a level with the external abdominal ring, or to divide the fascia of the external oblique muscle, which will then permit the removal of the spermatic cord at the internal ring. Should the vas deferens be found at this level also to present evidences of a tuberculous infiltration, the operator may, if he be a surgeon of some boldness, consider at least, even though his judgment lead him not to act, the surgical possibilities of obtaining access to the deeper parts of the vas by either the procedure of Villeneuve—which consists in enlarging the abdominal wound to, but not into the peritoneum, which membrane is then stripped from the lateral aspect of the bladder until the vesicula seminalis of that side is reached, when the vas deferens thus exposed can be divided or torn across at any selected point—or he may prefer leaving in the scrotal wound the separated testis and its bared cord with its vessels duly ligated, and then to make a transverse cut in front of the anus, by deepening which he can arrive at and pass just above the prostate gland, when a transverse incision in the investing fascial covering will expose and render easily accessible the seminal vesicle and the vas deferens. This latter can now be torn across, and upon traction then being made upon the loosened testis the whole of this tube will pull out at the internal ring like an earthworm out of its hole. Both of these procedures, however, lend additional risk to an otherwise simple and safe operation, and surgeons have justly considered it better to leave the stump of the vas deferens, even though tuberculously affected, to the resistant and curative power of the economy. Often a cure permanently occurs in such circumstances and only occasionally does an abscess at the ring or in the pelvis develop, though the eventual risk of prostatic and vesical infection is by no means small.

"With such views on this subject, and feeling the need of some safe adjunct to the ordinary method of performing this operation, I welcomed the suggestion made by Büngner, of Marburg (O. v. Büngner: 'Kastration mit Evulsion des Vas Deferens (Hohe Kastration),' *Centralblatt fur Chirurgie*, No. 46, 1893, S. 1,018), that in a castration for tuberculosis the vessels should be dissected off and thoroughly separated and tied at the external abdominal ring, and that then traction should be steadily and strongly made on the cord-like vas until it broke. In this way it was drawn out to varying lengths from the abdominal depths. Büngner reported seven cases in which he had resorted to this procedure. One patient died from erysipelas which was not specially due to the new procedure; there were three other avulsions occurring in two patients who had associated lesions of the seminal vesicles which demanded a second operation; the three remaining cases were kept under observation for a long time and remained permanently cured. Struck by the simplicity of the manœuvre and its apparent safety, I have adopted it in nine instances—making, however, a slight change in its carrying out. Instead of pulling down the vas deferens at the external abdominal ring, I prefer, after two trials of this plan, to slit up the anterior wall of the inguinal canal—that is to say, the fascia of the external oblique muscle—and thus to expose the cord and its vessels at the internal ring. The blood-vessels are now separated and tied off, and then traction is made on the vas, somewhat upward in direction or directly forward in such a way that not only is it continuous, but if any yielding occurs—and at the first pull it readily occurs—the fingers are slipped along the extruding portion so that the traction is kept up constantly at the internal ring. In this way I have torn off the cord in lengths varying from the internal abdominal ring from two to ten inches. In the last-named instances the cord separated at its ampulla, or very near to the seminal vesicle. In no patient did any mishap follow this addition to the operation of castration. In two cases the torn end still showed tuberculous infiltration; in the others the separation took place through an apparently healthy part of the tube. In only four cases has the subsequent observation of the patients been prolonged beyond one year. In these but one recurrence of the disease has shown itself, and that in the case in which extirpation of the tuberculous seminal vesicle was also resorted to.

"CASE I.—Tuberculosis of testis and seminal vesicle; castration with avulsion of the cord; extirpation of the seminal vesicle. William S——, aged thirty-two; no family history of tuberculosis. The patient had gonorrhœa several times without any complicating epididymitis; never had syphilis. For four weeks he had pain and increasing swelling of the right testicle. Examination showed this organ to be of twice the normal size, and the right seminal vesicle and right lobe of the prostate also to be affected. The organs on the left seemed normal.

"June 6, 1895, the testicle was removed and strong traction made upon the cord, which ruptured at the seminal vesicle and came out entire. It was found to be tuberculous clear to its end. The patient was therefore put in a lithotomy position, and through a transverse incision, made just in front of the rectum, the prostate gland was exposed. There was free bleeding. The recto-vesical fascia was cut through transversely just above the prostate, and the enlarged right seminal vesicle freed and removed. A tuberculous nodule in the right lobe of the prostate was removed, causing a small opening into the urethra. A glass drain and iodoform gauze packing were placed in the wound. A catheter was employed twice a day. No urine escaped through the perineal wound until the third day, when catheterization was discontinued. This flow ceased in a short time, and the patient was discharged in two weeks.

"The report of the pathologist was as follows: 'The entire vas attached to testis, twenty-eight centimetres long; one seminal vesicle and part of the prostate, four to eight millimetres in diameter; and six centimetres more (eight millimetres in diameter), attached to seminal vesicle, were removed. Vas everywhere thickened, rigid, lumen occluded, with many distinct cheesy areas.'

"CASE II.—Double castration with avulsion of both vasa deferentia; insertion of celluloid testicle. John H——, aged twenty-five, suffered for ten months with swelling and pain in the right side of the scrotum. About the middle of June, 1896, fluid was drawn from the distended right tunica vaginalis. Six months later

there was a small recurrent hydrocele of the right side, that testicle being also hard, while the left one was both hard and nodular. The cords were not involved. The patient gave an indefinite history of syphilis. The lungs were normal.

"At operation, December 16, 1896, both testicles were found badly diseased, and with the cords were removed by traction. A celluloid testicle was inserted on the right side. There were primary union and a perfect recovery.

"The vasa removed were fifteen centimetres long and included the beginnings of the seminal vesicles. The testicles contained numerous areas of necrosed and pus deposits. Giant cells were found, but no tubercle bacilli, and a diagnosis of syphilis was made. The patient was seen eighteen months later. The celluloid testis was well borne, and the general health was excellent; sexual vigor was reported satisfactory.

"Case III.—Single castration and avulsion of vas deferens for tuberculosis. Stephen McC——, aged twenty-eight, gave a history of swelling and pain in the left testicle, of two years' duration, with a sinus for six months. The cord was not apparently affected. There was also a smaller induration on the right epididymis. There was slight induration at the apex of the right lung.

"October 16, 1896, under ether, the left testicle was exposed and with the left cord pulled out three or four inches and torn off. A celluloid testicle was placed *in situ*. The wound was sutured and through a separate incision the nodules in the right epididymis were excised, and this wound also was closed. On account of a hemorrhage from the stump of the cord the wound in the left side was opened the following day and the bleeding controlled. The celluloid testicle which thereby escaped was not replaced. The examination of the left testicle and of the tissue from the right one showed the characteristic lesions of tuberculosis to be present. Recovery was slow, and at discharge from the hospital, three weeks later, there was still a slight sinus on the right side.

"Case IV.—Double castration with avulsion of both cords; insertion of a celluloid testis. Eugene S——, aged twenty-seven, was troubled for four months with swelling and pain in both testicles. Recently a sinus formed in the right side of the scrotum.

"December 23, 1896, both testicles were found to be hard and nodular and increased in size. Both cords also were hard. By an incision over the left external ring, the testicle of that side was drawn out and traction made upon the cord until it came away, separating at or near the seminal vesicle; on each side fifteen inches of the vas was removed. The tubes were normal at their torn ends. On the right side an elliptical incision included the sinus, and the testicle and cord were removed. Celluloid testicles were inserted in both sides of the scrotum. The left one healed in; on the right side suppuration occurred and the celluloid substitute came out. Six weeks later the patient was in good condition, but power of erection and desire for intercourse were lost.

"Case V.—Castration for tuberculous testis; avulsion of cord; insertion of a celluloid testis. G. C——, aged twenty-one, had been a sufferer from scrotal trouble for over three years, and in 1895 the left testicle had been removed for tuberculosis. A few months later pulmonary lesion developed. Four weeks ago the right testicle swelled and became tender, hard, and nodular. The prostate was apparently not involved.

"On April 8, 1897, the testis and cord were dissected out and the vas was separated and pulled upon till it broke, ten centimetres from the testis. It showed where torn across, tuberculous infiltrationon microscopic examination. A celluloid testis was afterward inserted, and primary union followed the operation. Six weeks later the patient was seen in good condition.

"Case VI.—Castration for tuberculous testis; avulsion of vas deferens; insertion of a celluloid testis. Herbert R——, aged thirty-one years, entered the New York Hospital, October 12, 1897, with the history that eighteen months ago he had the left testis removed in the ordinary way, and that ten days ago the right testis became painful and swollen, without any urethral discharge.

"On October 14, 1897, the right testis and vas were removed, the latter by traction, and the cord broke about two inches inside of the internal ring. A celluloid testis was placed in the scrotum, with subsequent primary union. Discharged cured, October 22, 1897. The pathologist's report was tuberculosis of epididymis.

"On January 20, 1898, the patient returned for inspection. He was in good health; he said he had occasional sharp pain in the right inguinal region at night; had also some flushing and sweating; had erections and sexual congress about every two or three weeks. He said he had a sensation as of no ejaculation. Erection was slower and not so complete as before. He gained in weight.

"In five of the foregoing cases, and especially when a double castration either in one operation or more commonly when a second castration eventuated, I have, for the mental effect and in response to the generally uttered request of the patient to save if possible some of his testicular substance, replaced the damaged organ by a celluloid testis somewhat of the size and shape of the normal organ, with much after-satisfaction to the patient, and, I may add, occasionally to the deception of a professional brother, for once such an artificially supplied patient was sent again to the hospital with the diagnosis of tuberculous testis and a request for a castration.

"This substitution has been employed in six other non-tuberculous cases—eleven times in all—once as a double replacement in a castration for hypertrophy of the prostate (in which, I may say, there was no improvement in the prostatic difficulty, for which the artificial testes were responsible in keeping up false hopes, a colleague jocosely remarked); and in no instance have the foreign bodies begotten any irritation, and they have in four instances been retained for over eighteen months. In two additional instances, from wound contamination from escaping tuberculous pus, failure of skin union occurred and permitted the escape of the celluloid piece and its cognizance by the patient. A scrotal hemorrhage in one instance brought about a similar result. In the last case, in which a second castration was necessitated and in which a celluloid testis was inserted, a point of some interest has been developed. Under careful questioning this patient whom I exhibit to you to-night states that he still has decided sexual power, though his congress occurs but once in two or three weeks, and it is not accompanied by his previous sense of seminal emission. He further intimated that he yet strongly relied upon the power which his preserved (a celluloid) testicle gave him. His sexual ability is alluded to only to illustrate the mental effect that this innocent procedure of celluloid substitution brings about and is of but little importance quoad his virile powers themselves. For there are many cases, from Astley Cooper's down to the present time, that show that after a loss of both testes impotence may be delayed for a period as great as nine years; but what is of more importance to know is that under such circumstances it may happen, though rarely however, that from a congress soon after the operation fecundation may happen from the spermatozoa formed and left in the vesiculæ seminales prior to the double or last castration."

A Case of Hemorrhage of the Cord; Paraplegia.—Dr. W. Gilman Thompson presented a man, thirty-five years old, who, on August 29, 1897, while walking in the dark, fell and struck on the back of his head and neck. He was unable to rise, and lay without assistance until the following morning, when he was brought to Bellevue Hospital. An examination showed that he was suffering from paraplegia, both arms and legs being totally paralyzed. There was no disturbance of sensation, excepting for an area of hyperæsthesia over the chest, and there was no anæsthesia. There were no reflex disturbance and no vesical or rectal trouble. Over the fifth cervical spine crepitus was elicited, which seemed to be due to a fracture of the spinous process. The paraplegia remained absolute for two or three days; then power gradually returned, first in the arms and after several months in the legs. Recently the man had complained of a girdle sensation around the upper part of the thorax, and then lower down. Dr. Thompson said the case had been diagnosed as one of hemorrhage into the cervical cord, the blood clot having been gradually absorbed. No operation had been thought advisable. The case was interesting on account of the excellent recovery which the man had made after the onset of such a complete paraplegia.

Our Counsel to Patients, Especially in the Later Part of Active Life.—Dr. Henry F. Walker read this paper. He said:

"There is a saying that when a man has reached forty years he should be his own physician, and there is much truth in the adage. Experience should have taught him the care which is the preventive of disease. And a physician's observation proves that this is the fact. His practice is chiefly among the very young and the adolescent, with occasional severe illnesses in such natures as are strong by heredity, and a more constant attendance on those whose strength is ever crippled by inheritance of infirmity.

"Before forty, a man may need direction; after that, he should get on with advice. Experience has taught him what it is possible to do in given circumstances; but the most changeable thing is himself. That factor in the situation is an element in reference to which keenest judgment is apt to be in error. When a youth, he considered himself mature, while others were callow; at a later date he calls himself young, though his contemporaries are old. The hardest thing that he is compelled to realize is that changes occur in himself; that a thing which he has heretofore done with impunity may in time become hazardous in repetition. The morning cold plunge, the going without an overcoat, the refusal of extra footwear—any or all may become hazards to health.

"If a man be really aged, exposure to cold no longer invigorates. For him, protection against external cold must be greater and the house must be warmer. Warmth is better than exercise, and abstinence better than such an amount of food as makes exercise imperative. It is often quite difficult to persuade an aged person or his friends that exercise in the open air is not absolutely essential to well being, or that the fireside is more invigorating than the cutting wind of a brilliant winter day. They quote experience against you. Having always done a thing with advantage, they can do it still, unmindful that the personal equation has changed, and that an element once a friend to buffet may become a foe that kills.

"Of the elements the one the most harmful to the aged is cold. They starve with it, to use the old English phrase. But luckily it is the element we can most successfully guard against. We can maintain fitting bodily warmth by clothing, and at night, at least, we can regulate the temperature of the air we breathe. To the old, as well as to the very young, a mild heat for the sleeping-room is better than the haphazard temperature given by an open window. That he has always slept with the window open, no matter what the weather, is boasted by a man who demands an overcoat and a fur cap in waking hours, without seeing his inconsistency. There is a great deal of nonsense talked about the need of fresh (meaning open) air in the sleeping-room. You can constantly cherish a catarrh with it. Nansen, in his sleeping-bag, has proved that one can survive and thrive with a modicum of it.

"But the hazards to which the man who has reached the time when he should be his own physician is exposed are less those of external than internal origin.

"He is past the time when he would be backed for a contest in the prize ring, and that means that he is past the time of greatest physical vigor. Of course there are compensations. To counterbalance diminished physical force, he has higher intellectual attainments and a greater capacity for mental labor, by dint of training and experience. But experience and training have brought with them greater demands upon his strength. If a man of ability, he has the burdens of others to carry, as well as his own. The willing worker has always enough to do for others. Each year adds to responsibilities which he assumes through his own or others' necessities, or by choice through ambition. And each year gives him a body a little less in strength by which to carry them. The change may be slight, but it is actual. The consequence is that with increased work and weakened body, aid which is harmful is often sought. There are two things which threaten such a man's comfort: half or wholly recognized diminished physical strength to do increasing work, and the inability to get abundant sleep or enough sleep for full refreshment.

"I think that the greatest hazards to a man's character are likely to come after he has passed forty-five years of age. He has become more lenient in his judgment of others, and is likely to be more indulgent to himself. To speak of things wholly physical, he has then the temptation to both stimulants and narcotics (or hypnotics) in the highest degree. And those temptations come to him when he is acting, chiefly, as his own physician. If a young fellow becomes a drunkard before he is thirty, and goes to the devil prematurely, you can usually find for him the plea of heredity. But there is many a man who has passed thirty years and forty safely, who in the next decade succumbs to alcohol because he needs a brace to help him transact the business which the close work of previous years has brought to him. He takes to alcohol, not in the convivial way, but to help him over a hard place; and he takes it in just the worst manner, without accompanying food, and when food would likely be distasteful, or even harmful, by nervous preoccupation. The afternoon drink to tide him over a weary day joins to itself earlier potions when business presses, and the morning cocktail before it has begun. And all this is due to the overwork given to the man whose established character has brought him to the front. If a man passes in safety the time when strength declines without his realizing the fact, and reaches the time when he must acknowledge it, he is all right.

"If it be not alcohol alone that is used, it is alcohol with a subtle stimulant more deadly, a coca, or a kola, which obscures the immediate effect of the medium.

"The other hazard is the use of hypnotics. Of course these are of various degrees of potency and harmlessness. But you will find that the man who consults you for insomnia knows the list and has tried them all before he has applied to you. You are very fortunate if you are one coal-tar product ahead of his experience. Acquaintances prescribe for one another, so that the physician is only a consultant as to the

least harmful of such drugs. There is no one of them but has been made a habit, and the patient is lucky to whom morphine has not been the false friend. We have all had patients who have had the bromide, the sulfonal, the trional, or the chloral habit; and, if there be a hypnotic that does not claim its victims, it is because it has too recently graduated from the laboratory.

"Now, granting these premises, I believe that there is a line of duty which belongs to the physician, as regards his patient, which is clear. There is counsel to be given, which is more like that which his priest would give than is usually the function of the doctor. Unluckily, in these days, when we recognize a patient as ours only so long as we are pocketing his fee, there is less opportunity for guarding his vices and his virtues than aforetime. But still we have chances, if observant.

"One thing to be emphasized is that each man has his own physical limitations. It is no criterion for him that some man has been able to do more, or that the average man does more. He must abide by his own capacity. Another is that in physical power first is shown decline in strength. Luckily in many things taste changes, and nature aids a man to bear such physical change by change of sentiment. The boy cannot pass a hydrant without vaulting it: but the man walks by it tranquilly many years before he shuffles past it. Another is that hours taken daily from active business and devoted to muscular play, usually called "active exercise," are not to be reckoned as misspent time, but guarantees of health; and, as corollary to this, that each successive year the leisure time should bear a greater proportion to the time of hard work, and the vacation should be looked upon not as a luxury but as a necessity; that is to say, rest is cure. Another is that stimulants are stimulants only and do not add to real vigor, but are ever productive of harm; while a man's capacity for work should be estimated by himself as what he can do without the whip and spur of alcohol. Another is that for the hours of diminished sleep which come in the train of increased birthdays there should be cultivated a habit of tranquil rest, to take their place and give its refreshment. And this can be done if sleeplessness has not its frequent yokefellow—worry."

Dr. Beverley Robinson said he would refer to only one topic of Dr. Walker's paper, *i.e.*, the use of alcoholic stimulants by persons of more or less advanced years. In many such individuals there were arterial changes which were nothing more than should be expected at such an age—which were, in fact, a normal expression, and the speaker said that in his opinion they would not warrant the cutting off of alcoholic stimulants, for fear that the alcohol might be productive of injury in some organ, more particularly the brain. Men of a certain type, when they grew old, must have a certain amount of alcohol in order to assimilate their food properly.

Dr. W. H. Draper said he had been interested in listening to Dr. Walker's paper, which contained the sound philosophy that a man of ripe experience was ever fit to give. By the age of forty a man ought to have discovered what was good for him and what was evil, but people were very apt to forget. As regards the use of alcoholic stimulants, to which Dr. Robinson referred, the speaker said he did not suppose that it was Dr. Walker's idea to interfere with the habits of patients which he found to be beneficial to the health of the individual. The habit of using alcohol in moderate quantities was one that most people acquired as they grew older, because they began to feel the encroachment of age, and to make them desist from its use under such circumstances would be altogether contrary to the spirit of Dr. Walker's paper. Of course there could be no question in regard to the evils resulting from the continuous use of narcotics or preparations of opium, which were not so directly hypnotic as they were anæsthetic.

Dr. Walker, in closing, said he was fully in accord with the statement made by Drs. Robinson and Draper, that a man, as he grew old, was ofttimes benefited by the use of alcohol, taken in a proper way. What he objected to was alcohol taken at odd times. A man of forty or over was very apt to be better for the use of stimulants taken with his meals, but it was the drinking between meals that did the harm.

Nitrous Oxide and Ether for Anæsthesia.—Dr. V. P. Gibney read this paper. He said:

"Early last fall at the Hospital for the Ruptured and Crippled, my attention was called to the advantages of nitrous oxide and ether as an anæsthetic. After a few observations I was so fully impressed with this combination that it was decided to adopt this as the anæsthetic for the operating-room. It was administered by a skilled anæsthetist, and this may account in a measure for the success which we have had.

"The children in the hospital have always had a dread of ether, and have for a long time been in the habit of asking for gas in preference to ether. Whenever assent was given, the fears of the child were allayed and we were able to proceed with very little difficulty. In the combination we have experienced no unpleasant results whatever; we have been able to avoid the disagreeable choking sensation and the struggling, even in the most timid of children. Indeed, the hospital staff has become quite enthusiastic over gas and ether.

"It is not my purpose in this communication to give any statistics as to the length of time required to produce complete anæsthesia, the condition of the urine before or after its administration, but simply to call attention to the ease and the rapidity, in a general way, with which the patient can be anæsthetized.

"The junior assistant no longer has charge of the anæsthetic, but he is coached, so to speak, by the instructor in anæsthesia. This position is filled by Dr. Thomas L. Bennett, who has been regularly appointed by the board of managers, and who attends on all operating-days, noting closely all the points for observation, examining the patient before operation and giving an opinion as to the kind of anæsthetic that is best suited for the individual case, and then giving assurance to the operator.

"Inasmuch as many members of the Practitioners' Society have already used this combination, I shall make my remarks brief. It is not a new method; it has been used for at least twenty years in England, and appliances are already in the market for its administration. Clover, for instance, has a gas and ether apparatus. The gas may be given to the production of complete anæsthesia, and then the ether may be rapidly given by means of the Ormsby inhaler. In some instances when the Clover is employed, the gas is given to the point of unconsciousness, and then both ether and gas are given until complete anæsthesia is produced, when the ether only is continued. Within fifteen or twenty seconds this period of unconsciousness can be obtained by proper administration of the gas, and the patient is ready for operation in from two and one-half to four and one-half minutes.

"My personal observation leads me to state quite positively that there is no stage of excitement. There is very little mucus found, and, above all things, there is very little ether administered. All surgeons are unanimous in recommending that the minimum amount of ether should be employed and that a stage of complete anæsthesia should be reached as quickly as possible. With children this is especially true, and, while I institute no comparison between the administration

of chloroform and ether, I feel quite sure that a young child can be brought under th influence of the combination of gas and ether as quickly as under chloroform. A few years ago it was thought that chloroform was perfectly safe in children; now the opinion is not so extensively entertained.

"In the *Practitioner* for October, 1896, Bailey discusses the principles of ether administration and refers at length to the combination method which I now advocate.

Dr. George F. Shrady said that he had no personal experience with the method of anæsthesia described by Dr. Gibney. He had been somewhat prejudiced against nitrous-oxide gas on account of the alarming symptoms of carbonic-acid poisoning it sometimes produced. The speaker said he had never had any trouble in getting people rapidly under the influence of ether. Some years ago he had had occasion to have ether administered to himself twice, the first time by the "difficult" method, and the second time by the "easy" method, and this experience had impressed him very much with the value of the latter, which consisted in giving the patient a hypodermic injection of morphine about fifteen minutes before etherization was undertaken, and then coaxing the patient and quieting him, up to the stage of primary anæsthesia. If this method was carefully carried out there would be little or no struggling. The possibility of struggling, however, should be borne in mind in the preparation of the patient. Dr. Shrady said that formerly he generally employed chloroform in operations on children. About three years ago, however, he had a case in which the child nearly died from the effects of the chloroform, and since then he had almost invariably used ether, both for the young and old. In conclusion, the speaker said that if the method described by Dr. Gibney could be safely relied upon to shorten the period of anæsthesia it would certainly prove a very desirable improvement.

Dr. Robert F. Weir said that several hospitals in this city had lately shown their appreciation of the importance of the proper conduction of anæsthesia by appointing a competent man, whose duty it was not only in special cases to anæsthetize patients but also to instruct the junior physicians how properly to administer the various anæsthetics. This, the speaker thought, was a most desirable innovation, as the giving of ether or chloroform by an inexperienced assistant had often given rise to much anxiety in the surgeon's mind. The method of anæsthesia described by Dr. Gibney, namely, nitrous-oxide gas followed by ether, was an old one. It was probable that the gas would be more generally employed were it not for the fact that its administration required a certain kind of apparatus which most surgeons did not possess. The gas sometimes gave rise to apparently alarming symptoms, but still it must be looked upon as a very safe anæsthetic, as death following its use was very rare. The asphyxia it caused was sometimes so profound as to cause anxiety, and one or two accidents had been reported by dentists, which were probably due to the faulty position of the patient, in being allowed to sit up during the anæsthetization, or to the fact that a certain amount of chloroform was mixed with the laughing-gas. As regarded the relative safety of ether and chloroform, there could be no question as to the advantage of the former. Dr. Weir said he could recall only two deaths from ether, in his experience. One occurred after the sudden reduction of a large hernial mass which had been allowed to remain unreduced for years and had become partially incarcerated, and thus might have interfered with the diaphragm and heart movements. The second was due to matters vomited from the stomach in an urgency operation. Dr. Weir further remarked that in a recent number of the *British Medical Journal* there had been published an important article by Waller, giving the results of his investigations of the action of chloroform and ether on the nerves of the body. This observer stated that ether impaired the function of the nerve only temporarily, while with chloroform the nerve not only became impaired more frequently but it remained permanently disabled seven times more commonly than from ether, and that its function failed to return. This perhaps gave a clew to the action of chloroform, and why patients who suffered from marked heart collapse during chloroform anæsthesia could so seldom be resuscitated. It was for this and other reasons, Dr. Weir added, that he was loath to employ the mixture of chloroform and benzin, recently recommended by Schleich and others, and gathering experience had shown that this combination was not so free from risk and mishaps as had been anticipated.

Dr. F. P. Kinnicutt said he had seen Dr. Bennett administer gas and ether in the manner described by Dr. Gibney, and it certainly seemed to rob anæsthetization of many of its disagreeable features. The patient was anæsthetized in about fifteen or twenty seconds, and there was no period of excitement. Another advantage was the small quantity of the anæsthetic that was required.

Dr. George L. Peabody said that nitrous-oxide gas acted by producing asphyxia. Its action differed from strangulation only in that it allowed the movements of the chest and heart to go on. The gas was non-irritating, but as it acted by depriving the system of oxygen its administration should not be continued for any length of time. As regarded the excitement often witnessed in the early stage of ether narcosis, the speaker said he was quite sure that this was largely attributable to terror on the part of the patient, and could often be obviated by explaining to him beforehand that the ether gave rise to a feeling of strangulation, which need cause him no alarm. If the patient's confidence could thus be gained and the anæsthetic be given at the start not too energetically, he would usually take it quietly; otherwise he was apt to struggle, because he thought there was something peculiar about his condition.

Dr. Charles L. Dana said that, while the statement made by Dr. Peabody regarding the physiological action of nitrous-oxide gas had apparently been demonstrated in the laboratory, he did not think that it explained the clinical fact that this gas undoubtedly produced exhilaration without any attendant symptoms of asphyxia. The experiments of Waller, which were referred to by Dr. Weir, seem to prove also that the gas had a specific effect on the nerves.

Dr. W. H. Draper said he had recently seen Dr. Bennett administer nitrous-oxide gas in combination with ether to a woman who was very nervous about taking an anæsthetic, owing to the fact that she had witnessed the etherization of her husband some weeks before, when he had been operated on for appendicitis. She was requested to breathe the nitrous-oxide gas, and within twenty seconds she was unconscious and not seriously cyanosed. The ether was then given and in less than four minutes she was ready for the operation, which was completed in a short time, not more than one ounce of ether having been required. She recovered from the effects of the anæsthetic very quickly.

Dr. Beverley Robinson inquired whether the inhalation of nitrous-oxide gas could be prolonged for any length of time with safety, and also whether it was necessary to caution the patient to abstain from taking food previous to its administration. In one case that had come under his observation the gas was administered to a man who was to undergo an operation for hemorrhoids. It was found necessary for

some reason to prolong the operation for quite a while, and since then the man had suffered from certain cardiac symptoms which the speaker thought it possible were attributable to the prolonged use of the anæsthetic.

Dr. Weir said that, while apparently in many operations under ether a large quantity of the anæsthetic was employed with the ordinary impromptu cone, the fact should not be lost sight of that by the usual methods of anæsthesia much of the drug was wasted. Many years ago Dr. Squibb and himself had investigated this subject, and they found that with carefully arranged cones, which admitted only a small amount of air, two or three ounces of ether were usually sufficient for an ordinary operation, and that by the coarser methods the patient, as a rule, did not get more than three or five ounces from the half-pound can that was usually employed; the rest was wasted.

Dr. Gibney said he did not think it was customary to give the patient any directions about taking food before the administration of the gas. As regarded the length of time that the inhalation could be continued with safety, Dr. Bennett had informed him that the anæsthesia could be prolonged for half an hour or longer. The speaker said he had seen several cases in which the patient was kept under the influence of the gas for twenty minutes; when the patient became a little livid, the gas was shut off for a moment and oxygen substituted. Patients recovered from the effects of the gas in a remarkably short time.

Dr. Weir said that in one instance he had kept a patient under the influence of laughing-gas for an hour and a quarter, giving him, of course, occasional whiffs of oxygen, and that he had witnessed a case in which etherization had been continued for nineteen hours, to permit continuous and quiet pressure on a femoral aneurism.

Dr. Francis P. Kinnicutt presented a post-mortem specimen in connection with the following case. On February 1st there was admitted to his wards in the Presbyterian Hospital a young man, who apparently was in vigorous health, aside from exhibiting slight hoarseness and a very moderate degree of dyspnœa. The patient stated that these symptoms had existed only for a day or two, although he admitted that he had been treated for some throat trouble previous to the appearance of the present symptoms. There was no cyanosis, and the heart and lungs were free from disease. There was considerable swelling of the neck in front, and this, so far as one could judge, was limited to the perilaryngeal tissues. There was no enlargement of the cervical glands, and the thyroid was not enlarged. There was no appreciable local sensitiveness on manipulation. It was impossible to obtain a laryngoscopic examination of the interior of the larynx on account of the faucial irritability. The epiglottis, however, was seen and was not œdematous. During the night following admission, there was very little dyspnœa. On the following morning the patient suddenly cried out that he was choking and died almost immediately. He was intubated in the few moments which elapsed before death, but without avail.

Autopsy: There was an indurated swelling of considerable size on the left side of the larynx. The left aryteno-epiglottic fold was greatly swollen and indurated and projected beyond the median line so as to overhang the glottis. The left vocal cord was also much thickened and the left ventricle was obliterated. In the sinus pyriformis on the left side was a cut or laceration of the mucous membrane about one-half inch long. This formed the opening of a ragged sinus or pouch extending nearly three inches downward at the left of the thyroid cartilage. The inner wall of this sinus was ragged and sloughing, and it contained a reddish purulent fluid of foul odor. The left crico-thyroid articulation had broken down, and the inferior cornu of the thyroid appeared to be necrotic and crumbling. Nearly the entire left half of the thyroid was covered with sloughing tissue. The cartilage was not denuded.

Microscopical examination: Smears of pus showed no tubercle bacilli. Seven sections, each from a different part around the sinus, showed the lesions of simple inflammation.

Dr. Kinnicutt said he was unable to account for the lesion except on the theory that the rent described in the report of the autopsy had been made by some instrument and that the sinus and inflammatory changes had occurred as the result of the injury. Death was evidently caused by a sudden and complete occlusion of the glottis, which might easily have occurred in view of the tissue lesions described.

Dr. Beverley Robinson said that some of these cases of sudden death from occlusion of the glottis might be attributable to angina Ludovici. He referred to one case of fatal œdema of the glottis complicating erysipelas.

Dr. Shrady was inclined to think that the immediate cause of death was œdema of the glottis. The œdema might have disappeared before the autopsy was performed.

Dr. Janeway suggested that the œdema might have been dispelled by the pressure of the intubation tube.

Dr. J. W. Brannan expressed the opinion that such a serious laceration of the aryteno-epiglottic fold would have given rise to more prominent symptoms than this man showed previous to the onset of the fatal dyspnœa.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENT, PHARMACY, PUBLIC HEALTH, RIVER POLLUTION, PLAGUE—MEDICAL SOCIETY, ABDOMINAL SECTION FOR MEDICAL CASES—CLINICAL SOCIETY, LAMINECTOMY, LUPUS—MEDICO-CHIRURGICAL ANNUAL MEETING—CAMBRIDGE MEDICAL SCHOOL—MIDDLESBOROUGH EPIDEMIC, DEATH OF THE HEALTH OFFICER.

London, March 4, 1898.

Bills to amend the public-health acts and the pharmacy acts have been brought into Parliament, but neither seems likely to make much progress. The promotors of the rivers-pollution act hope to get a second reading of their bill early. So do those interested in an habitual-drunkards bill. Sir W. Foster elicited that an unpublished rule had prevented three army medical officers obtaining promotion, because, being over fifty-seven years old, they would not be able before sixty (when compulsory retirement takes place) to put in three full years in the higher grade. A retrospective and secret rule is thus the means of doing injustice to the medical service, and the minister who had to defend this had to acknowledge that the army service is practically boycotted by the profession. We may hear more when the vote for the service comes up. The midwives question threatens to become most serious, and the danger becomes more grave of an inferior order of practitioners being established. Lord Onslow announced that for the first time for ten weeks the government telegram showed an improvement in the plague mortality of Bombay. He also said the results of the Haffkine serum were encouraging. But you will get news on this subject from other sources.

The advance of the surgeons into the territory of the physicians continues with surprising success and

determination. On Monday the Medical Society's meeting was given over to the surgeons for the discussion of a paper on "Abdominal Section as a Medical Measure." Mr. Treves, the author of this, began by remarking on the difficulty of defining a medical case and distinguishing it from a surgical one, and it would appear that when in doubt he would decide for surgery. It reminds one of the old definition by a surgeon: "If the patient brings a fee, the case is surgical; if he cannot pay, it is medical—recommend him to a physician." But to return to the paper. Mr. Treves mentioned the well-known fact that in certain cases the abdomen had been explored and no abnormality found, but nevertheless amelioration of the symptoms, if only temporary, had followed the operation. The results of an incision in tuberculous peritonitis had certainly been most surprising and must have been exceedingly gratifying to those whose erroneous diagnosis led to operation. Other conditions were mentioned as sometimes benefited by a simple incision—among them, pyloro-phlebitis and malignant growths. These latter had shrunk after operation; at any rate, temporarily. Nervous cases, such as those which had been termed "intestinal hypochondriasis," were also held to be amenable to operation, but certainly occupied a position very different from that of tubercle and malignancy. They were said often to follow chronic colitis and simulate stricture, and a contracted state of the sigmoid flexure had sometimes been found.

When Dr. Brunton rose, it was anticipated he would defend the position of the physicians, but he abandoned it completely, and suggested that the time would come when the abdomen would be opened, not only for tuberculous peritonitis, but for pulmonary phthisis. He said that a woman in advanced phthisis, who had a large cavity in one lung, suffered so much from pain in the abdomen that she insisted on its being opened, and after the operation the pain was relieved, and, further, the pulmonary condition improved, as did the general health. The explanation, he suggested, might be that the admission of air brought about the production of large quantities of an antitoxin, though how it should do this he did not say. He further mentioned that a medical man suffered such severe pain in the abdomen, coming on at night, that he determined to have an exploration made. Adhesions were found on the side opposite to the pain. After the operation the pain did not return, but the case was too recent to justify definite conclusion.

Mr. Bryant deprecated too free explorations, though he mentioned two cases in which he had been induced to operate, and no ill result followed. One was for what the obstetrician declared to be an undoubted case of ovarian tumor, though when the abdomen was opened nothing could be found. In the other case, on coming down as he supposed to the peritoneum, he was unable to dissect it off and gave way to the obstetrician, who was confident that it was not peritoneum. Consequently he proceeded and cut into the intestine. No harm resulted, and eighteen months afterward the patient continued pretty well.

Dr. F. J. Smith asked whether surgeons thought it would be justifiable to evacuate ascitic accumulations by incision instead of by tapping.

Mr. Alban Doran suggested that the cases which had been mentioned were probably cases of old tuberculous peritonitis or cyst of the urachus. He mentioned a case of fæcal vomiting following symptoms of irritant poisoning. He thought the symptoms might be due to the coincidence of irritation and obstruction.

Mr. Treves said fæcal vomiting was exceedingly rare, a mass of casein being often mistaken for fæces.

Some interesting cases were exhibited at the Clinical Society on Friday last. One was a recovery from pressure paraplegia after laminectomy. The patient, a girl of twelve, had spinal curvature, and pressure symptoms came on eighteen months before admission. In December, 1895, the laminæ of the four upper dorsal vertebræ were removed. In July, 1895, no benefit had accrued, but two months later sensation began to return; motor power was gradually restored, and now she can walk several miles. Another patient was shown, a man of forty-eight. He had complete paraplegia and prominence of the lower dorsal vertebræ. Three laminæ were removed. In ten days pain had disappeared and power began to return in the legs in three weeks. A girl of five was also shown, who had been treated by Calot's method, in September, 1897, for paraplegia from caries in the upper dorsal region. Within a week movement in the legs began and progress was steady. The jacket was removed February 18, 1898, and she can now run, walk, and jump without pain. This is the first case shown to the society after removal of the plaster jacket.

A case brought forward as lupus of the nose, treated by TR tuberculin, gave rise to some difference of opinion. Some of the members were disposed to consider the case as one of syphilis, of which there was a history. It was stated that there had been a node on the skin, the result of a blow, and that for this iodide of potassium had been given about the time the patches began to heal. On the other hand, it was said that the reported chancre might have been a patch of lupus. After each injection the temperature rose to 102° F., and remained at 100° F., and the question arises whether this reaction is of diagnostic value—as it is supposed not to occur in syphilis. The case at best must be regarded as doubtful.

The annual meeting of the Medico-Chirurgical Society was held on Tuesday, when the president, Dr. W. H. Dickenson, delivered an address, reviewing the work of the year and mentioning those fellows who had died in that period. These were mostly mentioned by me at the time. The reports of the council and committees were adopted. The treasurer's statement shows that the finances are satisfactory; £422 has been spent on new books for the library.

An influential meeting of Cambridge men was held in London on Tuesday, in connection with the need for new buildings for the Medical School at Cambridge. It is necessary to raise £20,000, and the vice-chancellor said nothing could be had from the university chest, which he had percussed recently, eliciting so loud and clear a note that the veriest tyro would recognize it as absolutely tympanitic. It was agreed to form a committee of graduates to take steps for the advancement of the school. Dr. Dickenson, who had presided, was appointed chairman of the committee, and Dr. Norman Moore and Mr. Herbert Page were named as secretaries.

The Middlesborough epidemic of small-pox has extended all through the week. The new cases per diem have varied from twenty-seven to sixty-five. A very large number have been in houses previously free. There is now hospital provision for six hundred, and two hundred beds will be used if necessary in a local asylum which has just been built. The number of cases notified to the end of February was six hundred and eighty-five, and one hundred and thirteen have thus early been added for March.

I am sorry to hear that the medical officer of health, Dr. Malcomson, died on the 1st inst. It is said his death was hastened by the overwork and anxiety caused by the epidemic.

Suppurative Inflammations.—Sodium bicarbonate in a two-per-cent. solution invariably stopped the pain and the suppuration and effected a rapid cure without drainage.—GEORZENSKY.

OUR BERLIN LETTER.

(From our Special Correspondent.)

RATIO OF PHYSICIANS TO POPULATION—TOO MUCH IS BAD FOR THE HEALTH—HERMAPHRODITES—MILIARY TUBERCULOSIS—THE HEREDITY OF DISORDERS OF SPEECH—CONGRESSES.

BERLIN, February 28, 1898.

THE statistical data bearing upon the ratio between physicians and the general population of Germany, as given out in the new edition of the "Deutsche Medicinal-Kalender," are interesting. We learn that there were 24,873 physicians in the empire during the year 1897; a ratio of 4.5 physicians to 10,000 inhabitants. In 1883 the ratio was 3.33 to 10,000; in 1890 it was 4 to 10,000. Thus 1897 shows a decided increase. Berlin, with its 1,750,000 inhabitants, has 2,196 physicians, or 1 to 800. Ten years ago there was but 1 physician to 1,218 inhabitants. This is an increase of almost eighty per cent. In the mean time the population increased but nine per cent. Throughout the entire empire there exists a similar disproportion. When we furthermore learn that during the first years of the last decade there was a slight falling off in the number of medical students, which, however, has since been surely and steadily increasing, we cannot but conclude that there is a most unwholesome overproduction of physicians. France has from 26,000 to 27,000 physicians; Paris, with its 2,500,000 inhabitants, has 2,500, or 1 physician to 1,000. England, on the other hand, has but 20,000.

This overproduction of physicians explains why medical life in Berlin is as active as it is. It also explains the eagerness with which so many press to the front; why there is such a continuous effort to advance medical science. But then "too much is unwholesome," and an overactivity works injuriously in the end. An example which illustrates this saying is given us by the Berliner medicinische Gesellschaft. As a consequence of the increase in number and length of the demonstrations before the regular order of proceedings of the meetings, this latter was usually greatly encroached upon and curtailed. Many who had come fully prepared and who were announced on the invitations, could not read their papers and were even compelled to postpone the reading for several meetings. With a view of remedying this evil, it was decided to permit those demonstrations only which were previously announced, and, furthermore, to open the meetings on demonstration evenings three-quarters of an hour earlier. This works well, and now everybody is satisfied.

The demonstration of cases of hermaphroditism formed one of the features of special interest at the last few meetings. Dr. Bruck showed an Italian who passed as a man, but who was shown by means of an *x*-ray photograph to have a female pelvis. Professor Hansemann demonstrated a number of specimens of hermaphroditism which had in the course of years accumulated at the Friedrichshain Hospital. Virchow participated in the discussion. Most hermaphrodites, he said, belong to the female sex. But one case of genuine (true) hermaphroditism—that is, an individual in whom both sexual organs are equally developed, one who is therefore capable of self-impregnation—has thus far been observed. It is usually difficult to state whether testes or ovaries are present, for these organs are as a rule but rudimentarily developed. Such persons are therefore of the neuter gender. The individual is to be classed with the female sex if uterus and vagina be present, even though there may exist at the same time a large erectile clitoris, very similar to a penis. One case demonstrated was notable, inasmuch as the individual was able to have sexual intercourse with persons of either sex, for the vagina was sufficiently developed to receive the virile member, and the clitoris had attained the size of a penis, but had no orifice.

v. Bergmann showed two patients with bullets in their brains. They proved very interesting cases, for in both the wounds were healed and the patients presented very few symptoms at the time of demonstration. It was quite different though at first. Then there were dangerous features present. In one case, for example, there were at first hemiplegia, hemianæsthesia, one-side deafness, and total blindness. These all passed away, leaving finally a slight paralysis only of the left leg. The projectiles were photographed with the *x*-rays. Notwithstanding the urgent wishes of both patients to have the bullets extracted, v. Bergmann refused to do so, as there was no indication for such interference. Other authorities recommend the extraction of any bullet which can be gotten at, in order to avoid later dangers.

Before the same society a specimen was shown by Dr. Benda, which may serve to explain the origin of general miliary tuberculosis. It was from a case of tuberculosis of the thoracic duct. Of late, the theory of Weigert, that miliary tuberculosis was occasioned by the bacilli penetrating the walls of veins or of the thoracic duct and thus entering the general blood or lymph circulation, has been doubted and attacked. One argument advanced was that the number of bacilli in such a case could not be sufficient to explain a general miliary tuberculosis, and we should have to admit a subsequent increase while in the circulating blood. The specimens shown by Benda of tuberculosis of the thoracic duct and of the aortic and mitral valves presented such enormous amounts of bacilli as fully to account for the general miliary tuberculosis of the respective cases. As a consequence of his investigations and conclusions, Benda fully accepts Weigert's explanation.

Some interesting statistics on the heredity of disturbances of the speech function were recently furnished by Dr. Gutzmann to the Verein für innere Medicin. In all he examined twenty-two hundred and twenty-eight cases of functional and organic disturbances of speech. Of the deaf-mutes there was in but seventeen per cent. of cases a history of heredity; here, therefore, this factor plays but a small part. But 4.6 per cent. of the children of deaf-mute parents (both father and mother) were also deaf-mutes, and in cases in which either the father or the mother was a deaf-mute but six per cent. of the children were similarly afflicted. He also found very few afflicted children whose parents were blood related. Gutzmann added that higher figures are found in America; there more than one-half of congenital deaf-mutes show hereditary predisposition. Patients with functional disturbance of speech, *e.g.*, stuttering and stammering, present a much greater hereditary predisposition.

Vacation begins next month and work in the medical societies of Berlin will be somewhat interrupted. Attention to and attendance upon medical congresses will occupy the time and thoughts of the physician. March and April bring us a number of these medical gatherings. To mention a few: the balneological at Vienna, the German Congress for Internal Medicine at Wiesbaden, the surgical at Berlin, the International Congress for Hygiene and Demography at Madrid, etc. Physicians from every part of the world will work together, and help to tear down the barriers which nature and mankind have erected between the various nations and races. For this surely is one of the educational purposes of an international congress.

The Woman's Hospital of Baltimore is to have a new wing added to the building, in memory of Dr. H. P. C. Wilson, who died recently.

"A CASE OF PUERPERAL SEPTICÆMIA UNSUCCESSFULLY TREATED BY ANTISTREPTOCOCCUS SERUM."

To the Editor of the Medical Record.

Sir: The Medical Record of February 26th contains an article under the above title, by Dr. Hubert Work, of Pueblo, Col. As a general rule, I do not think it profitable, either for the critic or the criticised, to discuss the report of a single case, especially when that case is reported by such a careful and competent observer as Dr. Work is known to be. And yet it is only by a comparison of notes that we can speedily and conclusively determine the value of a new theory or a new remedy; and inasmuch as both theory and remedy in this case are new, this must serve as my apology for a brief analysis of the case in point. It was one of abortion at about the fourth month and was attended by the patient herself, with probably such assistance as could be rendered by a kind and loving husband. The fœtus was expelled on September 9th and the placenta on September 18th, when Dr. Work was first called. For financial reasons the doctor was requested not to call again unless summoned. At his next visit, which was on the 27th, he "found the patient with a temperature of 105° F., a pulse of 120, and the other typical symptoms of puerperal infection." As to his general management of the case, nothing need be said except to indorse it. What I wish to criticise is the misleading title of his paper and his delayed and sparing use of the serum —if, indeed, it was a proper case for the serum treatment. It would have been more appropriate to say "unsuccessfully treated" by curettage, or by quinine and alcohol, as all of these agencies had been used several days previous to the employment of the serum. Dr. Work says very truly that the patient presented the "typical symptoms of puerperal infection." But was it streptococcal infection? He does not tell us whether or not he made a bacteriological test—the only possible means of determining whether the serum treatment was at all indicated. The literature upon streptococcal infection and its treatment is exceedingly scarce, and therefore but few general practitioners have the facilities for giving the subject careful study. For this reason I may be pardoned for quoting briefly from a paper I presented to the section on materia medica, pharmacy, and therapeutics, at the forty-eighth annual meeting of the American Medical Association, Philadelphia, Pa., June 1–4, 1897, and published in the *Journal of the American Medical Association*, September 11, 1897, as follows: "In order that I may not be misquoted or misunderstood, I wish distinctly to state that the antistreptococcus serum is recommended only for streptococcal infection, and not for diseases or conditions in which this infection does not exist. Some cases of puerperal septicæmia are caused by the bacillus coli communis, and in the treatment of these the serum would be without effect. But in the greater number of cases chains of streptococci are found in large numbers, and these yield to the serum treatment in a most remarkable manner. Hence I emphasize the necessity of a bacteriologic examination in every suspected or doubtful case, in order that the treatment may be pursued upon rational and scientific lines."

Assuming even that the doctor made the diagnosis in accordance with the above-named method, his employment of the serum so late in the course of the disease was wholly inadequate. I quote again from the same paper, under the head of "Dosage": "In all grave cases, such as puerperal septicæmia, and especially if treatment has been considerably delayed, an initial dose of thirty cubic centimetres is advised. This may be followed by doses of ten or twenty cubic centimetres every twelve or twenty-four hours, according as the symptoms are affected."

From Paris, where Marmorek's serum is made and used most extensively, we have accounts of as much as ninety cubic centimetres being used within twenty-four hours. This serum being absolutely pure and free from antiseptic substances, the dose is practically unlimited, and no fears need be had in its administration in large quantities. It is not every case of streptococcal infection, however, even of the puerperal type, that requires very large doses of serum, as the one reported by Dr. Siff (Medical Record, November 13, 1897) clearly proves. This case was seen and treated with the serum six days after a normal labor at term, with immediate expulsion of the secundines; while Dr. Work's case carries the history of a placenta retained for nine days, and then only partially expelled, followed by "a little fever" (105° to 106° F.), and the serum treatment not resorted to till two weeks after the expulsion of the placenta, or twenty-three days after the delivery of the fœtus. The two cases are not parallel. One was an acute affection, promptly treated and as promptly yielding; the other at least subacute and saturated with ptomains before the physician was called. In view of the numerous reported cases of this class in which Marmorek's serum was used with signal success, and considering all the conditions attending the one reported by Dr. Work, it seems to me to be decidedly unfair that it should go on record as one "unsuccessfully treated by antistreptococcus serum."

George W. Cox, M.D.

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"CASTRATION AS PUNISHMENT FOR RAPE."

To the Editor of the Medical Record.

Sir: I am surprised at the somewhat feeble objections you make in your editorial of March 5th to castration as a punishment for rape. Surely to resort at the end of the nineteenth century to the nameless mutilation of a human being as a punishment for crime would be to step back into the semibarbarism of the middle ages. That sort of treatment would not be in harmony with science, civilization, or Christianity—three terms that are nearly synonymous. Most criminals can be included in the following definition: A human being who, on account of heredity, environment, cerebral deficiency, or disease, is different from and dangerous to normal human beings. If this is true, how shall we treat these abnormal humans? The law of God and man forbids vengeance. The law claims to administer "punishment," not as a penalty for crime, but to deter others from crime. Does it accomplish this? I think all students of sociology will support me when I answer with a most emphatic negative. The mind of the criminal is one that cannot be reached in that way. Most crimes are committed with a full knowledge of the legal penalty, and in many cases the criminal knows that there is hardly a possibility of his escaping that penalty, and in some cases he makes no effort to do so. Does the penalty deter in these cases? In the case of rape the penalty of castration will not only not deter, but will not prevent a repetition of substantially the same crime by the same criminal. On the other hand, a great mass of evidence goes to prove that castration makes the criminal even worse and more dangerous to his fellowmen than he was before. The legal treatment of criminals should tend to elevate them, not to debase them still farther. The penitentiary or State prison should be a combined hospital and school, where these unfortunate creatures can be elevated and improved morally, mentally, and physically, until in the opinion of

experts they are able to associate with their fellowmen with comfort to themselves and safety to others. These institutions should be under the direction of men expert in the treatment of such conditions of mind and body as result in crime. For the community to wreak vengeance on the criminal is simply to make the community criminal. The community gets the best of it only because it is stronger than the individual. The motive that punishes crime is as criminal as the motive that inspires crime. The criminal should be confined for the protection of the community, and advantage should be taken of that confinement to make of him a normal man if possible. In the cases in which this is not possible, he should simply be kept in confinement under the best possible conditions for his improvement.

D. E. English, M.D.

Mill Burn, N. J., March 5, 1898.

ABDOMINAL HYSTERECTOMY FOR ACUTE PUERPERAL SEPSIS—A REPLY TO DR. BOLDT.

To the Editor of the Medical Record.

Sir: I desire to state at the outset that what follows must not be taken as an implied criticism of the report published in the Medical Record of March 12th, of the discussion on my second case of abdominal hysterectomy for acute puerperal sepsis. I fully understand that your space does not permit the publication of the discussion in full, and I have only the highest praise for the accuracy and fairness of your reports in general. But in the interest of science and of justice, and in nullification of Dr. Boldt's criticisms, some features of the case that were omitted from the Record's report, and also from my report, should be made known to the profession. The woman was in her fortieth year; was a primipara, had a contracted pelvis, necessitating high forceps (applied by physicians from the New York Lying-in Hosiptal) and such severe traction that a dead child was obtained. The cervix was torn deeply beyond the vaginal junction. Would such a uterus, therefore, in a woman of that age, with a deformed pelvis, call for any consideration in a life-saving procedure? What chances would the woman have of again conceiving and having a successful issue, assuming that her life could have been saved by an operative procedure other than removal of the uterus? My critic must grant that the woman had peritonitis, as evidenced before operation by the dry coated tongue, the rapid and intermittent pulse (130), by the temperature (103° F.), by the distended and sensitive abdomen, and by the respirations (46).

At the time of operation there were incontrovertible evidences that peritonitis of a grave nature was present. There was grayish, turbid fluid in the peritoneal cavity, the intestines were very much distended, and the peritoneum had a dirty, opaque, grayish appearance, such as is seen in a rapidly fatal septic peritonitis following a laparotomy. Had the woman been young and the retention of the uterus and adnexa been a matter of vital importance, the question would be pertinent whether the result would have been the same had the peritoneal cavity been merely irrigated and drained and the uterus and its adnexa left *in situ*. I confess now, as I did in the discussion, that a positive answer cannot be given, as I know of no data upon which to form an opinion. My train of reasoning was briefly as follows: the tear in the perineum and cervix was covered with healthy granulations; there was no exudate or evidence of a diseased tube or ovary; hence the source of infection must be within the uterine cavity. I have since learned from the physician who applied the forceps and delivered her that after the child was extracted there was a rush of air from the uterine cavity. The same phenomenon occurred two days later when the iodoform gauze that had been used to pack the uterus was removed. This was so striking that an examination was made for the aerogenes capsulatus, with negative result. I curette the uterus and remove considerable decidual tissue and débris. There is marked improvement for about twenty-four hours; then the patient rapidly grows worse in spite of repeated intra-uterine irrigations, the pulse becomes very weak and intermittent, the respiration more rapid, and the abdomen grows enormously distended. In my opinion, based upon several experiences in such cases, the fatal termination is not far off. I decide to give the woman one chance out of a hundred, by opening the abdomen and flushing it with saline solution, and to extirpate the uterus, for the purpose both of favoring drainage and of removing the gross source of infection. The result is marvellous. On the next morning, twelve hours after the operation, the pulse is regular and full (96) and the temperature is 100° F. The woman makes a good recovery and is able to leave the hospital at the end of four weeks, and is now, ten weeks after operation, fat and rosy looking.

Dr. Boldt said: "It was not a case of acute puerperal sepsis, for if such had been the case the woman would have been dead before the time mentioned [the nineteenth day] as that at which she had first come under observation." At the February meeting of the Harlem Medical Association, when I presented the specimen from my case, Dr. Van Santvoord presented the uterus of a case of puerperal sepsis that had been under his observation at the Manhattan Hospital. The woman died, I believe, on the twentieth day after confinement. The uterus presented very nearly the same characters as that in my case, excepting that it was soft and flabby, having been fresh while my specimen was hardened in alcohol. There was no purulent collection anywhere.

In October of last year I saw a case of puerperal sepsis (with no pus collection or exudate); the patient had been delivered on September 28th, and died October 14th, the eighteenth day of the puerperium. I can recall other cases seen in consultation during the past few years that ended fatally as late as the third, fourth, fifth, or sixth week. It may be that the term "acute" should not have been applied to these cases; but they were acute enough in their severity to kill.

I should not have trespassed upon your space and upon the indulgence of your readers to such an extent, were I not keenly alive to the responsibility assumed in advocating hysterectomy for acute puerperal sepsis. I am anxious, therefore, that my position should be fully understood. In the large number of cases I have seen, and am constantly seeing, I have advised the operation in only the two cases reported. As far as it lies in my power I spread the teaching which guides me in my practice—that by far the greater majority of cases of puerperal sepsis can be successfully combated by proper palliative measures, and that only very rarely do we meet with a case in which the question of hysterectomy ought to be entertained. Even in these cases less serious measures, such as curettage and intra-uterine douching, should first be tried.

Despite the age of Semmelweiss' theory, it would appear we still seem not to have grasped fully the idea that puerperal sepsis always has a local origin, and that it should be treated upon surgical principles, as one would an infected wound elsewhere. If the infection is making headway in spite of our efforts, and if the source is so situated that it can be removed, then we must set to work to do so, as we would with

an infected appendix that is threatening or causing a general septic peritonitis.

In these tragical cases, for I can conceive nothing more truly tragical than when a young primipara is taken away from her newly born babe and from her husband, or when a multipara is taken away from a number of young children, we ought not to split hairs but rather join hands in an effort to save life.

HIRAM N. VINEBERG, M.D.

127 EAST SIXTY-FIRST STREET, NEW YORK,
March 14, 1898.

THE VALUE OF NITZE'S ELECTRIC CYSTOSCOPE IN THE DIAGNOSIS OF HYPERTROPHY OF THE PROSTATE GLAND—A REPLY TO DR. E. FULLER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with a great deal of interest Dr. Eugene Fuller's remarks on "Cystoscopy in Connection with Prostatic Hypertrophy—A Reply to Dr. W. Meyer," in your issue of March 12, 1898. His presentation of the question affords me an opportunity to state—I can only say "again"—what the cystoscope *can* do in determining or rather substantiating the diagnosis, hypertrophy of the prostate.

Dr. Fuller commences his reply by saying that I made a misstatement regarding him when writing in my article on "Bottini's Galvano-Caustic Radical Treatment for Hypertrophy of the Prostate," which appeared in your issue of March 5, 1898, that he had maintained at one of the late meetings of the section on genito-urinary surgery of the academy that this (the diagnosis of the configuration of the prostate with the help of the cystoscope) was an impossibility and mainly existed in the phantasy of the observer. He quotes himself as having said that "great reliance could not be placed on the cystoscope in definitely determining just what constituted the obstruction to urine drainage in cases of prostatic hypertrophy, and that this was due to the fact that only such obstructions could be seen by the aid of the instrument as encroached on the vesical cavity or were what are called intravesical hypertrophies;" also that "no one with a vivid imagination should attempt to diagnosticate prostatic obstruction from what he thought he saw through the cystoscope."

It is true, I was not present at the meeting in question. A friend had informed me of these remarks of Dr. Fuller. But, it seems to me, there is very little difference in the meaning of the words as Dr. Fuller puts them himself and as I put them in my article. However, if my version of his former declarations as given in my article was really a misstatement at that time, it is so no longer, for Dr. Fuller continues in his reply: "In many cases of prostatic hypertrophy the obstruction is caused by growths about the prostatic urethra and about the vesical neck, regarding the presence of which the cystoscope does not give us the least information."

I must confess I was more than astonished to read how little faith Dr. Fuller has in the value of cystoscopy as far as the diagnosis of the hypertrophied prostate is concerned.

In order to show what an amount of positive information the cystoscope gives us in cases of prostatic hypertrophy, when the obstruction is caused by growths about the prostatic urethra and about the vesical neck, I beg that you let me briefly review the method employed in making a cystoscopic examination of the bladder in a patient afflicted with a swollen prostate.

After proper preparation the cystoscope is introduced. The beak approaches the prostatic urethra. We have to press the handle down a great deal before the beak slips into the viscus, a sure clinical symptom that the gland is enlarged. This characteristic, of course, the cystoscope has in common in such cases with all other solid instruments. Then the light is turned on and the instrument drawn out so far that the prism just enters the bladder. What do we see at this spot in the normal bladder? A sharply cut half-moon of a reddish-gray color, its concavity pointing upward. It represents the diaphanoscopic picture of the so-called "inner fold" of mucous membrane around the upper circumference of the internal orifice of the urethra. On account of the peculiarities of the optic apparatus this picture is seen inverted, and is, therefore, observed in the lower half of the cystoscopic picture. What do we see at this spot in cases of hypertrophy of the prostate? A distinct groove, shallower or deeper according to the size of the gland. In 1889 Max Nitze, of Berlin, in his text-book on cystoscopy (Wiesbaden, J. F. Bergmann, page 223), dwelt at length on the great value of this phenomenon in the cystoscopic diagnosis of prostatic hypertrophy. In 1893, after five years' experience with cystoscopy, I could corroborate Nitze's statement in every particular. I then said in my article "On Cystoscopy," in the "System of Genito-Urinary Diseases, Syphilology, and Dermatology," edited by P. A. Morrow, M.D., of New York, vol. i., page 477: "Very important for diagnosing hypertrophy of the prostate is the (diaphanoscopic) picture of the fold of mucous membrane around the upper circumference of the internal orifice of the urethra, to be briefly called 'inner fold.' . . . If the prostate is in the state of hypertrophy, this neatly and everywhere equally outlined thin fold is thickened, irregular, and nodulous. The gentle concave curve is represented by a deep angular notch with two upwardly divergent thick folds."

These statements still hold good. After ten years of extensive cystoscopic work, I repeat to-day, there is not to my knowledge a better pathognomonic symptom for the presence of hypertrophy of the prostate, than this angular notch in the cystoscopic picture of the inner fold. It has never proven fallacious in all my experience; it is absolutely characteristic and reliable for this and for no other intravesical trouble. This, of course, does not imply that hypertrophy of the prostate cannot exist without the presence of this endoscopically observed groove of the inner fold, although I am convinced that cases in which it is not found will be rare exceptions. The important point is rather this: when we do see the angular notch, we can be sure of prostatic enlargement.

If rectal digital palpation, if exploration of the bladder with a stone searcher fail to show a beginning enlargement of the prostate, the cystoscope can do this on the basis of this phenomenon. "There are no means at our disposal to give us equally sufficient and reliable information regarding a pathologic change about the vesical neck, other than the exploration of the bladder with cystoscope No. 1" (Nitze).

But can we not view the enlarged prostate directly, illuminated by the electric light? Of course, we can do this. Let the one who is interested in this matter take Nitze's cystoscope No. 2, with the lamp at the convex side of the beak, and let him inspect the enlarged gland through the optic apparatus (Morrow's "System," vol. i., pages 441 and 442), and he will unmistakably see both hypertrophied lateral lobes in the most brilliant illumination. And if there be a middle lobe besides he will be fully able to distinguish all the three lobes, and on their surface the reflex of the small incandescent lamp which has produced this prostatic revelation. Emil Burckhardt, of endoscopic fame, gives two beautiful illustrations of the hypertrophied prostate as seen through cystoscope No. 2, in his "Atlas der Cystoskopie," plate viii., Figs. 18 and

20 (Bâle, 1891, Benno Schwabe). On account of their clearness and importance as to the value of the electric cystoscope in the diagnosis of prostatic enlargement, I had them reproduced in the above-mentioned article of mine in Morrow's "System," page 491, Figs. 29 and 30. Burckhardt particularly says in the preface to his "Atlas": "All the illustrations have been sketched by myself during the endoscopic examinations. They represent the conditions as they were really seen. No alterations whatever have been added to improve the clearness of the pictures or to facilitate their interpretation."

He who absolutely wishes to see yet more of the prostate by direct inspection may buy Nitze's cystoscope No. 3, with the beak in position rectangular to the shaft (Morrow's "System," *l. c.*). If, after he has succeeded in entering the bladder and pushing the beak into the viscus about one inch, he will slowly turn the instrument around its longitudinal axis, he will find that he can view the immediate circumference of the vesical neck in its natural size. After the beak has returned to its original position he will have inspected a circle the size of a silver dollar, the centre of which is represented by the internal urethral opening.

But let us return to the capabilities of Nitze's electric cystoscope No. 1, the cystoscope *par excellence*, as far as prostatic hypertrophy is concerned. After having definitely diagnosed the beginning or advanced enlargement of the gland by the characteristic cystoscopic picture of the internal fold, we push the instrument farther into the brightly illuminated bladder. Does the latter furnish symptoms absolutely and only characteristic of hypertrophy of the prostate? Yes, it does. We see the trabecular bladder with or without diverticula, in most instances an unmistakably clear, a most beautiful picture. One glance suffices to make the diagnosis; and, if made, it means mechanical obstruction to the outflow of the urine. This again, in ninety-nine out of a hundred cases, points toward the presence of hypertrophy of the prostate, the only other condition that might come into consideration being tumor of the prostate. Of course, in cases of stricture of the urethra a trabecular bladder is also observed if cystoscopy is performed right after stretching a stricture of long standing. However, a mistake as to a correct interpretation is excluded, because in these cases the cystoscope of No. 21 or No. 24 French gauge could not have been introduced.

We furthermore very often see at the border line between the vesical fundus and the internal urethral orifice a nodulous mass, projecting more or less into the cavity of the bladder. A little farther back we then look down into the postprostatic pouch. In estimating the real size of this mass we must remember the peculiarities, especially the magnifying power, of the optic apparatus of the cystoscope. The mass projecting between prism and lamp is of a bright red color, on account of the oblique direction of the rays of the lamp.

That we can thus by means of the cystoscope well diagnose a general hypertrophy of the prostate gland, also in cases in which we have seen an enlarged median lobe, is evident. I can assure Dr. Fuller that I also did this when I cystoscoped the gentleman on whom Dr. Keyes later performed suprapubic radical extirpation. I can further assure Dr. Fuller that I have not been purposely "careful"—as he puts it—not to mention that I did find out a general hypertrophy of the prostate with the help of the cystoscope. But in the case mentioned the question to be determined by the cystoscope was: Has the patient (a prostatic for many years) a median lobe or not.

I wish here to emphasize the fact that for the last ten years I have in all my writings on cystoscopy always insisted upon cystoscopy being the last resort in our attempts to diagnosticate vesical or renal disease. We should always first exhaust all other means at our disposal properly to classify and define a given case. But if a colleague were to come to me to-day and say: "I cannot find any clinical symptoms in this case which would justify me in diagnosing hypertrophy of the prostate; please look into the bladder with your cystoscope and tell me whether there is such a condition present or not," I maintain that, having in such a case used the cystoscope alone and no other mode of examination, I would give him an answer regarding the configuration of the prostate that would be found correct at a future operation or post-mortem examination.

When I said in my article on Bottini's operation that "we can very well diagnose the configuration of the prostate with the help of the cystoscope," I meant, of course—and I fancy every reader will have properly understood me—that we can diagnose with the cystoscope whether the prostate is hypertrophied or not; if so, whether this hypertrophy is a pronounced or a slight one; whether there is a third lobe or not. These are the questions at issue. An answer to these points is what we need for our clinical purposes. Dr. Fuller's subsequent remarks, as above quoted, prove that he too has thus properly interpreted the word "configuration." To make clay models at the time of examination and have them later on verified by operation or post-mortem examination would, therefore, be a superfluous undertaking. When E. Hurry Fenwick, of London, in his work, "The Electric Illumination of the Bladder and Urethra," proposed ten years ago this procedure in cases of tumor of the bladder, he did so mainly with a view of obtaining a very valuable addition to the clinical history of the case, an addition which can be preserved forever. Such clay modelling would be of service in training one's eye to estimate properly what had been seen within the bladder, in that it would enable one to compare the picture observed at the time of the examination with that obtained at a future autopsy *in vivo seu mortuo*.

Now, still a word with reference to Dr. Fuller's case, which he cites in full, because his experience with this one case induced him to make the statement repeatedly referred to: "No one with a vivid imagination should attempt to diagnosticate prostatic obstruction from what he thought he saw through the cystoscope." What are the facts on which he bases this statement, which, coming from his lips, will naturally have weight with the medical profession? Dr. Fuller has opened a patient's bladder and did not find prostatic obstruction or a hypertrophied median lobe, although such had been diagnosed in this case with the cystoscope by another man. Why, may I be permitted to ask, did not Dr. Fuller himself introduce the cystoscope into this patient's bladder? Why did he rely upon the cystoscopic diagnosis of another man? A specialist like Dr. Fuller, with his knowledge and experience, would certainly have been able either to corroborate or to disprove the cystoscopic diagnosis previously made; and if he had done this he might have spared his patient the suprapubic operation. Cystoscopy was feasible at that time, for Dr. Fuller specially states: "The malignancy had not in the least at that time invaded the lower portion of the bladder." The capacity of the bladder also was sufficient to admit of a thorough cystoscopic examination. Dr. Fuller says that he had drawn off "five or six ounces of urine." There was no ulcerative vesical neoplasm, that means no vesical hematuria, which might have rendered impossible a satisfactory intravesical inspection. Certainly the case Dr. Fuller cites does not prove anything whatever for or against the matter at issue. It simply and only proves that the doctor who cystoscoped the patient, who later on came under Dr. Ful-

ler's care, had made a mistake in his cystoscopic diagnosis, had wrongly analyzed what he had seen by direct inspection. Of course, if one with a vivid imagination thinks he has seen through the cystoscope something in the bladder which is not there, Dr. Fuller is right. But why should just vivid imagination have caused this mistake? Do not our oculists, laryngologists, otologists, etc., sometimes err in interpreting a picture which they have seen through the ophthalmoscope, the laryngoscope, the otoscope? Why should a cystoscopist not make a mistake? Cystoscopy in its present stage is scarcely eleven years old. The eminent cystoscopist of this city whom Dr. Fuller has reference to, probably practised this interesting branch of our science for, say, eight or ten years. Why should he be infallible? I for my part can conscientiously state that whenever I have verified my clinical diagnosis of hypertrophy of the prostate, as made by means of the old standard ways of examination—I say, whenever I have verified this diagnosis with the help of the cystoscope, whenever I did see a median lobe, besides satisfying myself, also with the help of the cystoscope, as to the presence of a general enlargement of the gland, suprapubic incision, whenever such was made, has confirmed the correctness of my former findings.

Mr. Editor, the above statements with reference to the value and to the capabilities of the electric cystoscope in diagnosing hypertrophy of the prostate are not the creations of a vivid imagination; they are the result of a decade's enthusiastic but objectively conducted cystoscopic work.

I know that as to the correctness of these statements I shall be borne out by the cystoscopists of the world.

New York, March 18, 1898. Willy Meyer, M.D.

DR. NORTHRUP AND THE CLEAVELAND CASE.

To the Editor of the Medical Record.

Sir: Allow me to avail myself of your columns to state my connection with this unfortunate medico-legal affair concerning Dr. Cleaveland. First, as to my connection with the affair at all. A personal friend called at my office, bringing an assistant district attorney and Mrs. Carhart with him. After the attorney had stated his wishes, my first words were: "Am I wanted as an expert witness?" His answer was: "Yes." I then said: "An expert witness has the right to decline, has he not?" He said: "Yes; but in the interests of humanity I hope that you will not." I replied: "I do decline, and on no account will I have anything to do with it." To everything he had to urge, I reiterated my refusal with absolute positiveness. After this the mother narrated the case at the suggestion of my personal friend, without giving either names of persons or localities, and asked my opinion upon it. Let it be remembered that until I saw the account in the newspaper I did not know the name of the doctor or whether he lived in New York or New England. Having declined to serve and supposing that what I now said was merely of a private nature, I expressed myself, as nearly as I can remember, as follows: "As the facts are represented to me, my first impressions are that there is some causal relation between the size of the dose and some of the symptoms." I have no remembrance of using any such flamboyant expression as has been attributed to me by the press. To my surprise and annoyance, a few days later I was summoned before the grand jury. The substance of my testimony there was that I had no experience that would enable me to give any answer to the question whether the dose mentioned was dangerous.

W. P. Northrup, M.D.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending March 19, 1898:

	Cases.	Deaths.
Tuberculosis	169	98
Typhoid fever	8	2
Scarlet fever	188	10
Measles	447	15
Diphtheria	183	21
Laryngeal diphtheria (croup)	8	2
Chicken-pox	25	0
Cerebro-spinal meningitis	0	5
Pertussis	5	0
Erysipelas	1	0

The Anatomy and Surgery of the Chinese.—Dr. J. J. Matignon (*Archives Cliniques de Bordeaux*, November, 1897), after three years' sojourn in Pekin, says that a study of Chinese medicine convinces one that China is the paradise of routine. The medicine of the Chinese is less advanced, less intelligent, and less scientific than that of Hippocrates. Medical literature is rich; there are volumes remarkable for their size as well as for their number, but they are entirely lacking in originality. They are simply commentaries on the old masters who were contemporaneous with Machaon and Podaliere, who cared for the wounded after the Trojan war. All races, even savages, get some notion of medicine from the experiences of previous generations and the observations of morbid phenomena, but the Chinese are no further advanced than the most primitive people. They are superficial observers, and have made medicine a speculative science, without the solid basis of observation of vital processes. The object of most authors has been to give their theories a mysteriously obscure character, for the Chinese think that the more shadowy and more incomprehensible the idea the more it is worthy of admiration. The Chinese physician never makes any dissections, all that he knows of anatomy is learned from charts more or less fantastically produced, in which nerves, tendons, veins, and arteries are confounded. The head is a solid bone. Between the arm and the forearm there is a kind of patella. The small intestines communicate with the heart. The colon, which has six circumvolutions, opens into the lungs. They have very peculiar ideas in regard to the functions of the heart, brain, kidney, and liver. The heart is the ruler of the body. Ideas of pleasure have their origin in the pit of the stomach. The soul has its seat in the liver, and from this organ emanate noble and generous sentiments. The gall bladder is the receptacle of courage, and the subject is timid or warlike according to its seat. They find sixty-four kinds of pulse in the same subject at the same time. They do not know that the veins have valves. Their histological notions are as follows: The body is composed of five elements—fire, water, metal, wood, and earth—which are in exact harmony with five plants, five tastes, five colors, five metals, and five solid viscera. Disease results from a disturbance of this harmony, which no one but a Chinese has yet been able to perceive. Happily for the Chinese, they have a horror of surgery, it is certainly a fortunate thing, so long as their knowledge of anatomy is so limited. Fear of the bistoury is not the result of fear of pain, but of certain notions in regard to filial piety. Any wound of the body is considered an insult to filial piety. The Chinese seldom submit voluntarily to an operation, and when they do they keep the tumors or

members that have been removed with the same pious care that eunuchs preserve their sexual organs in a bottle, so that, being buried with them, they may present themselves intact in the next world. The Chinese physician does not operate, in the modern acceptation of the term. He really limits himself to the opening of an abscess. The chiropodist is much better equipped than the surgeon. All the instruments known number thirty-six. An insufflation tube for medicated powders is much used, especially in diphtheria. It is of iron and about eighteen centimetres in length. Lancing is very popular, and is employed in fractures, constipation, cholera, and ophthalmia. A Chinaman piques himself on the number of lancings that he has undergone. There is, in the Imperial College of Medicine, a manikin of bronze, bearing a very large number of punctures corresponding to the lancing practised on the living subject. At examination time this manikin is covered with paper, and the candidate for a degree is supposed to have sufficient knowledge of the topography of all these orifices to introduce his lance through the paper without the least hesitation into the orifice corresponding to the disease upon which he has been interrogated. Nothing is known of speculums, forceps, or urethral catheters. Massage has been understood by the Chinese since its earliest antiquity. It consists of superficial or profound friction with the hand or a piece of money. In the method called "loung fou," they use hammering of the muscle and the bone by the use of a small wooden mallet.

An Old-Fashioned and Knowing Nurse.—Professor Syme has always had the reputation of possessing an austere, reserved manner, and in the opinion of those who knew him best this impression will be pronounced well founded. At the same time it is no less true that he possessed the faculty of making himself very agreeable to all such as had any claim to his kindly recognition. To the venerable nurses, such as Mrs. Lambert and Mrs. Porter, who served in his wards with the utmost fidelity and industry for half a century or thereabouts, nothing could exceed the kindness and geniality of his manner. When either one of these devoted characters happened to be indisposed, he was always ready and willing to give her his kindest and best care. Whenever an opportunity occurred, he was proud to call out and show forth the surgical intuitions and marvellous diagnostic power of these venerable women, who were not "trained nurses," such as we have to-day, but were educated in the school of experience to a degree which, so far as my observation goes, made them equal in most respects to the best "trained nurses" I have ever known. For example, a young man, pale and emaciated, appeared in the professor's waiting-room one day, with a fluctuating swelling just above his right ankle. After careful examination by all present, various opinions having been expressed as to the diagnosis, the professor, looking around to Mrs. Lambert, said: "Mrs. Lambert, what do you think?" "I think it is a psoas abscess," was her modest but confident response; and so it proved to be, the autopsy a few weeks afterward fully corroborating her diagnosis. Having made the above warm reference to this venerable nurse, who had grown old in the service, I feel justified in adding a few words more in regard to her. In so doing I feel certain that, of all the pupils who studied surgery under Professor Syme during Mrs. Lambert's long service, there does not survive one who will not feel gratified by any kindly or appreciative testimony which may be recorded in her honor. Mrs. Lambert had her own suite of plain but comfortable rooms in the Royal Infirmary. One feature of her housekeeping, upon which she especially prided herself, was her potato soup, or, as she called it in the Edinburgh vernacular, "tattie soup." When any member of Professor Syme's staff happened to be delayed by his duties beyond the regular lunch hour, Mrs. Lambert was ever on the alert with an offer of a plate of this soup, with regard to which she always declared, "It's a wee bit better to-day, sir, than usual." It almost seems that I can taste that "tattie soup" to this day. At all events, the memory of the generous kindness of the good old heart of Mrs. Lambert never has faded and never can fade from my memory.—Dr. Donald Maclean, "Personal Reminiscences of Syme," *Medical Age*, Detroit.

The First Ovariotomy. — Christopher Heath, F.R.C.S., in one of the Lane course of medical lectures, delivered at Cooper Medical College, San Francisco, Cal., September 24, 1897, said: "There can be no question that the first ovariotomist was Ephraim McDowell, who was born in Rockbridge County, Virginia, on March 11, 1771. He went over to England, as was very much the custom with Americans in those days, for there were really no American schools. At Edinburgh he came into relation with Lizirs, who was a surgeon of that city and who had the notion, though he had never carried it out, that it must be possible to remove an ovarian tumor. McDowell came back to the United States and settled down to a small practice in a mere village (Danville, Ky.), and there happened to have a patient come before him in the year 1809, a Mrs. Crawford, who had a large abdominal tumor. The woman had supposed herself, as is often the case, to be pregnant; but when months went on it became clear that it was not a case of pregnancy, and she applied to McDowell for relief. McDowell, entirely on his own authority and apparently without consultation with any one else, performed the first ovariotomy in this country village, and most providentially that patient got perfectly well." In the *Boston Medical and Surgical Journal*, November 5, 1896, page 478, we find the following: "According to 'Memorials of the Faculty of Physicians and Surgeons of Glasgow,' by Alexander Duncan, the first ovariotomy was performed by Mr. Robert Housten, of Glasgow, in 1701, or more than a hundred years before the operation of Ephraim McDowell, of Kentucky, who is generally credited with being the earliest ovariotomist. The account of Housten's operation is quoted by the *Quarterly Medical Journal* from Mr. Duncan's book. It was published in the thirty-third volume of the 'Philosophical Transactions,' London, 1733. Whether the claim that this was the first recorded ovariotomy is true or not, the account is interesting reading."

A Rare Case of Vitiligo.—Dr. Reinhard (*Münchener medicinische Wochenschrift*, June 22, 1897) reports the case of a patient, born of negro parents, aged forty-three. He was in vigorous health and the father of several children. At the age of sixteen years white spots commenced to show themselves on his thighs; later they appeared on his body, and at the age of twenty-five he had become entirely white. At the age of twenty-seven years, after the skin had been entirely white, dark spots appeared on his body which continued to grow darker. In 1894 the patient's surface presented more black spots than white ones. A short time after this black spots formed on his legs and shoulders. His hair was black and curly, while his beard was white. His skin showed no thickening at any part, excluding any idea that the affection might be leprosy. Thus this unfortunate negro, after having become white, then white and black, again became black.

Tumors of the Rectum.—Dr. George Bingham (*Canadian Practitioner*, December, 1897, page 861)

says: "It is to be noted that there are certain characteristics common to the group of benign tumors of the rectum and serving to differentiate them from the malignant growths about to be considered. These features of the benign tumors are: 1, the pedicle: 2, no invasion of the deeper tissues; 3, no tendency to break down *per se;* ulceration or sloughing usually caused by mechanical pressure; 4, no metastasis; 5, a tendency to encapsulation; 6, no constitutional effects; 7, no tendency to return when removed; 8, of the malignant neoplasms of the rectum the one most commonly met with is adeno-carcinoma or malignant adenoma.

Some Causes of Defective Eyesight.—Among the phases of modern scientific methods calling for special study is the depreciated eyesight in the case of sailors, due to the brilliant electric light used on shipboard. Gray and blue eyes, not being heavily charged with pigments, are found to be the most subject to injury. Resort is had, by those working the searchlights, to the wearing of dark blue glasses. These, however, while tending to mitigate the intensity of the light, fail to absorb the source of the trouble—namely, the ultra-violet rays. The latter, nevertheless, can be intercepted by goggles or screens of uranium, or yellow glass, and these, it is expected, will in course of time be extensively introduced. Operators with the electric drill—burning out holes in a hardened steel plate—have sometimes had to be treated for intense pain and partial blindness. This kind of drill, as is known, acts by fusing a hole through the steel, and the intensity of the light is greatly increased by the rays thrown off by the molten metal. The use of dark glasses by those engaged in this kind of work has proved a great boon in obviating its otherwise disastrous effects. A singular feature of the injury done to the eyesight is a remarkable similarity to snow or desert blindness, being, as in these, probably due to the ultra-violet rays of the spectrum.—*Sun.*

Sex and Population.—The *London Post* has lately called attention to the statement that Egypt is said to enjoy the singular distinction of being the one country in the world where men exceed women in number. By the latest census the male sex in the dominions of the Khedive exceeds the female by 160,000. This alleged distinction of Egypt lacks, however, the important feature of being accurate. Egypt is not the only country in which women are outnumbered by men. There are others, several others, and in the number of these are the United States. By the census of 1890 there were in this country 1,513,510 more male than female inhabitants. In Australia the disparity between the sexes is even greater than it is here. Nor can this preponderance of men be ascribed to the comparatively recent settlement of the United States and of Australia, for in Italy men outnumber women and by the last Italian census there was an excess of male over female inhabitants in the proportion of 50.2 to 49.8. Nor is Italy the only European country in which this disparity is to be found. In Greece the percentage of male inhabitants is higher even than it is in Italy, and so it is, too, in Servia and Roumania. In all the South American countries, with the exception of Chili and Venezuela, men outnumber the women, and this is particularly the case in Brazil and the Argentine Republic. In England's South African colonies, in India, in Canada as well as in Egypt, the number of male inhabitants exceeds the number of female inhabitants, and it is not easy, therefore, to see how such an error should have been made as to say Egypt was entitled to the distinction claimed for it, provided always that an excess of male population may be regarded as a distinction. Egypt's claim to any particular prominence in this matter is based on a very slender foundation at best. By the census previous to the last one, it was shown that the total number of male inhabitants was 3,402,000 and the number of female 3,416,000. In a population, therefore, of nearly 7,000,000 the excess of female inhabitants at that time was 14,000, and if since then the scale has been turned slightly, and now shows a small preponderance of men, there is certainly nothing in it which particularly calls for any great demonstration of surprise.—*The Sun.*

Insanity in England.—The secretary of St. Luke's Hospital for Insane in London gives it as his opinion, based on experience gained from many years' contact with lunatics, that the most frequent cause of insanity is overwork, and particularly any prolonged form of labor of a monotonous kind. The following is a classified list of some of those who have been admitted into English asylums during the past five years: 579 agricultural laborers; 484 engineers and artisans; 299 bank, insurance, and other clerks; 214 shopkeepers; 213 soldiers; 176 teachers, etc.; 61 commercial travellers; 44 musicians; 30 doctors; 28 clergymen; 28 authors and journalists; 22 actors.

Medical Etiquette in China.—Chinese doctors are said to be even more scrupulous than their white brother practitioners in regard to the nice points of professional etiquette. Indeed, if report be true, this honorable custom is at times carried to very inconvenient lengths. The following amusing tale is related in an English journal, which, if not veracious, is at least *ben trovato:* "A Chinese gentleman was struck by an arrow, which remained fast in his body. A surgeon was sent for, and broke off the protruding bit of the arrow, leaving the point embedded. He refused to extract it, because the case was clearly one for a physician, the arrow being inside the body."

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended March 19, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Haynesville	March 11th	400	
Mobile	February 5th to March 12th	22	1
Rock Springs	March 11th	15	

SMALL-POX—FOREIGN.

Bohemia, Prague	February 12th to 26th	11	
Cuba, Cienfuegos	February 28th to March 6th	..	7
Sagua la Grande	February 27th to March 5th	124	5
India, Bombay	February 1st to 15th	..	3
Calcutta	January 22d to February 5th	..	5
Madras	January 29th to February 11th	..	12
Japan, Osaka Fu	February 4th to 22d	1	
Tokyo Fu	February 4th to 22d	2	
Akita Ken	February 4th to 22d	9	3
Awomori Ken	February 4th to 22d	11	1
Fukushima Ken	February 4th to 22d	27	8
Gifu Ken	February 4th to 22d	1	
Gumma Ken	February 4th to 22d	1	
Iwate Ken	February 4th to 22d	11	1
Kagoshima Ken	February 4th to 22d	1	
Miyagi Ken	February 4th to 22d	15	4
Nagano Ken	February 4th to 22d	5	3
Nagasaki Ken	February 4th to 22d	3	1
Okayama Ken	February 4th to 22d	2	1
Yamagata Ken	February 4th to 22d	3	2
Yamaguchi Ken	February 4th to 22d	9	
Yehime Ken	February 4th to 22d	35	5
The Hokkaido	February 4th to 22d	70	24
Formosa	February 4th to 22d	3	
Russia, Odessa	February 10th to 26th	3	2
Moscow	February 12th to 19th	2	
Riga	December 1st to 31st	..	9
St. Petersburg	February 12th to 26th	24	5
Warsaw	February 12th to 19th	..	4
Spain, Madrid	February 16th to 23d	..	1

CHOLERA—FOREIGN.

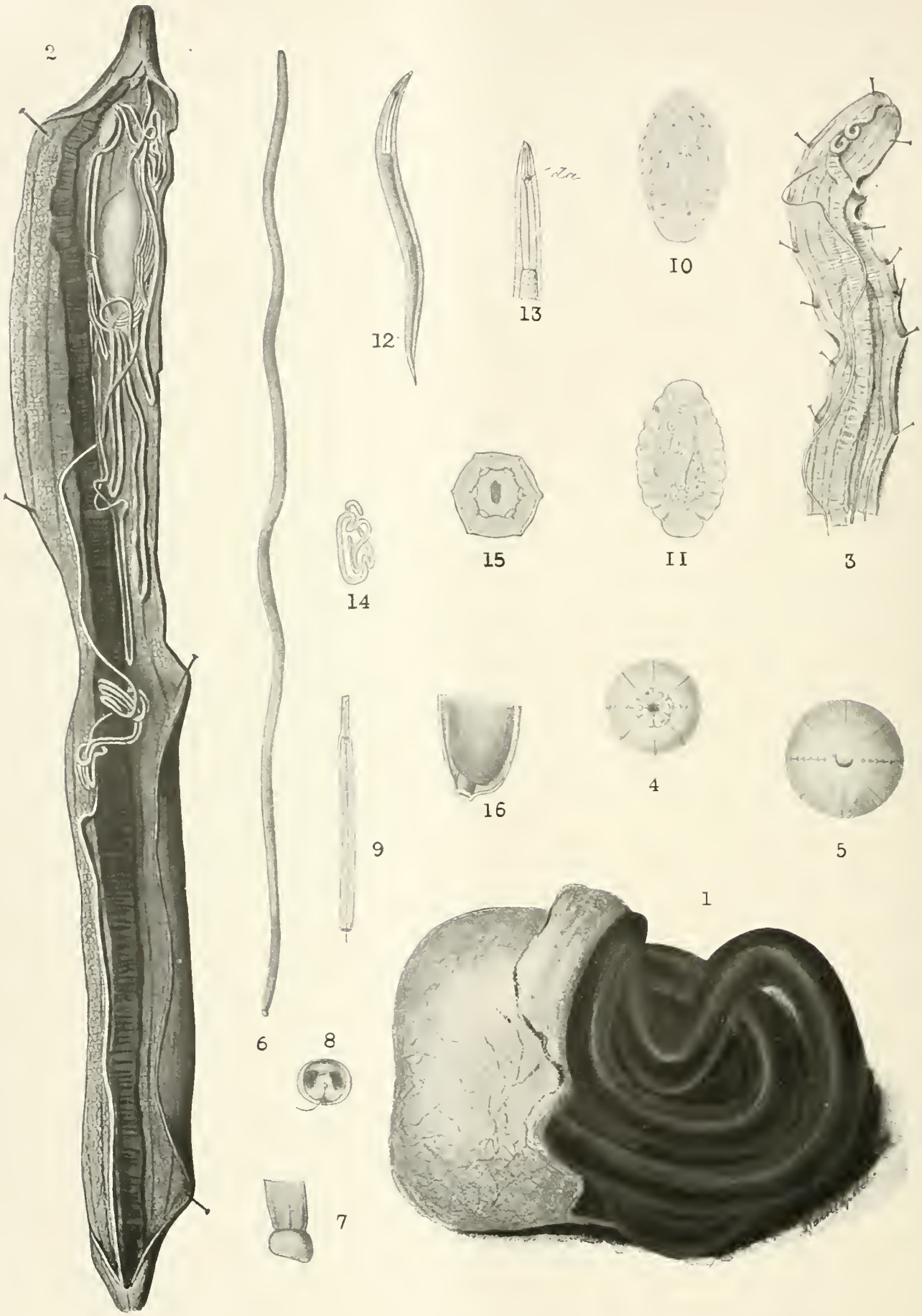
India, Bombay	February 1st to 15th	..	7
Calcutta	January 22d to February 5th	..	22
Madras	January 26th to February 11th	..	3

YELLOW FEVER—FOREIGN.

Brazil, Santos	January 22d to February 5th	5	
Jamaica, Kingston	February 27th to March 5th	1	1

PLAGUE—FOREIGN.

China, Hong Kong	January 15th to February 5th	9	7
India, Bombay	February 1st to 15	..	2,370
Japan, Formosa	February 4th to 22d	21	



ILLUSTRATING "NOTES ON PARASITES, 49," BY C. W. STILES. PH.D.

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Original Articles.

NOTES[1] ON PARASITES, 49: TRUMBULL'S ALLEGED CASE OF "EUSTRONGYLUS GIGAS" PROBABLY A CASE OF FILARIA SANGUINIS HOMINIS.

BY CH. WARDELL STILES, PH.D.,

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IN a recent number of the MEDICAL RECORD there appeared an article by Dr. John Trumbull[2] in which the author gave an account of some worms he found upon microscopic examination of the urine of a patient resident for twenty-two years in Valparaiso. Dr. Trumbull identified the parasites as *Eustrongylus gigas*, and published the case because of the interest attached to finding this rare helminth in man.

In view of the extreme rarity of this species in the human subject, it is necessary to subject to a severe critic every case reported before accepting it as valid, and on this account I may be pardoned for drawing attention to certain statements Trumbull has made which lead me to differ in opinion with him and his consultants, in regard to the correctness of his zoölogical determination.

My objections to admitting this case as one of infestation with *Dioctophyme visceralis* (*Eustrongylus gigas*) are, first, that the description of the parasite, as given by Trumbull, does not apply, either anatomically or biologically, to the Giant Strongyle: second, that it does apply both anatomically and biologically to another worm, namely, *Filaria sanguinis hominis*.

Referring first to the ova which Dr. Trumbull describes and figures. The ova of parasites are very characteristic; so much so that we not only are able to diagnose the presence of worms by finding their eggs, but in many cases we are able to determine the genus and even the species of a parasite without seeing the adult form. The egg (Figs. 10 and 11) of the Giant Strongyle is unusually characteristic, and should not be mistaken for the egg of any other parasite; the structures which Trumbull figures as "ova and débris of shells," are, however, totally unlike the eggs of the Giant Strongyle: in fact, they do not resemble the egg of any nematode, and, although some of his figures bear a distant resemblance to certain trematode eggs, I doubt whether they are really eggs at all: possibly they are degenerate epithelial cells.

Again, while the embryo which Trumbull figures bears a certain resemblance to the embryo of the Giant Strongyle, critical examination shows that it differs from the latter in several important anatomical details. This will appear clear if we compare the following accounts of the embryos which Trumbull describes and embryos which Balbiani raised from eggs of a Giant Strongyle.

According to Balbiani, professor of zoology at the Collège de France, the embryo (Figs. 12 and 13) of the Giant Strongyle measures on an average 240 μ long by 14 μ broad: it is fusiform and terminates distally in a conical tail. The mouth is at the anterior extremity: it is a round opening, and shows no trace of the six papillæ found in the adult; it is armed with a small perforating tooth which the animal extends and retracts at will; the cuticle shows a fine and regular transverse striation. The œsophagus is cylindrical and about one-fifth as long as the body: its anterior portion is broader than the posterior portion, and terminated by a dental armature (*d a.*) formed by three small chitinous pieces which develop at the expense of the inner cuticle.

Trumbull describes the embryo he found as follows: "It had the appearance of a diminutive angleworm, tapering to a point at the posterior end: while at the head there was a much slighter narrowing, which ended in a circular opening. From this opening a fine thread-like process was seen to protrude now and then. Both ends were light in color, and of a faint bluish tint, though a dark line could be traced running from the mouth into the body. At the junction of the more transparent anterior portion with the more opaque portion of the body, which took place a little more than one-fifth of the distance toward the distal extremity, there were two dark spots, which, in a couple of specimens found later on, had a faint, distinctly pinkish tint. . . . The hair-like process from the mouth, seen in the first living specimen, is doubtless the perforating tooth. . . . have been able to distinguish three small papillæ or nodules on the edge of the flattened mouth, and infer that the characteristic six will be found in a more perfect specimen."

In comparing these two descriptions we must recall that Balbiani is a zoölogist and Trumbull a physician; on this account we must naturally expect differences in details. The comparison shows us, however, that Balbiani distinctly asserts that no papillæ are present on the anterior end of the embryos, while Trumbull states that three papillæ were found. Again, Balbiani describes an extremely important organ, the tridentate armature of the anterior portion of the œsophagus, while Trumbull has evidently not found this structure. Here we have two very important anatomical differences between the embryos which Balbiani experimentally raised from the eggs of the Giant Strongyle, and the embryos which Trumbull assumes to belong to this species. It would be perfectly possible for me to assume that Trumbull, not being a zoölogist, would overlook the tridentate armature, but it is difficult for me to believe that so exact a zoölogist as Balbiani would overlook oral papillæ in case they were present: more especially as he evidently searched for them, since he knew their importance as zoological characters.

My next objection to Trumbull's diagnosis is that the embryo of the Giant Strongyle does not develop in man. Balbiani has shown that when laid the egg contains but two blastomeres, and that experimentally in winter it took six months to complete the development of the embryo. While this development might progress much more rapidly in summer, the thickness of the eggshell shows that, in the regular life history of this worm, the egg would in all probability leave the host before segmenting extensively.

[1] Published by permission of Dr. D. E. Salmon, chief of the bureau of animal industry, United States department of agriculture.

[2] "A Case of Eustrongylus Gigas," MEDICAL RECORD, liii., 8, August 21, 1897, pp. 256–258, Figs. 1 and 2.

Trumbull's supposition that the albuminous fluid of the urine furnished nutrition for the developing egg is contrary to the regular order of things among nematodes; in these worms the nutriment for the egg is stored up in the egg itself.

Trumbull's description and figures seem to me to correspond much more closely to embryos of *Filaria sanguinis hominis* than to strongyle embryos. In this filaria embryo we find the "hair-like process from the mouth," mentioned by Trumbull; furthermore, this worm is provided with six oral papillæ; finally, the embryos of this form are found in the urine as well as in the blood.

From Trumbull's description it is impossible for me to determine which particular form of *Filaria sanguinis hominis* (*Filaria Bancrofti*, *F. loa*, *F. perstans*, *F. Demarquayi*, or *F. Magalhaesi*) is infecting his patient, but I would suggest that *F. Magalhaesi* has been recorded from South America.

The Giant Strongyle, which Trumbull thought he had found, is the largest nematode known to occur in man, but it is comparatively rare in this host. It has been known since 1570 (perhaps longer), and has been reported quite a number of times as a parasite of man, but R. Blanchard, who has analyzed the reports carefully, admits only nine cases as authentic. These cases are: Blaes (1674), Ruysch (1737), Josephi (1819), Aubinais (1846), Sheldon (1857), R. Blanchard (1886); also one case each by Metaxa (1833), Sachs Bey and Magueur (1887 88). One of my former assistants, Dr. H. O. Sommer, has recently looked up the records of two alleged cases reported for this country, but he does not consider either of them valid.

The parasite under discussion is a nematode of the family Strongylidae, which also contains *Uncinaria duodenalis* (the cause of miner's anæmia), and a number of other dangerous worms. The most important and constant anatomical character found in members of this family is the copulatory bursa on the posterior end of the male.

The family Strongylidae is divided into several subfamilies; the subfamily *Dioctophyminae* (*Eustrongylinae*), which contains the Giant Strongyle, possesses the following characters:

Diagnosis.—Strongylidae with very large body; polymyaire; bursa of male not divided, thick and without rays; spicule single, testicles double; vulva anterior, uterus single. Type genus, *Dioctophyme*.

This subfamily contains only one genus, namely, *Dioctophyme* or *Eustrongylus*. At present there is a difference of opinion among specialists as to which name should be used. I have maintained for some time past that by the law of priority *Dioctophyme* is the correct name, and Hassall and Ward agree with me in this opinion. European authors on the contrary use the term *Eustrongylus;* Blanchard, the great French authority on nomenclatural questions, though admitting the priority of *Dioctophyme*, does not admit its claim to being considered a properly published generic name, and hence claims that it is not entitled to recognition.

The generic synonymy and generic diagnosis are as follows:

DIOCTOPHYME Collet-Meygret, 1802:

1802. *Dioctophyme* Collet-Meygret, *Journal de Physique, de Chimie, d'Histoire naturelle et des Arts*, lv., pp. 458–464.
1851. *Eustrongylus* Diesing, "Systema Helminthum," ii., p. 325. (*Dioctophyme* renamed.)

Generic Diagnosis.—Large cylindrical nematodes of subfamily *Dioctophyminae* (*Eustrongylinae*); anterior end rounded; mouth small, terminal, surrounded by six projecting papillæ arranged in a circle; polymyaire. Male with complete (not lobed), terminal, thick muscular bursa without rays; one spicule, long and slender. Female with blunt posterior extremity, on which is situated a transverse slit, with more or less crescent form—the anus; vulva anterior, ovary single; oviparous; eggs with hard shell. Type species, *Ascaris visceralis* Gmelin.

The genus contains only one generally recognized species, namely, the Giant Strongyle, although three other species have been placed in it. The synonymy and diagnosis of the Giant Strongyle are as follows:

Dioctophyme visceralis (Gmelin, 1790), Stiles & Hassall, 1896:

(1788.) *Ascaris canis* et *martis* Schrank, Verzeichn ss, 7 and 8. (Reference not verified.)
1790. *Ascaris visceralis* Gmelin, Linné's "Systema Naturæ," 13th ed., i., vi., p. 3,031. (In the dog.)
1790. *Ascaris renalis* Gmelin, Linné's "Systema Naturæ," 13th ed., i., vi., p. 3,032. (In the marten.)
1803. *Fusaria visceralis* (Gmelin, 1790), Zeder, "Anleitung zur Naturgeschichte der Eingeweidewürmer," pp. 114–115.
1803. *Fusaria renalis* (Gmelin, 1790), Zeder, "Anleitung zur Naturgeschichte der Eingeweidewürmer," pp. 116–117.
(1802.) *Strongylus gigas*, Rudolphi, Alber's "Beiträge zur Anatomie und Physiologie der Thiere," i., p. 115. (Reference not verified.)
1802. *Dioctophyme* (as genus) Collet-Meygret, *Journal de Physique, de Chimie, d'Histoire naturelle et des Arts*, lv., pp. 458–464.
1851. *Eustrongylus gigas* (Rudolphi, 1802), Diesing, "Systema Helminthum," ii., pp. 326–328.
1860. *Strongylus renalis* (Gmelin, 1790), Moquin-Tandon, "Éléments de Zoologie médicale," Paris, pp. 329–330.
1886. *Eustrongylus visceralis* (Gmelin, 1890), Railliet, "Éléments de Zoologie médicale et Agriculture," pp. 331–332.
1894. *Dioctophyme gigas* (Rudolphi, 1802), Stiles & Hassall, *Veterinary Magazine*, i. (5), May, p. 343.
1896. *Dioctophyme visceralis* (Gmelin, 1790), Stiles & Hassall, *Veterinary Magazine*, iii. (3), March, pp. 159–160.

Specific Diagnosis.—Nematodes of the genus *Dioctophyme;* body cylindrical, slightly attenuated toward the extremities; 14 cm. to 1 m. long by 4 to 12 mm. broad; color red. Mouth terminal, surrounded by six large papillæ, and several smaller papillæ; one large papilla corresponding to each lateral line, two papillæ lying dorsal and two ventral, the median dorsal and median ventral lines running between each set. The lateral lines are rather prominent, each being beset with a longitudinal row of about one hundred and fifty papillæ. The dorsal and ventral median lines and the four submedian lines are less prominent than the lateral lines.

Male: 14 to 35 cm. long by 4 to 6 mm. wide; tail obtuse, bursa entire, without rays, margin with minute papillæ; spicule long and slender.

Female: 20 cm. to 1 m. long by 4.5 to 12 mm. broad; tail obtuse, slightly curved, with papillæ; anus terminal; vulva 70 to 75 mm. from anterior extremity; uterus and ovary single. Oviparous; eggs ovoid, brownish with hard shell, 68 to 80 μ long by 40 to 43 μ broad.

Hosts.—The Giant Strongyle has thus far been recorded in the following animals: Man (*Homo sapiens*); dog (*Canis familiaris*); wolf [old world] (*Canis lupus*); Azara's dog (*Canis azaræ*); maned wolf (*Canis jubatus*); glutton or wolverene (*Gulo luscus* [*G. arcticus*]); European pine marten (*Mustela martes*); Beech marten (*Mustela foina*); European mink (*Lutreola lutreola* [*Mustela lutreola*]); American mink (*Lutreola vison*

[*Putorius vison*]); European otter (*Lutra vulgaris*); *L. solitaria.*

The adult worms (Figs. 1, 2, 6) are generally found coiled up in the kidney, occurring singly, or two or more together. In some cases they seem to have little or no effect upon their hosts, while in other cases they destroy the tissues of the kidney in which they occur, reducing this organ to a mere capsule. The parasite may become free in the abdominal cavity, or crawl through the ureter into the bladder and from here to the urethra; or it may leave these organs and crawl into the surrounding connective tissue, where it produces an abscess.

Dogs infested with these worms are said to howl night and day, to walk with the body curved to one side, the concave side of the body being the side affected. In some cases the nervous symptoms are such that hydrophobia might be suspected. When the parasite is in the ureter or bladder the urine flows drop by drop.

Life History.—The life cycle of the Giant Strongyle has not yet been demonstrated. We know, however, that the eggs (Fig. 10) when laid, have commenced segmentation; they escape with the urine of the host. Balbiani has shown that in winter they develop an embryo (Figs. 11 13) in about six months; this embryo may remain alive in the egg for five years: if it leaves the eggshell it degenerates in water, but will continue to live in albuminous liquids. If the eggs are dried, the contained embryo dies within a few days.

Balbiani fed these embryos to dogs, in the hope of raising the adult form, but his experiments were negative; on account of this negative experiment it is assumed by zoölogists that the parasite probably runs through a larval stage in some intermediate host. Although this intermediate host is not yet determined, the fish have fallen under suspicion, since certain parasites (Figs. 14–16) described from fish, and bearing the names *Filaria cystica* or *Agamonema cysticum*, appear to be larvæ belonging to the genus *Dioctophyme*. Balbiani's experiments upon fish with the embryos of the Giant Strongyle were, however, negative.

According to Railliet (1893) the Giant Strongyle appears to have a rather extensive geographical range, although he believes it is more common in countries rich in aquatic mollusks and crustaceans. It is rare in France, but relatively common in Italy, and has also been reported in England, Holland, Germany, Russia, Japan, North America, and South America.

In conclusion, the Giant Strongyle has been found in various parts of this country, though its exact distribution is not known to us. Welch and others have found it in Baltimore; several specimens are contained in the Leidy collection of parasites belonging to the University of Pennsylvania, and various members of this bureau have found the parasite in dogs in Washington, D. C.

Washington, October 9, 1897.

EXPLANATION OF FIGURES.

Fig. 1.—A Female Giant Strongyle escaping from the kidney of a dog. Natural size. Original.
Fig. 2.—A Female Giant Strongyle, opened to show a part of the anatomy. The dark, broad tube represents the intestinal tract. The long, convoluted, light tube represents the genital organs. Natural size. Alcohol specimen. Original.
Fig. 3.—Anterior end of a Female Giant Strongyle, showing the intestinal tract, with the peculiarly curled œsophagus, and the genital organs. The position of the vulva is seen near the distal end of the œsophagus. Natural size. Alcohol specimen. Original.
Fig. 4.—Enlarged apex view of anterior extremity of the Female Giant Strongyle, showing the various lines and papillæ. Original.
Fig. 5. Enlarged apex view of posterior extremity of the same specimen, showing the anus and the various lines. Original.
Fig. 6.—A Male Giant Strongyle. Natural size. Original.
Fig. 7. Enlarged lateral view of caudal extremity of a Male Giant Strongyle. Original.
Fig. 8. Enlarged apex view of caudal extremity of a Male Giant Strongyle, showing caudal bursa and spicule. Original.
Fig. 9.—Enlarged view of isolated spicule of the Male Giant Strongyle. After Leuckart.
Fig. 10.—Enlarged view of fresh egg of the Giant Strongyle. After Balbiani.
Fig. 11.—Enlarged view of the egg of the Giant Strongyle, with contained embryo. After Balbiani.
Fig. 12.—Enlarged view of the embryo of the Giant Strongyle. After Balbiani.
Fig. 13. Anterior end of same, greatly enlarged to show the tridentate armature. After Balbiani.
Fig. 14.—Alleged larval form (*Filaria cystica*) of a *Dioctophyme*, from *Galaxias*. Natural size. After Leuckart.
Fig. 15.—Enlarged apex view of same. After Leuckart.
Fig. 16.—Enlarged caudal view of same. After Leuckart.

ACCOUCHEMENT FORCÉ IN THE LIGHT OF MODERN EXPERIENCE.

By S. MARX, M.D.,

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On several occasions heretofore I have reported from time to time cases as they have come under my care demanding the operation of accouchement forcé. The recital of these cases took place before the various medical societies of this city. Again, from time to time the ever-increasing numbers of cases formed the basis of three different papers published in the Medical Record, the *New York Obstetrical Journal*, and the *American Journal of Obstetrics*. All this preliminary teaching and writing should be positive proof that my deductions and conclusions were not born of one night's thought, but were the production of much thought and study carried over many a day, until now I am in a position to prove convincingly the utility, worth, and absolute value of the resurrected accouchement forcé, to-day called the "elective accouchement." It has been claimed that I am an enthusiast on this subject and will surely ride this hobby to death. Certainly this cannot be, for I am frank and honest enough to admit that only three years ago, as the records of the Academy of Medicine will show, there was no more bitter opponent of this operation, which I now so laud, than I; and many a hard-fought battle have I waged, especially with my friend Dr. Grandin,[1] to relegate this operation where it belonged, "to innocuous desuetude," for I claimed it was dangerous, brutal, and unscientific.

But the progressive scientific man changes his views and ideas in the presence of convincing words and facts; and thus it was with me. The operation has now been performed well over fifty times, but for the sake of concise numerical classification it was deemed better to report in a series of fifty cases at a time. This will enable me to draw proper deductions from such a relatively large number of operations. To those of my professional friends who are constantly belittling the value of the method and as constantly magnifying its dangers, I would say that when their deductions are based, not upon three or four cases but upon a large series, then and then only am I willing to meet them more than half way in discussing such conclusions, and possibly go back to that day, not three years ago, when I so stubbornly contested its value as a legitimate measure. I am compelled to make such a statement, for there seems to be even to this day an inherent fear in the minds of some, who are otherwise clear and shrewd observers, that the elective manual dilatation of the pregnant uterus is fraught with such danger that the woman, not to mention the unborn fœtus, is destined almost certainly to death. Only a few days ago an even-tempered and careful practitioner asked of me, not how many women recovered but how few, and how many after the operation were left in the deepest fatal shock from hemorrhage, uterine rupture, and what not. Such questions are the veriest rot, based upon a conception of the operation which is biassed from the very beginning, a conception fathered by the writings of those who either know nothing of practical midwifery or whose experience is so very limited that the less

[1] Discussion before the Bellevue Hospital Alumni Association.

they say the better for themselves and for the community at large.

I am through defending the operation, for it needs no defence. Its legitimacy and stability as a modern obstetric measure stand upon a rock-bottom foundation. It is neither my desire nor my wish to praise the operation as one to be universally recommended, for there are women, though rare, in whom the operation cannot be done, on account of pathological conditions in the lower uterine segment. This occurred in Case VII.[1] In cases such as this the deep incision of Dührssen has a legitimate field, certainly a worthy and a timely one. But the beauty and the greatest advantage of manual dilatation lie in the fact that it can be made a strictly elective operation, even as any other operation within the domain of surgery. Thus the patient can be surgically prepared, instruments made ready, assistants summoned to hand, and, what is most important, a time appointed at the most convenient hour for all parties concerned. Compare this state with what takes place at an average obstetric operation. An emergency arises; the consultant is hurriedly summoned, and often as not he is not at home. Crude asepsis and antisepsis, the hurry and bustle of an ill-prepared emergency operation can tend only in one direction—invitation to sepsis or other grave complications; and thus in the attempt to save a woman from one grave condition you lead her an unwilling victim to another.

Another very important factor which tends to increase the success of the procedure is that the hand is the only instrument used in the actual operation. All other instruments might possibly be forgotten or lost, but the hand is always present and ready to do sentiently what is demanded of it, so long as there are brains and not brute force at the end of that most important organ, than which no better instrument has ever been made by man, no matter how delicate or how precise its mechanism or its manufacture. I shall not purposely condemn other instruments for the induction of labor for the mere chance present to magnify the utility of the hand. All other instruments designed for this purpose are uncertain. They are all foreign bodies to be introduced into the uterus, and no matter how skilfully cleaned and prepared they still remain foreign bodies, which must, in order that our end may be gained, be introduced into the cavity of the uterus, and thus sepsis may be invited. And even when they are surgically cleansed and introduced are we not often disappointed when at the end of from twelve to forty-eight hours the uterus still lies quiescent and our patient is no more out of the dangerous condition for which we originally intended to operate, in spite of your one or two catheters introduced or your Barnes' bags supposedly pressed into the uterus, they having quietly slipped out and dilated the vagina most thoroughly? Thus good and sacred time is actually wasted, for every hour counts; nay, every minute, as witness a woman on the verge of an attack of eclampsia.

Again, by other measures the membranes are liable to rupture, especially from the introduction of the bougie, and what is more essential than to preserve the integrity of the membranes and thus take advantage of an easy version, the most frequent form of delivery, in the presence of an intact amniotic sac? In the "elective accouchement," when once the actual operation is begun there is no letting up; the uterus is dilated and the child delivered. The woman is thus at once and immediately, so far as possible, relieved from the danger which is imminently endangering her very existence.

[1] "On the Treatment of Placenta Prævia," American Gynæcological and Obstetrical Journal, November, 1895. Report of case.

In the fifty cases reported below I note only one failure to dilate the cervix. This occurred in Case VII., in which the cervix was so cicatrized from previous lacerations that the hand failed and the cervix was opened with the knife, by doing the deep incisions of Dührssen. This case should not, properly speaking, be classified under this category. But the failures of the hand to accomplish its purpose are as essential to the completeness of this paper as the successes. In critically analyzing the report of the cases of placenta prævia I have to note eight cases: of these four were of the variety called "completely centrally implanted" (the Dührssen incision case excluded). Result: Eight mothers—eight alive; nine children—all born alive and when viable all lived (one mother had twins). Certainly this result is an excellent one, even admitted such a limited number of cases. Even the enthusiastic advocates of the Hicks method of treatment admit a fœtal mortality rate of from fifty per cent. to seventy per cent., not saying anything further as to the maternal mortality. All these cases in order to insure against further loss of blood were, directly the placenta was manually removed, tamponed with gauze. Of the accidents occurring during this operation for this complication may be noted one—a deep laceration of the cervix—which necessitated the introduction of three silkworm-gut sutures. This tear I attribute solely to the rapid delivery I was forced to make. This cannot militate against the value of the operation, for forceps and version might also rupture the cervix; and are we going to reject them (forceps and version) because of such a possibility? Nor should we reject the accouchement forcé for no better reason. In this case the woman was placed on her back; her uterus was artificially prolapsed by bullet forceps and pressure from above; the cervix was delivered through the vulva, and sewed up as readily as though the condition was a lacerated perineum.

The next condition for which the operation was performed was that dread state and awful complication, uræmia, or the eclamptic state. We have records of thirteen cases. Result: Thirteen mothers—twelve alive, one dead; fifteen children—fourteen born alive, and when viable all lived (two mothers had twins, one of them dead ante partum, as certified to by the hand in the uterus and accordingly perforated). These results need not be commented upon, for the facts given speak for themselves. The fatal case, occurring in the wife of a New York physician, was a case of true uræmia; hardly any albumin was present, but there was a progressive diminution of the urea excretion from day to day. Death occurred eighteen hours post partum from an acute pulmonary œdema.

While I have in no single case of the series of fifty here reported attempted to operate against time, yet occasionally a case would arise which would necessitate rapid work, but always I took into consideration consistently the integrity of the maternal tissues. For example, the most noteworthy case (Case XL.), a grave case of eclampsia in a primipara at the end of the eighth month. No labor pains; a cervix present nearly an inch long. Yet within seventeen minutes I had fully dilated the cervix, perforated the first baby, which was dead, turned the second living baby, manually removed the placenta, and tamponed the utero-vaginal tract. She made a beautiful convalescence. And yet another case of complete placenta prævia in a Vpara with an extremely succulent lower uterine zone and a long cervix present. The uterus was dilated, twins were delivered by version, the placenta was removed manually, and the uterus tamponed in a trifle less than seven minutes. Aside from a temporary pyrexia everything went along smoothly. Both these cases were timed by the physicians present. Of the remaining

Case.	Seen by or with	Parity.	Cervix Present or Os Admits.	Indication	Preliminary Tamponade	Method of Delivery.	Condition of Child.	Condition of Mother	Labor Pursued	Remarks.
1	Own	P. 1.	Cervix present	Uræmia	Yes.	Spontaneous.	Born alive, non-viable.	Living.	No.	Child 6 mos., died in 3 hrs.
2	Murray	M. 2.	do.	Incomplete placenta prævia.	No.	Version	Alive	do.	No.	Uterine tamponade
3	Hospital	M. 3.	do.	do.	No.	do.	do.	do.	No.	do. do.
4	Ettinger, Henbold.	P. 1.	do.	Dead child	No.	Embryotomy.	Dead	do.	No.	Ante-partum sepsis; child dead about 2 wks. at 6½ mos.
5	Stein	P. 1.	Os admits 1 finger.	Fibro-cyst of uterus	No.	Forceps	Alive	do.	Yes.	Impacted fibro-cyst obstructing labor; maternal exhaustion
6	Ettinger	P. 1.	Os admits 2 fingers.	Prolonged 1st stage	No.	do.	do.	do.	Yes.	Tedious labor, 48 hrs.; maternal exhaustion.
7	Purdy	M. 3.	Cervix present.	Placenta prævia, eclampsia.	No.	Version	Dead before labor.	Dead.	No.	Could not dilate with fingers; Duhrssen's incisions.
8	Physician's wife.	M. 2.	do.	Eclampsia	No.	Forceps	Alive	Living.	No.	Induction of labor at 9th mo.
9	Abrahams	M. 2.	Os admits 2 fingers.	Child	No.	Version	do.	do.	Yes.	Grave fetal exhaustion; prolapse and irreducible cord
10	Abrahams	M. 2.	Cervix present.	Placenta prævia, complete.	No.	do.	do.	do.	No.	Hurried extraction; deep tear of cervix; 2 sutures.
11	Nordeman	P. 1.	Os admits 1 finger.	Mother	No.	do.	do.	do.	Yes.	Active labor, 48 hrs.; exhaustion; occip. post. above brim.
12	Michaelis	P. 1.	Cervix present.	Eclampsia	Yes.	do.	Born alive, non-viable.	do.	No.	Child 6½ mos., died in 12 hrs.
13	Kohn	M. 4.	do.	Child	No.	do.	Dead	do.	No.	At 8 mos. sudden prolapse of cord, child practically dead before operation.
14	Own	M. 5.	do.	Dead child	No	do.	do.	do.	No.	Ante-partum sepsis from dead child.
15	Grandin	M. 2.	do.	Contracted pelvis	Yes.	do.	Alive	do.	No.	Two previous dead and very difficult labors.
16	Nordeman, Fishlowitz.	M. 3.	Os admits 1 finger.	Child	No.	Forceps	do.	do.	Yes.	Tedious labor; discharge of meconium.
17	Leo	P. 1.	Os admits 2 fingers.	Child	No.	Version	do.	do.	Yes.	Fœtal exhaustion after 48 hrs. labor.
18	Michaelis	M. 2.	Cervix present.	Eclampsia	Yes.	do.	Alive, non-viable.	do.	No.	Fœtus 6 mos., died in 40 hrs.; born alive.
19	Oppenheimer	M. 3.	do.	Scarlatina	No.	Perforation	Ante-partum death.	Dead.	Slight.	Scarlatina as labor begins; mother's pulse, 170.
20	Rice	M. 4.	do.	Placenta prævia, complete.	Yes.	Version	Alive	Living.	No.	Severe plac.-prævia bleeding; uterine tamponade.
21	Hospital	P. 1.	do.	Uræmia	No.	do.	do.	do.	No.	True uræmia.
22	Murray	P. 1.	do.	Melancholia	Yes.	Perforation	Dead, ante partum.	do.	No.	Catheter failed to provoke labor at end of 36 hrs.
23	Kohn	P. 1.	Os admits 2 fingers.	Child	No.	Extraction	Alive	do.	Yes.	Fœtal exhaustion; impacted breech.
24	Hospital	P. 1.	do.	Prolonged 1st stage	No.	Axis tráction	do.	do.	Yes.	Maternal exhaustion.
25	Physician's wife.	P. 1.	Cervix present.	Uterine fibroids	Yes.	Version	do.	do.	No.	Rapidly growing fibroid blocking pelvic inlet.
26	Grandin	P. 1.	Os admits 2 fingers.	Child	No	Forceps	do.	do.	Yes.	Extreme fœtal exhaustion; pulsation (fœtal), 200.
27	Lee	P. 1.	Cervix present.	Eclampsia	No.	Version	do.	do.	No (?).	Patient septic before labor.
28	Kohn	P. 1.	Os admits 1 finger.	Child	No.	Extraction	do.	do.	Yes.	Fœtal exhaustion.
29	Bohmfalk	P. 1.	do.	Prolonged 1st stage	No.	Forceps	do.	do.	Yes.	Mother in labor 6 days; mento-post. position.
30	Schiff	M. 5.	Cervix present.	Placenta prævia, complete.	No.	Both version	Both alive	do.	No.	Twins; intra-uterine tamponade.
31	Lee	M. 6.	do.	Uræmia	No.	Version	Alive	do.	No.	Died 6 wks. later of her chronic Bright's.
32	Mayer	M. 2.	do.	Placenta prævia, complete.	No.	do.	do.	do.	No.	Uterine tamponade; child 6 mos., died in 18 hrs.
33	Hospital	M. 2.	do.	Uræmia	No.	Both version	Non-viable, both alive.	do.	No.	Children 6 mos., lived 12 hrs.
34	Lee	P. 1. 17 yrs	Os admits 2 fingers.	Prolonged 1st stage	No.	Axis traction	Alive	do.	Yes.	In labor 17 hrs.; maternal exhaustion.
35	Grandin	M. 7.	Cervix present.	Placenta prævia	Yes.	Version	Non-viable, alive.	do.	No.	Child 6 mos., died in 15 hrs.
36	Teshner	M. 3.	do.	Contracted pelvis	No.	do.	Dead	do.	No.	True conjugate, 3¾ in.; laceration of ant. vag. wall.
37	Hanks	M. 2.	do.	Uræmia	Yes.	do.	Non-viable, alive.	Dead.	No.	Death 18 hrs. p. p., from pulmonary œdema.
38	Van Dusen	P. 1.	do.	do.	No.	do.	Alive	Living.	No.	Bougie failed to provoke labor after 28 hrs.
39	Hospital	M. 2.	do.	Accidental hemorrhage.	No.	Forceps (?)	do.	do.	No.	At 8½ mos. severe accidental hemorrhage.
40	Davison, Monnheimer.	P. 1.	do.	Eclampsia	No.	Craniotomy, version.	One alive	do.	No.	At 8 mos. eclampsia; dead baby, craniotomy; 2d alive, version.
41	Hospital	M. 3	do.	Uræmia	No.	Version	Alive	do.	No.	Has neuro-retinitis; sight never recovered.
42	Hospital	P. 1.	do.	Ante-partum sepsis.	No.	Axis traction	do.	do.	No.	Patient laparotomized some time later and died.
43	Oppenheimer	M. 3.	do.	Hydatids	No.			do.	No.	Typical symptoms; uterine tamponade.
44	Hospital	P. 1.	Os admits 1 finger.	Mother	No.	Axis traction	Alive	do.	Yes.	Active labor 54 hrs.; maternal pulse, 110.
45	Schevcheck	M. 5.	Cervix present.	Mother	No.	Breech extraction.	do.	do.	Slight.	Acute pneumonia; double mitral murmur; commencing labor.
46	Hospital	P. 1.	Os admits 1 finger.	Mother	No.	Axis traction	do.	do.	Yes.	Contracted pelvis; fruitless labor; pulse, 116.
47	Rosenbaum	P. 1.	Cervix present.	Eclampsia	No	do.	do.	do.	No.	Convalescence disturbed by phleg. alb. dolens of arm.
48	Hospital	P. 1.	Os admits 1 finger.	Mother	No.	do.	do.	do.	Yes.	Labors 48 hrs.; maternal exhaustion
49	Tucker	M. 2.	Os admits 2 fingers.	Mother	No.	Forceps	do.	do.	Yes.	Prolonged 1st stage; mento-post. position.
50	Hospital	P. 1.	Cervix present.	Placenta prævia	No.	Version	do.	do.	No.	Uterine tamponade.

cases nothing further need be noted, for the table appended gives all necessary information, excepting for three cases which warrant more than passing notice.

Case XIX., one of grave scarlatina. When the patient was practically moribund, labor pains started in. This patient should never have been subjected to an operation, for the result showed the baby to have been dead for some time. It was perforated and the mother died several hours later.

Case XXXVI. This was a remarkable case of true pelvic contraction of irregular type. The woman had had several labors and had lost all the babies. All her labors were ushered in by rupture of the membranes. She was now well in the ninth month, with a large baby presenting at the brim with a mento-posterior face presentation. The true conjugate measured three and three-fourths inches. She had a deep perineal laceration and a marked vesicocele of the size of a fist. I advocated either a symphyseotomy or a Cæsarean section at term, but this was denied me and absolutely refused by the family. Labor at term to my mind meant a larger child, a premature discharge of liquor amnii (according to her previous history), and a more difficult and dangerous labor than

if the attempt was made to operate at once; when, I thought, by dilating the cervix by the hand at once, anticipating the discharge of the waters, doing an elective version in a complete fruit sac, I might possibly get a living child. But what a disappointment! The cervix dilated readily, but the large child, presenting by the extended head, caused that head to be still more extended. After the version up went the hands and the after-coming head was delivered with the greatest difficulty. The result—a child dead. The vesicocele, nipped between the head and the symphysis, caused a large vesico-vaginal fistula. It was the result of this nipping and not an extension of a cervical tear, for the uterus was practically intact. Permanent catheter in the bladder and constant irrigation cured this nasty complication. Beyond this the mother made a good recovery.

The most interesting case of the series is Case XLV. This case shows the very great utility of the operation if no other case does. The patient was a very large flabby woman, with every valve in her heart diseased. She had been seriously ill with a capillary bronchitis. This certainly was not a pleasant combination of factors when her labor set in about term. She had not rested on her back in months. Her breathing was bad, her face cyanotic, becoming deeply so with each pain. Pulse rapid, from 120 to 150, small and irregular. So critical was her condition that I refused to operate until one-twenty-fifth of a grain of nitroglycerin had been pumped under the skin half-hourly for two hours. Under an A. C. E. mixture with constant administration at the same time of oxygen, I delivered her successfully in a very short time. I need only in passing mention that her condition was so desperate that the husband was informed and consent given to the performance of a Cæsarean section in the event of her dying on the table. That night was the first time she could lie flat in bed with comfort. Death occurred some weeks later from the cardiac condition.

Of the fifty cases presented, only in one case did the operation fail. In forty-nine cases the operation *per se* was eminently successful.

Mothers operated upon, 50; failure to dilate, 1; successful operations, 49. Mothers dead, as per table, 2, including one patient moribund from scarlatina ante partum, not including one patient dead after laparotomy (Case XLII.) some time later; mothers recovered, 48, including one dead after laparotomy some time after labor.

Babies, 53, out of 50 mothers; 3 pairs of twins; all born alive when alive ante partum, except one fœtus (Case XXXVI.). All babies lived and were born alive when viable, except as above; babies living, 44; hydatids, 1; babies dead intra partum, 1; all the remainder dead some time ante partum, 8.

Labor present in 18; labor not present in 32.

Preliminary tamponade used in 9 cases; not used in 41.

Cervix present in 34 women.

Os admitted one finger in 8 woman; os admitted two fingers in 8.

Total, 50 cases.

Method of delivering baby: Version, 29; embryotomy perforation, 4; ordinary forceps, 8; Tarnier axis traction, 7; direct breech extraction, 3; spontaneous, 1.

Technique of Operation.—With very little variation the operation as described by me and reported in my first paper[1] is still the one employed. The operation divides itself into two stages—the preparatory and the operative. In any case in which the emergency is great, the preparatory stage can be omitted and the direct operation instituted at once; for example, in placenta prævia cases in which the cervix is soft, mushy, and œdematous, and consequently is most readily dilated. As this preliminary stage has for its object the disappearance of the cervix, it may be properly omitted when that portion has merged into the lower uterine zone, the condition so often found in primiparæ near the end of pregnancy; but when the cervix is present in its entirety and no urgent symptoms arise, the patient, rendered thoroughly clean, is placed on the back, a posterior speculum depresses the perineum, and the lip of the cervix is caught in a bullet forceps and traction made downward. Strips of gauze,[1] the width of two fingers, are carried by means of slender forceps into the cervical canal, slowly and gently, until a resistance is encountered. This being used as a backing-wall, the cervix is tightly tamponed with gauze, the vagina is tamponed in the ordinary way, and the patient is put to bed. This method of tamponing is of the greatest importance. Its object is mechanically to separate the membranes without endangering their integrity. It mechanically softens the cervix and causes its mergence into the lower uterine segment and it provokes decided pains, so that in a short time an os which previously has been tightly closed will readily admit one or two fingers. In all these cases the tampons have caused the patients to complain of intermittent crampy pains, indicative of uterine action. In from five to fifteen hours, depending upon the severity of the pains, the tampon is removed, the patient again rendered surgically clean, an anæsthetic given, and the operative stage commenced. When the emergencies are such as to preclude the possibility of using the preliminary cervical tampon and the cervix is tightly closed, a branched steel dilator is carefully introduced and the cervical canal dilated so as to admit one finger.

The most difficult and trying part of the operation is this initial stage, when the attempt is made in the presence of a complete cervix to cause its disappearance. As soon as one hand is tired or if the operator is exhausted, the other hand or a competent assistant may continue. On more than one occasion it has taken from one-half to three-quarters of an hour to cause the cervix to disappear, *i.e.*, merge into the lower uterine zone. But this once overcome, the rest of the operation, the dilatation of the external os, is simply play work. Brute force is unscientific, reprehensible, and dangerous. The physiology of manual dilatation means nothing more nor less than tiring out the cervical muscle by continuous gentle force, instituted by the fingers or hand as an applied force, even as the spasm of the pudendal muscles is caused to yield by the constant pressure of the advancing head. Deliver the head too rapidly, and you use abnormal and sudden forcible dilatation: your perineum tears in an instant. So is it with the lower uterine zone. Gradual gentle pressure prolonged for some time will overcome the cervical spasm, and it will gently melt away under the constant irresistible force of the fingers.

Now as to the second, the direct operative stage. The os is found very soft and dilatable, sufficiently so to admit readily one or two fingers. I have varied the method somewhat now from what I formerly employed, the variation of operating depending on whether or not the head is firmly engaged and normally so. When the head is firmly engaged, as so often happens in primiparæ, I use the fingers of both hands, one passed by the vagina in front and the other behind, hooking them into the cervix and using power by pulling in opposite directions. The hand is not introduced into the vagina. In other words, the fingers, one of each hand, then two, and possibly three, are introduced antero-posteriorly, pulling the whole lower uterine

[1] Medical Record, February 17, 1894.

[1] Iodoform gauze has caused, in the hands of the writer, poisoning from mere cervical tamponade.

segment downward, at the same time slowly but surely dilating the parts in all directions, the fingers of both hands simulating a vaginal speculum, so that one is operating almost under the guidance of the eye. I have on several occasions demonstrated to physicians present the dilatation by this means, when the os could be readily seen to dilate under this measure. My object in dilating in the above-described manner I consider of value, since by the method next to be described the head must of necessity by the impinging fist be forced above the brim, and thus the relation between a well-engaged head in a normal position and the pelvis is disturbed. Further, the application of the forceps to a head in such a position is simple and the delivery far easier than a version under other conditions when the head is above the brim. After the os is thus dilated I have generally employed an axis-traction forceps, after Tarnier, to complete delivery.

Ordinarily, the following method is employed: The hand being introduced into the vagina, one finger is inserted into the os and continuous pressure exercised until the entire finger enters. This finger is now flexed while still in the uterus and slowly withdrawn at the expense of a lessened resistance on the part of the ring. This flexed finger has a diameter equal to that of two fingers. These are then introduced to their fullest extent, both flexed, and withdrawn at the same time. Thus this manœuvre is continued until the spasm is so far overcome as to allow the passage of the conated hand entirely within the uterus. The hand, then closed, is carefully withdrawn. Thus this is done a number of times in the different diameters of the os and continued until no resistance in any direction is encountered on the part of the lower uterine zone. Now the os is found sufficiently dilated for the passage of any ordinary child. The membranes having been preserved, the hand is carried between the uterus and sac, carefully separating them; one or both feet are grasped, and then the bag of waters is ruptured as high as possible, and a pure internal version is done. The reason for doing an internal version and an immediate extraction is because, the cervix being artificially dilated, retraction is almost certain to occur, unless extraction and delivery are performed at once, and that at a most inopportune time, *i.e.*, when the neck of the baby is passing through the os; the latter has a tendency to retract and often tightly hugs that fœtal part with such force that the delay entailed in again overcoming this spasm may prove lethal to the baby.

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THE SURGERY OF TUBERCULOSIS OF THE PERITONEUM.[1]

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In a large proportion of cases of tuberculous peritonitis simple laparotomy will produce a permanent cure. In the whole domain of surgery there is no fact more remarkable than the one just stated, and it is peculiar and without analogy.

For many years this phenomenon had been observed in isolated instances, and it was regarded simply as a coincidence, and it is not until lately that simple laparatomy has been recognized and advocated as the proper treatment for this form of tuberculosis.

As far as I am aware, the first English monograph devoted to the subject was written by Van De Warker, of Syracuse, in 1887. In 1890, König wrote an important paper on this subject, reviewing the literature and giving an analyzed tabulation of one hundred and thirty-one cases. About the same time William Osler, of Johns Hopkins University, gave the subject special mention in a paper on tuberculous abdominal tumors. In November, 1890, I read before the New York Surgical Society a paper entitled "The Influence of Laparotomy upon Tuberculosis of the Peritoneum," from which I shall take the liberty of quoting later on.

These were among the earlier contributions devoted to the subject. At the time of my first writing the literature consisted almost entirely of reports of cases in which laparotomy had been performed because of a mistaken diagnosis, or as a means of making a diagnosis, and in which cure had thus been brought about accidentally. Now medical literature is full of reports of cases in which the operation has been done as a recognized means of treatment.

Since this subject has been widely discussed and investigated it has awakened the interest it merits, and, the phenomenon being as yet unexplained, it has resulted in the advancement of a variety of theories as to why simple laparotomy should cure such an extensive and malignant disease. I shall enumerate a few of these.

1. It has been claimed that the good result has been due to the use of chemical disinfectants.

2. The result has been attributed to the use of drainage.

3. Some claim that cure has been produced by the exposure of the abdominal cavity to sunlight and air.

4. That cure depends upon the removal of ascitic fluid, and the thereby altered blood circulation.

5. That by the accidental introduction of bacteria a toxalbumin is produced which is fatal to the tubercle bacilli.

6. That the opening of the abdomen and the operative handling of the organs constitute a traumatism which establishes a fibrinous peritonitis, resulting in the encapsulation of the tubercle bacilli and their arrest.

7. That the cure is owing to the advent of leucocytes, and is the result of phagocytosis.

8. That the mere opening of the abdominal cavity by an incision brings about a physiological change in the peritoneum which in some way makes it cease to be a proper soil for the growth of the tubercle bacilli.

No one of these theories can as yet be demonstrated to be true, and some of them may readily be discarded.

That cure does not depend upon the use of disinfectants is shown by the fact that long series of cases in which no such agents were employed show a slightly higher percentage of cures than does a series of cases in which such agents were used.

That the result is not brought about by the relief of pressure accomplished by the withdrawal of ascitic fluid and the consequent improvement of the blood circulation is shown in cases in which the fluid has been removed by tapping without benefit to the patient, and in which subsequent incision has been followed by cure.

That drainage is not the means of cure is shown by the fact that patients get well without it, and that they do better without it than with it.

The other theories which I have stated can hardly be either proved or disproved, but it should be borne in mind that we have no analogy to this phenomenon in other parts of the body. For instance, one will hardly expect to cure a tuberculous joint disease by exposing it to sunlight and air. In fact, I think that we are forced to the conclusion which Tait arrived at, namely, that the opening of the abdomen produces a change in the physiological character of the peritoneum which makes it able to overcome and destroy the tubercle bacillus; but this is merely begging the question, and I confess that I feel that this subject presents a riddle which is still unsolved.

[1] Read before the New York State Medical Association, October 13, 1897.

When I wrote my paper of 1890 I stated certain conclusions at which I had arrived, and, as my subsequent study and experience have tended to confirm my views as then expressed, I take the liberty of quoting them from that paper. The conclusions as set forth are as follows:

"1. That the danger of the operation is very slight (the death rate being below three per cent.).

"2. That sepsis is not so likely to occur in the peritonæa as in laparotomy on healthy ones, on account of the pathological changes which have taken place in the membrane.

"3. That tuberculous infection of the wound does not occur.

"4. That disinfectants are useless, and that drainage should not be used, as it is likely to result in a permanent sinus.

"5. That in unsuccessful cases the operation at least does no harm. Most of the patients who have died after the operation have succumbed to a general tuberculosis, or to tuberculosis of some other organ.

"6. That established—not advanced—pulmonary tuberculosis is an indication for, and not against, the operation; for the improvement gained enables the patient better to resist the phthisis, and if this latter be but incipient recovery may take place.

"7. That laparotomy is the proper form of treatment for these cases. In some unknown way it exerts a beneficial influence upon the disease, resulting in cure in a large proportion of cases, and marked improvement in nearly all."

To confine myself strictly to my text, as set forth under the title of this paper, I shall say but little except as relates to the treatment of this disease. Pathologically we recognize three varieties of peritoneal tuberculosis, as classified by Aldebert: first, the ascitic; second, the fibrous; third, the ulcerous; or perhaps they may be better expressed as the ascitic, the fibrino-plastic, and the caseous or suppurative. These represent stages of the disease rather than distinct varieties, and are frequently found associated in the same case. When the ascitic and the plastic are combined we often have localized encysted fluid, which may readily be mistaken for cystic tumors. So it is when the ulcerous or caseous form is encapsulated by localized adhesions: the mass can often be felt as a distinct tumor, and the diagnosis may be greatly obscured.

Clinically we may recognize two varieties: first, with ascites, and second, without ascites, *i.e.*, either the fibrous or the ulcerous. The peritonitis which is a part of an acute miliary tuberculosis is not amenable to surgical treatment, and is not considered in this paper.

Treatment.—Feeling assured as I do that laparotomy is the cause of cure in patients who recover, and that the good result is not brought about by topical medication, by irrigation of the cavity, or by drainage, I recommend as simple and as safe a method of operating as possible. I believe that the incision should be large enough to allow satisfactory exploration of the abdominal cavity. When hydrops exists the fluid should be fully evacuated. When there is an encysted mass consisting of fluid or of granulation tissue, it is well to separate the adhesions and carefully sponge out the cavity, provided too much tearing and bleeding will not result; otherwise it is better not to make much manipulation.

It must be borne in mind that in most of the cases reported prior to 1892 cure had resulted from simple exploratory laparotomy. In most of these instances the disease was not recognized until the abdomen was opened, and when its nature was ascertained nothing more was done except to close the abdominal wound, as these cases were considered to be inoperable, and when cure resulted it was a surprise to the operator.

When possible the original focus of the disease should be removed. This will often be the case when the female pelvic organs or the appendix vermiformis is the site.

I am convinced that the more simply and rapidly the entire operation is performed the better will be the result, and I advise against irrigation or attempted medication of the abdominal cavity.

Drainage of the abdomen does nothing favorable for these patients, and it will often result in establishing a permanent fistula; it always delays the healing of the wound, which is a very serious thing for this class of patients. It should not be employed.

The wound should be closed by suture, and convalescence from the operation established as soon as possible.

No plan of treatment of any form of tuberculosis is complete that does not include careful attention to the patient's general condition. As soon as possible these patients should be gotten out of town, and under the best possible hygienic requirements.

Many papers have been published on this subject, and several hundred cases are on record. Statistics as to cure of course vary according to different authors. Some claim cures in as high a ratio as eighty per cent.; some only as much as twenty-four per cent. Analyses of these reports show that the mortality from the operation is below three per cent. Marked improvement occurs in about eighty per cent. of cases, and a permanent cure is effected in about thirty per cent. of all cases operated upon.

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A NEW PLASTIC OPERATION FOR THE RELIEF OF DEFORMITY DUE TO DOUBLE HARELIP.[1]

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A lad of twenty-one years recently presented himself for a conspicuous deformity of the lips, the sequel of an operation for double harelip in infancy, consisting

Fig. 1. Fig. 2 Fig.

in an extreme flatness and scantiness of the upper lip, with an enormous pouting and redundance of the lower one. He also had a complete cleft of the hard and soft palates, upon which two attempts had been made in former years to close. He desired this to be

Before Operation.

closed first, which I did, and operation was afterward done upon the lips.

Their inequality was admirably corrected by transplanting the middle portion of the lower lip into the upper, as illustrated in Figs. 1, 2, and 3.

A median vertical incision was made in the upper lip, and the central scar portion excised so as to

After Operation

obtain edges of an excellent quality of skin. The gap thus created was about three-fourths of an inch in width.

A flap taken from the central portion of the lower lip, a little wider than the upper gap, was then made,

Before Operation.

in such a way as to make a hinge upon one side containing the lower branch of the coronary artery on the left, which flap was turned upward so that its lower edge on the chin was placed beneath the columna nasi. The vermilion border was exactly stitched on one side, as shown (Fig 2), and numerous very fine stitches were applied so as to secure apposition around three-fourths of the flap. The lower part of the wound upon the chin was also brought in apposition up to the red portion.

Upon the right side of the mouth the upper half

[1] Read at the meeting of the Practitioners' Society, Friday, December 3, 1897.

and the lower half of the red lip were left free until the inverted flap should have grown in its new position. Retention sutures were made to transfix the upper lip from side to side, and also one was passed from below the left angle of the mouth, crossing obliquely to the right upper lip, below the wing of the nose, thus preventing unconscious dragging upon the flaps. These are not shown in the sketch.

On the twelfth day, the flap having grown perfectly in its new position, its base was very carefully cut

After Operation.

from the lower lip so as to leave an ample portion of the red middle lip, which was turned upward and exactly fitted to the freshened edge of the free half of the lip, as shown in Fig. 3. The lower lip was then refreshed and sutured.

The nutrition of this transplanted flap by its new capillary nourishment was so perfect that in color and texture it seemed to have been always a part of the upper lip. The lines of suture rapidly faded and were quite insignificant. The two lips were afterward in about their normal proportion, and gave the patient perfect satisfaction.

During the twelve days between the operations, nourishment was well sustained by fluid taken through a tube inserted through the nostril.

Appendicitis.—Of the various theories advanced to account for appendicitis, the most probable is that which regards the appendix as a diverticulum which readily allows of the accumulation and stagnation of fæcal matter. This, mingling with the secretion from its mucous membrane and undergoing fermentation and putrefactive change, sets up a catarrhal inflammation, which may be followed by ulceration and perforation or by thickening of its walls, the latter condition being the one most commonly met with in the recurrent form of the disease. The fæcal concretions found in its interior are probably the consequence, not the cause, of the inflammation, being due to inspissation of its contents; but, once formed there, they no doubt tend to excite and keep up the recurrent attacks. Though foreign bodies rarely lodge in the appendix, in one of the cases mentioned after numerous attacks of appendicitis an abscess formed, and at its bottom was found a pin.—Dr. George Heaton, *Lancet*, May, 1897.

MY RECENT WORK IN APPENDICECTOMY.

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May 15, 1896, Dr. Robert E. Wilson became my first assistant. I instructed him to keep an account of my work, with particular reference to my operations for appendicitis and for pus tubes. I felt that in these very common affections I had passed the experimental or rather developmental stage, which every operator must pass through so far as the method and technique are concerned. I had done two hundred and seventy operations for appendicitis, and made one hundred and eighty-five sections for the removal of pus sacs. I had employed many different methods, particularly with regard to the antiseptics that were used, and many different methods of drainage had been tested. After about twenty years of this work I finally arrived at a method of treatment the results of which I will now report, and it has given me a measure of success that I can scarcely hope to excel in future.

Since Dr. Wilson has been with me I have operated in eighty-one cases of appendicitis, and in all but one of these the appendix or its stump was removed. Of this series of cases, seventy-one were done in succession, with an entirely satisfactory result, all patients making a perfect recovery. They were all, with a single exception, acute cases; all suppurative or gangrenous; some complicated by general peritonitis. In that exceptional case there was no pus, the appendix being found in a dense mass of cicatricial tissue, and there was no kind of acute infectious or febrile disturbance. The only indication for the operation was pain, and this symptom was completely relieved by the removal of the offending organ. The patient had passed through an attack of acute appendicitis several years before she came to me. I am so averse to operating upon afebrile patients that I had sent this patient to her home, a distance of over one hundred miles, telling her to put off operative interference for three months, in order to see whether or not her pain would disappear under a *régime* of diet and regular purgation. The pain, however, persisted, and she was finally cured by appendicectomy.

I do not wish to be understood as condemning the operation of appendicectomy during the quiescent stage, but I favor operating in every case during the acute stage and as soon as the diagnosis of appendicitis is made. This must be understood to mean that if a patient has passed through an attack of acute appendicitis without losing his or her life under the expectant treatment, I would not urge an operation until a second attack comes on. It is by no means certain that a second attack will ever come on, but, if it does come on, then I would most strenuously urge an immediate radical operation. Eliminating this one case of non-suppurative appendicectomy, there is left a record of seventy consecutive complete operations without a death.

The seventy-second patient in this series died on the third day after the operation. It was a case of long standing; the patient had been sick in bed for over seven months, was emaciated, had rigors and fever continuously, and had an enormously large doughy tumor, filling more than one-third of the abdominal cavity. It extended to the median line and to four inches above the umbilicus. The patient was brought from southern Illinois upon a stretcher, and was in a very unfavorable condition for an operation. I knew that delay meant certain death, and operated at the Rebekah Hospital about twenty-four hours after he reached the city. The operation was a very tedious

one, and although it was completed, and all the pus cavities between the intestines, under the omentum, in the pelvis, and near the root of the mesentery, as well as a large cavity in the region of the kidney, were thoroughly drained, the patient never rallied and his temperature never became normal before he died. He was so much exhausted by the long pyæmia and sapræmia that he had not enough resistance or antitoxic properties in his tissues to overcome the toxæmia which had existed, and to which was added the shock of a prolonged operation. I am certain that this man could have been saved by an early operation.

Since this death interrupted the series of successful cases there have been nine more, and all of them have ended in recovery. In one of these I was compelled to do an imperfect operation. It is the only one in the entire series of eighty-one cases in which it was in my opinion wise to leave the stump of the appendix. I found such a condition of affairs that I removed only the gangrenous appendix, leaving the stump alone and draining the pus cavity, which reached the vena cava and the vertebral column. The cæcum in this case, instead of lying in the iliac fossa, lay near to the vertebral column, and the appendix arose from the inner and posterior aspect of the cæcum and had been curled upon the vena cava inferior. It had become gangrenous, and had sloughed away. The patient had been very ill nearly six days, and when I operated had a temperature of 103.5 F. and a pulse of 130. I found a large abscess, containing about two ounces of very putrid pus, in which the necrotic appendix was found almost unrecognizably disorganized. The median wall of the abscess cavity, in which the stump of the appendix lay, was an indurated, thick mass of tissue, so closely adherent to the vena cava inferior and the roof of the mesentery that I dared not try to dissect out and ligate the stump. The cavity was drained by a gauze pack, and the child's temperature and pulse have been normal ever since. The pack has been removed, and there is now only a healthy granulating cavity, which, under the careful treatment of the family physician, will soon be entirely closed.

This physician, for whom I have done a large number of operations, and who has always seen me remove the whole of the appendix, was somewhat alarmed and perhaps disappointed at my refusal to make a radical removal in this case. He had always seen me remove the stump or the whole appendix at its origin from the cæcum, and was fearful of the outcome of this case. He feared, no doubt, that the stump might give rise to immediate or remote trouble. I also shared this feeling, and I am of the opinion that the appendix should be completely removed in every case unless some such condition as I found here, which is fortunately very rare, should plainly contraindicate the removal of the stump. I think every surgeon gets to know the limitations of his technical skill, and I felt that my limit had been reached in this case. I doubted my ability successfully to remove the stump in this instance, and gave the patient the benefit of the doubt.

I do not intend to discuss the diagnosis of appendicitis. It is either very simple and certain, or very difficult and uncertain. The diagnosis of appendicitis is simple and certain in about ninety-nine per cent. of all cases, unless the attending physician has masked the symptoms by the administration of morphine or some other opiate. This is a very bad practice and cannot be condemned too strongly. I am happy to say that in St. Louis the opium treatment of peritonitis has been abandoned by the more enlightened members of the profession. One of the objects of this report is further to banish into oblivion this method of treatment.

I believe that when it comes squarely to the consciousness of the general practitioner that modern surgery in the hand of experienced operators can cure seventy cases of acute suppurative appendicitis in succession, without selection of cases, all other methods of treatment must be abandoned. And when it is further stated that the average time of confinement to the bed is less than three weeks, all room for discussion seems to vanish.

Two of the best physicians of this city have each called me to operate for appendicitis, when upon palpation of the abdomen I gave the opinion that the trouble was in the gall bladder. My opinion was immediately corroborated by the operation in both cases. I have done twenty-one operations for appendicitis in the practice of one of these physicians and sixteen in the practice of the other, and in all of these cases their diagnosis was correct. This proves that acute cholecystitis may be mistaken by very skilful and experienced practitioners for acute suppurative appendicitis. I have also met with a few cases in which the differential diagnosis between pyosalpinx and appendicitis was difficult. I have three times found both conditions present in the same woman.

About three years ago I was called to a neighboring village by a most competent physician, who had in consultation the most renowned pathologist and diagnostician of St. Louis. The latter gentleman had been in attendance since the previous night, and the diagnosis of ruptured tubal pregnancy, which was first made, had been abandoned, and both gentlemen were of the opinion that we were dealing with a case of appendicitis. I myself could not arrive at a diagnosis between the two diseases, and all of us were sure that it was one of the two conditions, and could be nothing else. The medical consultant, in whose judgment I have the greatest confidence, leaned somewhat toward the side of appendicitis. I made the incision for appendicitis, midway between the anterior superior spine and the linea alba at the lateral margin of the rectus muscle. Through this incision I evacuated several pounds of clotted blood and removed the most beautiful specimen of ruptured pregnant tube that I have ever seen. The patient made a most excellent recovery.

Twice I have found the appendix upon the left side of the body. In the one case the cæcum was attached to the last lumbar vertebra and the promontory by a short mesocæcum, while the appendix hung down into the left side of the pelvis and was attached by adhesions to the sigmoid flexure. In the other case there was a large abscess cavity, which started from the ulcerated free end of the appendix, and was situated to the left and in front of the bladder. In one case I found the appendix near the umbilicus, and the abscess surrounding it would have broken through the umbilicus if it had been left to nature. In all other cases in my entire experience the trouble was in the usual place—upon the right side, between the diaphragm above and the floor of the pelvis below.

It is not my purpose to discuss the etiology or pathology of appendicitis. I may say that I have found a foreign body in only two cases. In one it was a piece of solder; in the other a fragment of an oyster shell. I doubt very much whether or not these substances were etiological factors. Sometimes the fæcal concretions have a striking resemblance to a seed of some fruit, but I have never found conclusive evidence that seeds are the nuclei for these fæcal formations. By chemical analysis, however, I have frequently found bismuth and mercury in these concretions, and have entertained the idea that the administration of these heavy substances may prove to be a factor in their formation. Stoehr has recently proven that the follicles within the appendix are in a state of degeneration throughout the life of this rudimentary organ. Knowing this fact, we can easily understand that the

pathogenic bacteria will find a fertile soil in this organ, the mucous lining of which is undergoing a process of degeneration during the entire life of the human body.[1]

After the diagnosis has been made and the operation determined upon, I recommend the following management: The attending physician will order total abstinence from food or drink; he will order, or himself administer, copious injections of warm water into the colon, with a view of evacuating the contents of the bowel before the operation. I have never seen bad results follow the administration of calomel in broken doses or even the use of salts, and, if it were not for some theoretical considerations, I would recommend the administration of salts in every case in which it has been decided to operate. Theoretically, it might possibly be expected that in the case of a gangrenous perforation the patient might be purged into his own abdominal cavity, though practically—*i.e.*, mechanically—this seems to me very improbable indeed. I would consider the administration of purgatives perfectly safe in all cases after the lapse of forty-eight hours, because occlusive adhesions will have formed pretty securely by that time. The patient must assume the recumbent position in bed, and a moist antiseptic pack must be applied over the entire abdomen and left *in situ* until the surgeon arrives, be that two hours or twelve hours or longer. The belly should be soaped and shaved, even in hairless children, before the pack is applied, in order to allow the antiseptic solution more thoroughly to penetrate the epidermis.

The Operation of Appendicectomy.—The incision which I prefer, and invariably used in the cases now under consideration, is the one which, so far as I know, was first recommended for appendicectomy by Senn. It is the incision in the linea semilunaris, and by its use the abdominal wall can be opened without cutting through any of its muscles. The only tissue which is cut is connective tissue—*i.e.*, aponeurosis or fascia—and there is very little hemorrhage. The consequent hernia in the scar will depend upon the drainage that is necessary more than upon the incision or the method of suture which is chosen. The length of the incision is from two and one-half to four and one-half inches, and depends upon the dexterity of the surgeon and upon the position of the appendix. As my experience and skill have grown, I have been enabled to make smaller incisions, but in one case I was compelled, even recently, to make an incision eight inches long. In that case there was a large subphrenic and perihepatic abscess. The appendix extended along the posterior wall of the ascending colon and reached to the lower surface of the liver. I estimate the quantity of pus evacuated from this patient at one and one-half quarts. The best guide for the incision is the lateral margin of the rectus muscle, which can be easily felt or seen. The middle of the incision should be at about McBurney's point in ordinary cases. In other cases I make the middle of the incision over the most prominent portion of the induration, no matter where that may be. I have stated above that I advise operating as soon as the diagnosis is made. I estimate that the average time which had elapsed in this series of cases was about sixty hours. The shortest time was three hours, and the longest eight months since the beginning of the attack. The average time is made longer than it would otherwise be by one patient who had been continuously sick for eight months and by another who had been bedridden for six months.

I wish to emphasize here the peculiarity of some acute suppurative and gangrenous cases: that the temperature, and, in rare cases, also the pulse, will drop almost to the normal stage twenty-four or thirty-six hours after the beginning of the attack. The tenderness on pressure may also be lessened at this time, but this amelioration of the symptoms must never be looked upon as an indication to postpone the operation, or, as I knew it to do in one case, to lead the physician to doubt his original diagnosis. In that instance small doses of an opiate had been given and the operation was postponed for eleven days, when the high temperature and pulse returned. The boy's life was lost by the postponement, as was clearly shown by the operation. This case happened about eight years ago; the death was due to septicæmia. All subjects of appendicitis that have ever died, in my experience, were killed by septicæmia, and I believe that nearly all could have been saved by early operations or more prompt and more thorough work. I do not believe that there are cases of so-called fulminating or furibund appendicitis, in which the patient cannot be saved by prompt interference. In the series of cases which I am now reporting, there were six which fully fit the description of the "fulminating" examples we find mentioned in recent literature, and all of these patients recovered. I shall have a word to say later on about this line of cases.

In one report I find that the use of iodoform is made responsible by one physician for three deaths. When we stop to think of the harmlessness of iodoform powder, when compared to the deadly toxins produced by streptococci or the bacterium coli commune in cases of appendicitis, statements like the above appear ridiculous, and we must seriously doubt the diagnostic ability of the physician who will account for deaths following operations for appendicitis by the pretext that iodoform was used. The reason we remove the suppurating or gangrenous appendix is to get rid of the source of the septicæmia, and the reason we drain the wounds is to allow the escape of the toxins and pyrogenic substances that may be left after we have removed, mechanically, all that we can or dare by our surgical operations. If a death follows our operation, we must admit either that we could not sufficiently exterminate the cause of the disease, for some reason or other, or that the septicæmia had so poisoned and weakened the organism that the shock of the operation was too much for the patient to bear. Embolus, bronchitis, pneumonia, nephritis, etc., are all of septic origin, and so it seems clear that when we operate in cases of appendicitis we are trying to save our patients' lives from the dangers of septicæmia or its complications and sequelæ.

This view of the treatment of appendicitis clearly defines the relation of the medical man to the surgeon in the management of these cases. The physician calls the surgeon, because in him he has the weapon with which he can successfully cure the disease he has correctly diagnosed as a septic fever, having a local origin. This local trouble must be first removed, and then the physician can carry the case to a successful issue by the remedies he so well knows how to use. It seems to me that all discussions about the question as to whether a case of appendicitis is a medical or a surgical one are fruitless, when we bear in mind the facts which I have just presented. There is no better instance than this very one to prove that the physician and the surgeon are interdependent. Their work is very different and not conflicting. A physician who is looking out for the interest of his patient will call upon his friend, the surgeon, to perform an operation requiring great skill and a large experience in surgical work. He will select a man who devotes his attention to the science and art of surgery. He will select a professional surgeon and not an amateur. The most dangerous person to manage a case of appendicitis is one of those men who drives a general business, a dilettante in all the departments of medicine, a master of none. There are men in all our

[1] See Anatomischer Anzeiger, 1897, and Transactions of the Anatomische Gesellschaft, 1897.

large cities who, while posing as surgeons, will attend Mrs. Vandergold in confinement or one of her children who has "summer complaint." The careful, conscientious physician will not call one of this class to do an operation for him, if he can help it, because he is a dilettante in surgery; and not only that—he is also a competitor of the physician who calls him, and under our beautiful code of ethics may be called to the family into which he was introduced by the physician if there should afterward be a medical case in the same house. In large cities the highest and best results of medical work can be achieved by the division of labor. But the specialists must be honest and fair toward the family practitioner; they must not do family practice under any circumstances. The conditions are different in the country, as specialists cannot thrive in small towns and villages, and the country physician must help himself as best he can in emergencies; but he also must learn to select from the city specialists a professional and not an amateur for his consultant.

The incision having been made through all layers of the abdominal wall, an exploration is made of the parts that present themselves. Sometimes a piece of omentum, indurated and injected, will be found adherent to the cæcum, and this may be used as a guide to the appendix. By carefully loosening this piece of omentum from its attachments, the operator will always be led to the appendix. Before this work of disentanglement is begun, I have the two lips of the incision pulled apart by two broad retractors, and I spread broad pieces of gauze into the wound, so that any pus cavity that may be opened during the process of separating the conglomerated intestines will discharge its contents upon the gauze and not soil the healthy portions of the intestines. In some cases the best guides to the appendix are the tæniæ of the colon ascendens, which, if followed up, must lead to the root of the appendix. In other cases the last loop of the ileum will furnish a valuable landmark, as it can always be followed to the ileo-cæcal valve. In some cases it is not necessary to lift the cæcum out of the cavity, but in those in which the appendix is located under the ascending colon or behind the cæcum it is best to lift the latter and the last loop of the ileum, and by careful work with the fingers, bluntly separating the retroperitoneal connective tissue, it will be found possible to lift the whole mass out of the abdominal cavity.

In about one-half of my cases I had to lift the cæcum out of the cavity, in order to make a clean and perfect extirpation of the diseased appendix. In the other half of the cases the appendix was situated so that it could be followed to its root within the abdomen. These are the easy cases of appendicectomy. The difficult ones are those in which the appendix cannot be found without a tedious, time-consuming search among the old and fresh adhesions.

After the appendix has been found and carefully ligated off at its root, the peritoneum should be drawn together with a few stitches, so as to cover the ligature which surrounds the root. In nearly all cases a healthy stump can be formed by using the serosa and muscularis only, while the mucosa is cut short and buried. In one case the ligature slipped off, and I had amputated the appendix so close to the cæcum that I could not replace another. In that case I pulled the whole together in the cæcum with a few stitches as best I could, and covered these stitches with a piece of gauze, the end of which was conducted out of the incision.

The most important thing to insure the safety of the patient is always to place a strip of gauze upon and around the stump of the appendix, and to bring a piece of the gauze strip in contact with every portion of gut that is covered by the deposits of plastic lymph or that is in any way discolored or indicative of infection. I nearly always use three narrow strips of gauze, but sometimes only two, and sometimes four or even five. These gauze strips are from one inch to two inches broad, and about eighteen inches long. They act as capillary drains. I have generally used nosophen gauze, but in some cases bichloride or simple sterile gauze.

Before the operation is complete, the operator must in every case pass his finger into the pelvic cavity; and if it contains pus or serum this must be taken out through a glass tube, and after all of it has been drawn out or wiped out with gauze it is well to have a drain of some kind in the cul-de-sac for a day or longer. In the series of cases I am now speaking about, the cul-de-sac was drained in four. They were cases in which general peritonitis with purulent effusion existed, and in which many of the loops of intestines were glued together by exudates of greenish-yellow lymph. I do not recommend flushing the general cavity in these cases, and, in fact, limit the use of irrigation as much as possible. In several of the cases I did resort to irrigation of circumscribed abscess cavities, but in none did I flush the abdominal cavity.

The gauze strips or glass tube in Douglas' cavity being satisfactorily adjusted and projecting out of the incision, a few through-and-through stitches are now inserted at both angles of the incision, it being made certain that the drains are not crowded or compressed by the sutures. The dressing consists of absorbent antiseptic gauze and cotton in sufficient quantity to retain the fluids which drain out of the wound. These dressings need not be changed until they appear to be saturated with fluids. I usually leave them alone for forty-eight hours, and if the pulse and temperature are normal they may be left longer. When they are soiled they may be changed, for æsthetic if for no other reasons.

The after-treatment consists in rest in bed, liquid diet, and gentle purgation. If there has been no free evacuation of the intestines before the operation, I order one-tenth grain of calomel every hour until flatus or stool passes. I order its administration twelve hours after the operation, and follow this with a gentle saline—preferably a Seidlitz powder or citrate of magnesium. I allowed most of these patients to sit up on the tenth day, and to begin to walk about a few days later. The average time in the hospital or sick-room was about twenty days.

It appears, then, that of the seventy consecutive cases of suppurative or gangrenous appendicitis, every single one was treated by means of gauze drainage, to which was added in some cases a glass tube or a rubber tube. I will add that in all but one of the cases the appendix was perforated, four cases were complicated by general peritonitis, and at least six would have been called fulminating by those who have described this variety or species of appendicitis. I say at least six, because the notion or definition of fulminating appendicitis is an elastic one, and what might appear fulminating to one observer might appear ordinary to another.

In conclusion, let me say a few words about the prognosis of appendicitis. According to the experience of many physicians, surgeons, and pathologists, there are a great many cases that end in recovery after the first attack of appendicitis. These run their course, and seem to recover without suppuration. They have been called catarrhal appendicitis. I have not seen many cases of this description so clearly demonstrated that there could not be a reasonable doubt in the diagnosis.

The regular autopsy books at Heidelberg and at Hamburg have been searched, in order to determine approximately how many cadavers that are examined upon the post-mortem slabs have passed through this

disease, now known as appendicitis, but in these reports called perityphlitis and typhlitis. It can be shown that a very large number of persons had passed through suppurative appendicitis without operation, and many lived for years afterward. In many cases perforation of abscesses into hollow organs had taken place, and one could see plainly that these unfortunates had passed through months and years of invalidism. These results were achieved under the expectant plan of treatment, and I know from personal observation at Heidelberg that they were treated by the regular and continuous administration of opium. Of course there were thousands of cases of "idiopathic" peritonitis in men, which were in reality appendicitis, that went to the dead-house, and, because the trouble was not traced to the appendix, figured on the hospital lists as cases of general peritonitis. I have seen the pathologist, after making the usual routine examination of the organs according to Virchow, stop at the diagnosis of general peritonitis, when he would nowadays invariably say "peritonitis septica ex perforatione aut gangræna processus vermiformis cœci," because he would find that the appendix was the seat of the original affection.

I believe that considerably more than half will recover from the first attack without operation. I believe that twenty per cent. of all cases of appendicitis will terminate fatally, if not operated upon, from septicæmia, either in the first or in a succeeding attack.

I believe that two cases out of one hundred, or perhaps two out of one hundred and fifty, will terminate fatally in the hands of expert operators for appendicitis. Errors of judgment in operating upon cases that are hopelessly septic will probably always keep the death rate that high. It is sometimes very difficult to estimate the virulence or destructiveness of the existing toxæmia, and a case will occasionally slip in that will baffle the judgment of the most careful surgeon.

I will give it as my conclusion that the safest plan of management of all cases of appendicitis, take them as they come, is the immediate removal of the appendix and the drainage of the infected cavities. This plan of treatment will be followed by the very satisfactory record of about ninety-eight per cent. of recoveries.

The expectant plan in a large percentage of the cases will lead to a late surgical operation, and in about ten per cent. of these cases will lead to death. Those patients who are fortunate enough to recover from well-marked attacks of appendicitis will pass through a prolonged siege of dangerous illness, and may never regain a robust constitution.

Finally, I want to add that every patient suspected of having appendicitis, in whom the symptoms are grave or protracted, should be seen by one who is familiar with the disease, and by one who has become accustomed to operating for its relief.

Union Trust Building, October, 1897.

Tic Rotatoire.—Meyer (Freiburg) draws the following conclusions from five accurately observed cases: 1. Tic rotatoire depends in the majority of cases upon functional disturbances of the brain, and is caused by mental or physical excitement. 2. In rare cases it depends upon organic changes in the brain, these changes, as a rule, being situated in the cerebellum. In some cases it is very likely that disease of a centre in the frontal lobe may give rise to tic rotatoire (Dickinson). 3. Tic rotatoire may depend upon pathological changes in the course of the spinal accessory nerve itself, or in its branches supplying the sterno-cleido-mastoid and trapezius.—*Wiener klinische Rundschau*, January, 1898.

Progress of Medical Science.

Tubercle Bacilli in Butter?—L. Rabinowitsch (*Zeitschrift für Hygiene*, 1897, xxii., 1, p. 90) made a series of experiments, thirty in Berlin and fifty in Philadelphia, in which various samples of butter were examined for tubercle bacilli. The true bacillus was not found, but in thirty or forty per cent. of the specimens a micro-organism nearly analogous to it. The latter stains as does the tubercle bacillus, and morphologically cannot be distinguished from it. In the case of guinea-pigs these bacilli are less pathognomonic than the tubercle bacillus, inasmuch as when brought into the peritoneum in small numbers they may remain inactive: however, the guinea-pigs lose weight very rapidly and die. Post mortem the cases resemble "inoculation tuberculosis." The entire peritoneum and mesentery are studded with tubercles; the mesenteric glands are swollen and contain in part a cheesy, purulent substance. The liver is also studded with tubercles, which seem more as if they were upon rather than in the liver. The spleen is in mild cases only enlarged, now and then filled with tubercles. The lungs show frequently numerous transparent small tubercles, which, however, are only superficial and do not enter deeply into the substance of the lung. In the tubercles and the affected lymph glands micro-organisms very much resembling the tubercle bacillus can be demonstrated. Typical giant cells, such as are often found in tuberculous processes, are never observed. The inoculated animals do not react to tuberculin. The cultivation of the micro-organisms is far easier than is the case with the tubercle bacillus. The growth is more luxuriant than that of the tubercle bacillus, and takes place, though more slowly, at the room temperature. In the glycerin-bouillon culture the micro-organisms form traces of indol, and the bouillon is rendered cloudy upon the addition of an acid, which is not the case with the true tubercle bacillus. The new bacilli form a yellow or copperyred substance, which is never seen with the true tubercle bacillus. Instead of the agreeable cauliflower odor of the true tubercle bacillus culture there is in the culture of the new micro-organisms a disagreeable ammoniacal smell.

Tetany in Childhood.—Th. Escherich (*Berliner klinische Wochenschrift*, 1897, No. 40) distinguishes the following forms of tetany in childhood: 1. The most frequent form by far is the tetany of rickets (idiopathic tetany). Intermittent form (spasms of short duration, often painful, marked increase of electrical and mechanical irritability, acute or subacute course, tendency to recur). This form of tetany often happens without spontaneous spasm: that is, it is latent; this latent form of tetany can be constantly demonstrated in those nurslings who suffer from laryngismus stridulus. According to the opinion of Escherich, tetany is not the result of rickets, but both conditions are due to the same poisons (vitiated atmosphere). 2. Tetany in diseases of the stomach and intestines. Abrupt onset: intermittent painful spasms in the extremities; in the interval Trousseau's and the facial (Chvostek) phenomena; all the foregoing following acute indigestion. Cure in a short time. In this form are met cases with persistent contracture. 3. Tetany in infectious diseases. Escherich observed one case after pneumonia and nephritis; transient Trousseau and facial phenomena. Cure in eight days. 4. Pseudo-tetanus. Thus far the case of Kjellberg is the only one in literature. The picture of the disease, which reminds one strongly of tetanus traumaticus, consists of trismus and a general rigidity, so that the patient lies stiff in bed. During rest as well as in sleep

the rigidity diminishes, but never entirely disappears. On the contrary, through external irritation as well as spontaneously, paroxysms may occur which may lead to painful contractures. Arms, hands, and eyes can be freely moved in some cases; no Trousseau, no increase of galvanic irritability. The condition remains unchanged for from three to six weeks, when recovery slowly begins and finally a cure results; no recurrence. Perhaps hysteria plays a part in these cases.

Relationship between the Testicles and Prostate.—R. Floderus (*Deutsche Zeitschrift fur Chirurgie*, xlv.) draws the following conclusions: *A*. Effect of bilateral removal of the testicles. 1. If undertaken before puberty, aplasia results. 2. In adults a prostate which before operation was not pathological shrinks after the operation. 3. In cases of beginning or developed prostatic hypertrophy the influence of the operation is less uniform and at times not demonstrable. The diminution in size is greatest in the upper part of the organ. 4. Tuberculous processes, as well as chronic prostatitis, may be brought to a standstill or even cured by the operation. *B*. Effect of unilateral removal of the testicle. 1. If the prostate be normal, the operation as a rule causes an atrophy of the corresponding lobe, which is noticed principally at the upper half. 2. The operation will not prevent the existence of prostatic hypertrophy. 3. Existing hypertrophy is influenced only now and then, and in those cases in the corresponding lobe. 4. Tuberculous processes in the prostate lobe of the same side may be brought to a standstill and at times cured. 5. The opposite prostatic lobe is not influenced, which fact leads us to suppose that the nerves (vasomotor, secretory, trophic) play a part here. 6. As a rule the operation causes atrophy of the corresponding seminal vesicle as well as compensatory hypertrophy of the opposite testicle and seminal vesicle.

Apropos of Urethral Strictures.—J. Verhoogen (*Journal de Médecine de Bruxelles*, 1897, No. 421) draws the following conclusions: 1. Electrolysis is of service only at the beginning in the treatment of soft and localized strictures, when the patient is pressed for time and desires to be rid of the trouble. As after-treatment, dilatation is absolutely necessary. 2. Internal urethrotomy is to be reserved for those cases in which an immediate dilatation is called for, *e.g.*, when urinary fever threatens the life of the patient, or in cases of threatened sepsis and kidney disease. Carried out under aseptic conditions, the operation is harmless. The operation may be followed by dilatation at a later period. 3. External urethrotomy will seldom be found necessary. It is undertaken in urinary abscesses, urinary fistulæ due to stricture, and in cases of impermeable strictures, if such at all exist.

Skin Lesions in Acute Articular Rheumatism, together with Remarks upon the Nature of Erythema Multiforme.—G. Singer (*Wiener klinische Wochenschrift*, 1897, No. 38) observed as accompanying manifestations of rheumatism seven cases of polymorphous erythema, and in one case found the staphylococcus pyogenes albus in the skin eruption. Furthermore, in a case of purpura rheumatica he was able to demonstrate the streptococcus pyogenes in the blood; in another case the staphylococcus pyogenes albus in the urine. Symptomatically, erythema multiforme appeared most frequently in generalized pyæmic processes; secondly, in articular rheumatism. But even that form which the dermatologists consider idiopathic showed in its invasion and course such an intimate connection with articular rheumatism that in the majority of cases one was forced to think of a rheumatic process in which the joint symptoms were situated in the background. Often enough the skin eruption is but a local manifestation of the microorganisms (staphylococci and streptococci) in the circulating blood. Therefore we are to look upon erythema multiforme as a pyæmic skin disease *par excellence*, and, since it bears such a close relationship to acute articular rheumatism, it is but natural to reckon the latter among the pyæmic diseases.

Excretion of Iodothyrin through the Milk.—Ivar Bang (Christiania) reports the case of a child with congenital struma, in whom the circumference of the neck was diminished four centimetres during the period of nursing, the mother having been given iodothyrin with the view of diminishing the size of her thyroid. With the mother as with the child the drug lost its efficiency the longer it was used. Inasmuch as the child's nourishment consisted of mother's milk only, and inasmuch as the child received no medicine whatsoever, Bang concludes that the good results in the child were due to the excretion of iodothyrin in the milk of the mother.—*Wiener klinische Rundschau.*

Causes of Subnormal Temperature.—Dr. Janssen sums up the causes of this condition as follows: 1. After the direct withdrawal of heat from the body, as in cases of exposure of unconscious or drunken persons in a very cold atmosphere, or after immersion in very cold water. 2. After the loss of great quantities of fluids from the body, as in severe diarrhœa, enteritis, cholera, or profuse hemorrhage. 3. In conditions of cachexia and inanition, such as cancer of various parts of the alimentary canal, severe forms of diabetes, pernicious anæmia; during convalescence from febrile affections; and in many chronic mental diseases. 4. In grave circulatory disturbances, as in cardiac failure. 5. In various diseases of the central nervous system, in tuberculous meningitis, at the onset of cerebral hemorrhage and embolism, in some cases of brain tumor, and in general paralysis of the insane. 6. After irritation of sensory nerves, as in intestinal strangulation, in renal and gall-stone colic, internal perforation of the intestines, etc., and after surgical operations. 7. In skin affections involving large areas, such as scleroderma and extensive burns. 8. After fevers, when the temperature may long remain subnormal, or in the course of certain fevers, as in pyæmia. 9. In cases of poisoning by phosphorus, atropine, morphine, carbolic acid, and in alcoholic intoxication; also in the auto-intoxication of uræmia and in diabetic coma. In some healthy persons subnormal temperatures are occasionally observed without any apparent cause.

Oxyphenylsulphonic Acid as a Test for Albumin.—

R Ac. oxyphenylsulphonici	3 parts.
Ac. salicylsulphonici	1 part.
Aquæ	20 parts.

One drop of this solution to one cubic centimetre of urine gives a white transparent precipitate of albumins. Peptone, propeptone, alkaloids, urates, and phosphates are not precipitated.—Bourceau, *La Médecine Moderne.*

Infectious Diseases during Pregnancy.—Dr. Jacub at the recent International Medical Congress at Moscow drew the following conclusions: 1. Pregnancy does not protect a woman against any of the infectious diseases. 2. The danger to the child is very great, and greatest in recurrence. 3. The higher the temperature, the greater the danger. 4. The death of the fœtus depends not only upon the height of the temperature but also upon the direct transmission of the disease from mother to child. 5. A systematic antefebrile therapy must be thoroughly carried out. 6.

In typhoid fever the course of the pregnancy is usually interrupted during the second week. 7. Prognosis for the mother is no worse than in the non-pregnant state. 8. Infection may take place at any time during the course of pregnancy.—*Wiener klinische Rundschau*, January, 1898.

Herpes Zoster and Facial Paralysis.—Eichhorst (*Centralblatt fur innere Medicin*, 1897) reports the case of a woman, aged twenty years, in whom a few days after a total right-side facial paralysis a herpes developed which involved the lower outer half of the right ear, the right external auditory canal, the right half of the tongue, and the mucous membrane of the right half of the hard palate as well as the right half of the uvula. Inasmuch as the sense of taste was fully intact, Eichhorst concludes that the chorda tympani conveys two sets of fibres, those which govern the sense of taste, and those which give rise to trophic (herpes) changes.

The Cerebral Complications of Raynaud's Disease.—Osler (*American Journal of the Medical Sciences*, November, 1896) reports three cases of the above, in the first of which during six winters the local asphyxia was complicated with epileptic attacks and hæmoglobinuria. In the second case during a period of five years there were attacks of local asphyxia developing into gangrene and followed by unconsciousness, aphasia, paralysis (monoplegia and hemiplegia), and terminating in coma and death. The third case, that of a girl thirteen years of age, was complictad with hysterical attcks.

Rupture of Aortic Aneurism into the Bronchus.—At a meeting of the Edinburgh Medico-Chirurgical Society, held on January 19th, Dr. Bruce showed a specimen of great interest and rarity—the rupture of an aortic aneurism into the bronchus. The aneurism occupied the transverse part of the aorta and the first part of the descending aorta. There was a small secondary sac also, which was directed toward and into the left bronchus, compressing it entirely. In the corresponding lung a condition of "aneurism phthisis" was set up. The lung was completely consolidated and contained many small caseous nodules. There was also complete pleural adhesion. The patient had been much exposed, and on admission presented the symptoms of acute pneumonia; his temperature was high; the lung was extremely dull below and presented the Skodaic note at the apex. So dull was the basal note that four aspirations were made with negative results. This consolidation extended up the lung toward the apex. The patient's temperature remained irregular, but he was thought to be improving; when coughing, he was seized with bleeding and almost immediately died. The diagnosis was rendered obscure by there being no displacement of the heart and no abnormal heart sounds.—*Lancet.*

Colles' Law and its Exceptions.—Dr. Hochsinger has published, in the *Medizinische Wochenschrift*, some interesting articles on Colles' law and its exceptions. He is of opinion that, although there is no reason for supposing a syphilitic retro-infection of the mother from a fœtus affected with syphilis, it must nevertheless be conceded that there is a retroaction of the fœtus on the mother, a retroaction which has the effect of producing a certain amount of immunity of the mother against syphilitic infection. Dr. Hochsinger's explanation of this retroaction is in accordance with that given by Finger and Duhring. He believes that the corpuscular infective material of syphilis is not able to pass through the placenta from the fœtus to the mother, but that the toxins originating in the blood of the syphilitic fœtus pass by diffusion into the vascular system of the maternal placenta and immunize the tissues of the mother against infection. As this immunity depends on the amount of the toxins and also on the length of time during which they have been acting on the maternal tissues, it is easy to understand that both the degree and duration of Colles' immunity may be variable. If only a small quantity of immunizing material has been transmitted from the fœtus to the mother, her immunity will be very limited and she will be capable of contracting syphilis at a comparatively early date, or she may even be infected by her own child. This explanation fully accounts for all the exceptions to Colles' law. It is also obvious that a woman's chance of being rendered immune against syphilis increases with the number of her pregnancies by a syphilitic father. Dr. Hochsinger said that twenty cases of exception to Colles' law have been recorded during the last sixty years, only four of them being in women who had been infected after having more than once borne children which had inherited syphilis from the father; in the remaining sixteen cases infection took place after the first pregnancy. The history of the cases further shows that about half of the infants which ultimately infected their mother did not display any symptoms of syphilis at the time of birth, but developed them during extra-uterine life. As to Fournier's theory of "syphilis par conception," Dr. Hochsinger conceded the possibility of a syphilitic man infecting his wife during her pregnancy, a case which may occur when the man was free from disease at the time of conception, but contracted it subsequently. After impregnation by a syphilitic man some time is required for a sufficient quantity of immunizing material to pass from the fœtus into the vascular system of the mother, and lateness of the fœtal virus in becoming active increases the possibility of the mother being subsequently infected. If, therefore, the mother of a syphilitic infant shows secondary symptoms without having had any primary infection during pregnancy, that must not be "syphilis par choc en retour." Weil and Neumann have reported cases of primary indurations in women who were pregnant with children infected with syphilis by the father. Neumann has also recorded a case in which a woman, pregnant with a syphilitic fœtus, was affected with an initial sclerosis in the eighth month. —*Lancet.*

Ear Muscles of Accommodation.—Dr. Rumbold, Sr., says that the functions of the middle-ear muscles are to select and amplify such sounds as the listener desires to hear most distinctly; making it appear that the ears have muscles of accommodation quite analogous to those of the eyes.

Antipyrin in Dysentery.—Ardin-Delteil (*Montpellier Médical*, 1897, No. 42) reports a case of severe dysentery treated with enemata of antipyrin. After frequent injections the profuse diarrhœa ceased, the strength of the patient improved, and finally a cure resulted.

Ptosis as a Symptom in Abscess of the Temporal Lobe.—Steinbrügge (*Deutsche medicinische Wochenschrift*, 1897, No. 41) reports the case of an abscess in the temporal lobe of the brain secondary to purulent otitis media, in which ptosis of the corresponding upper eyelid formed an interesting symptom. This combination was first brought to the notice of the profession by Körner. In the opinion of Steinbrügge the ptosis in this case was not due to a spasm of the orbicularis palpebrarum but to a paresis or weakening of the innervation to the levator palpebræ. At any rate, as a corroborative symptom in this condition, ptosis is worthy of note.

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WOMEN DOCTORS IN THE DIFFERENT COUNTRIES OF THE WORLD.

THIS country is undoubtedly the happy hunting-ground of the woman doctor. The increase in her numbers has within the last twenty years been phenomenal. It is estimated that there are now about forty-five hundred woman practitioners in America as against five hundred and twenty-seven in 1870. The majority of these are of course general practitioners, but there are as well homœopathists, hospital physicians and surgeons, professors in schools, specialists for diseases of women, alienists, orthopedists, oculists, aurists, and electrotherapeutists. Doubtless like their brothers they suffer from the stress of keen competition, but it is stated that most of them succeed in making good headway, while one or two of the leading lights are credited with amassing the eminently satisfactory income of $25,000.

In Great Britain a vehement prejudice has existed for many years against admitting women into the ranks of the medical profession, and even at the present time the principal medical schools in that country refuse to concede to women the privileges enjoyed by men. This feeling is, however, slowly but surely dying out, and the prediction may be made with confidence that ere many years have passed the restrictions in the way of women will be removed, and that they will be enabled to pursue their medical course and be granted their diploma on equal terms with men. In fact, notwithstanding the numerous obstacles to be overcome, there are now numbers of women practising in all parts of the kingdom, with fair success. The most fertile field for the employment of English medical women is in India, where owing to religious scruples men are not allowed to attend the native women. The introduction of vaccination into Afghanistan was entirely due to the efforts of an English woman doctor who holds the responsible position of medical adviser in chief to the Ameer, and who is said to possess much influence over that fierce despot. In Germany also there are few woman physicians, although signs are not wanting which point to a new departure in this respect. Austria can boast of only two feminine practicers of the healing art; the first was licensed a few years ago, and the second within the past eighteen months secured the degree of doctor of medicine at the University of Vienna. Nevertheless it was only with great difficulty that she obtained recognition of her diploma; a ministerial decree was necessary to bring about this result, though she had passed all her examinations at the University of Vienna. Perhaps the most notable advance in the direction of light and civilization is in the case of China, the very home of distrust and suspicion. A Chinese woman doctor who obtained her degree in this country is now practising in the Flowery Land, and has charge of Siang-Hu Hospital at Foo Chow. This woman is the first and only one to practise medicine in her native land, but three other young Chinese women have become doctors of medicine in America. Abyssinia, which under the guidance of her European advisers has lately been asserting herself in many ways, has naturally been invaded by the woman doctor, and it is reported that the up-to-date Emperor Menelek has recently appointed a young Swiss lady from the University of Zurich to be physician to his household. Among individual cases of woman-doctor curiosities, that of the Armenian Princess Beglarion is perhaps the most interesting. This lady, possessed of both wealth and position, sacrificed all in order to become a doctor. She is but twenty-seven years of age, but has already achieved great fame in the East. The princess took her degree at Berne, after which she spent some time in the cholera hospitals of Russia. She now practises on her father's estate, where last year she built a hospital. As apothecaries and chemists, too, women are entering the lists with men. This is especially the case in England. Several of the London hospitals employ female dispensers, who are said to perform their duties in a thoroughly efficient manner. As regards woman dentists, America may be said to have almost the monopoly. Statistics show that there are in this country three hundred and thirty-seven. The foregoing details are instructive, insomuch as they tend to press home the already well-known fact that women are entering into competition with men in every profession and trade. The rush by women to enter the medical profession has in recent years been most marked, and it may be taken for granted that the increase of women doctors with the present facilities for gaining a degree will continue. The competition by women has as yet affected the profession in Europe to a scarcely appreciable extent, but here, where there are between five and six thousand female practitioners, the situation gives rise to serious reflection. Whether one believes or not that to practise medicine is a fitting career for a woman is outside the question; it would be altogether in opposition to the spirit of the age, if not impossible, to stay any forward movement. The lady doctor is a "*fait accompli*," and she is here to stay.

Typhoid Fever in Philadelphia.—The number of cases of typhoid fever in Philadelphia greatly decreased last week, and there were only seven deaths from the disease, ten less than in the preceding week.

THE TREATMENT OF MIDDLE-EAR DISEASE COMPLICATING THE EXANTHEMATA.

An interesting article on this much-discussed question appeared in the January number of the *Journal of Laryngology*. It is a plea for the abandonment of paracentesis of the drum membrane as a routine measure, and the substitution therefor of a plan of treatment which has simplicity to commend it, and which, in the experience of the writer, Dr. Robert H. Woods, of Dublin, has yielded surprisingly good results. He believes that purulent otitis before rupture of the membrane and establishment of the discharge is rarely met with, and that paracentesis in these cases as a routine measure is unjustifiable. The reason of this is that many of these cases are really aseptic, and, if left alone, would never discharge at all. Suppuration may supervene accidentally, either through some fault in the antisepsis at the time of puncture or subsequently by the infection of the serous discharge through inadvertence on the part of the patient. The serous fluid in the drum ought not to be looked upon or treated as purulent, but rather as a simple or perhaps conservative exudation provoked by a severe irritation. There is a possibility that sedative treatment will allay this irritation, and, by causing the fluid to become absorbed, obviate rupture of the membrane and suppuration.

In a certain line of cases the following plan of treatment was adopted: A saline purge was first given, and then one of the ovoids recommended for furuncle of the external meatus was applied to the ear. These ovoids are torpedo-shaped masses of jelly, weighing about four grains, having for their basis a mixture of gelato-glycerin and water, in such proportions that they remain gelatinous at ordinary temperatures for an indefinite time, while melting at the body temperature. The proportion of water is such that they neither dry nor deliquesce. In the process of making, one-sixth of a grain of the extract of opium is incorporated into each mass. One of these was placed in the meatus, which was plugged with wool. The ovoid melted, bathing the tympanic membrane, thus giving the drug an opportunity of exercising its influence. As a result of this form of treatment, the pain was relieved, the throbbing noises ceased, and after some days the process subsided, the fluid becoming gradually absorbed and hearing being restored. The plan has the advantage that, when it succeeds, the patient is relieved from the dangers attendant upon suppuration and the pain also is relieved as completely as by incision.

The pathological process in this class of cases is generally evoked by extension of an inflammatory process along the Eustachian tube. The question then arises, What is the precise part played by bacteria in this disease? A microscopical examination of the fluid when it first flows shows a few leucocytes, epidermal and epithelial scales, but very few bacteria. These latter increase rapidly, and in twenty-four hours practically make up the entire discharge. This state continues until true pus makes its appearance. As long as the membrane remains intact, the condition of the fluid remains without visible change, and the bacteria in the drum are prevented from or at least enormously retarded in developing. But when the fluid once gains access to the meatus, the causes which prevented the multiplication of the bacteria come to an end. This shows clearly that the date of the formation of pus is determined only by the time of incision or bursting of the membrane, and is therefore independent of the time the otitis has been established, but this could not be the case unless the fluid retarded the growth of the bacteria.

Under these circumstances we must regard the fluid as part and parcel of the living body, as in itself endowed with life—as, in a word, like a fluid tissue having for its special function the termination of bacterial invasion by the destruction of the invaders.

From the foregoing line of reasoning, absorption of the fluid before its volume or other cause leads to rupture of the membrane is to be obtained if possible. The author has used the ovoids above described, incorporating therein liquid extract of opium, cocaine, and sulphate of atropine. Figures are given to show the efficacy of this plan of treatment, which he believes will succeed in many cases. He is not a foe to paracentesis, although he does not believe that it is a *sine qua non* in the treatment of cases of acute otitis media. But he does object to its routine performance in every case, whether the malady results from the exanthemata or apart therefrom. He admits that his opinions will be freely challenged, but asks for his views the courtesy of fair treatment and the test of clinical experience.

TRAINING OF THE DEAF.

Most people are aware of the enormous difficulties to be encountered in teaching the deaf to speak, and when a child is stone deaf these difficulties are greatly enhanced. For many years the methods of instruction used with the deaf were crude and ineffective; now, however, great progress in the direction of rational teaching of the deaf has been made, and although the systems in force are none of them free from defects, still on the whole the results from the different modes of instruction have been very satisfactory. If the obstacles in the way of teaching the deaf are not easily surmounted, in the case of the deaf and dumb they are infinitely greater. In the early times the opinion was universal that it was impossible to educate the deaf and dumb. The theory then held was that language could be acquired only by means of the ear; consequently these afflicted children were allowed to grow up without any attempt being made to educate them, and they were practically ostracized. In some countries, indeed, this prejudice was carried to such lengths that children who were born deaf and dumb and were still in that condition at the age of three years were destroyed.

Fortunately any such views are now quite obsolete, and under the improved arrangements of the present day almost every deaf and dumb child not only receives an ordinary elementary education, but also manual instruction, which in many instances enables

him to earn his own living and to become, instead of a helpless burden, a useful member of society. This country is well to the front in providing ample facilities for the instruction of deaf mutes. The Columbia Institution at Washington, for the deaf, dumb, and blind, is a model of its kind, for not only is it the sole college in the world for the deaf, dumb, and blind, but it is also the only institution where such individuals can acquire a complete education. There has recently been issued from the Volta Bureau for the increase and diffusion of knowledge relating to the deaf a pamphlet containing the latest available statistical data in regard to the character of existing schools for the deaf, the methods employed in instruction, and other facts of special interest collected from all parts of the civilized world. It appears that the total number of schools for the deaf in different portions of the globe is 546. In Africa, Asia, and Australia there are 17; in Europe, 420; and in North and South America, 109. Of the 17 schools in Africa, Asia, and Australia, 7 are boarding, 2 day, 4 boarding and day, and 4 unclassified. In Europe there are 152 boarding, 130 day, 74 boarding and day, and 64 unclassified. In North and South America there are 62 boarding, 31 day, 12 boarding and day, and 4 unclassified. In Great Britain the boarding-school system is the favorite one. In Germany the day schools predominate. In the rest of Europe the boarding-schools contain about twice the number of pupils that are found in the day schools, and the day and boarding about two hundred more pupils than the day schools. In the United States the system in vogue is almost wholly the boarding.

Owing to the lack of clearly stated, uniform, and generally accepted definitions, any attempt to classify the schools according to methods would prove misleading and result unsatisfactorily. The bureau therefore does not attempt to classify the schools according to methods, but has simply divided the pupils into two great groups—the one group embracing all taught by speech and other vernacular means, the other by the sign language and any or all other means. In Africa, Asia, and Australia, out of a total of 502 pupils 300 are taught by speech and other vernacular means, 127 by the sign language and any or all other means, and 75 are unclassified. In Europe, out of 22,274 pupils, 18,176 are taught by speech and other vernacular means, 3,778 by the sign language and any or all other means, and 320 are unclassified. In North and South America, out of 10,201 pupils, 3,382 are taught by speech, etc.; 6,814 by sign language, etc.; and 5 are unclassified. The pupils in Great Britain have rathe more than half their number taught by articulati and lip reading. The teachers in the German sch for the deaf are compelled to undergo a sear examination by a board of specialists befo names can be entered upon the register for which may occur. A similar practice Sweden and other Scandinavian countrie France, and Austria offer opportunities tificates of qualification, but mandator ently do not exist.

From the foregoing account the fa

served that the great point of difference between European schools for the deaf and those in this c try is in the mode of instruction. In Euro teaching by articulation and lip reading while in this country the sign and manual is still the method of instruction chiefly rel

Mr. Gallaudet, in his report to the b Columbia Institution for the Deaf and " Nothing in my foreign investigations question the character of the foundatio system of instruction pursued in our A tions is based." This report, howe some time ago, and since then the o have somewhat veered round in fav method of teaching.

News of the

Changes in the Board of He

Benedict, chief of the bureau in the health department, ha commissioners and assigned nostician, and has also, aft been requested to leave th Blauvelt, the chief of th has been appointed to I the position made vaca velt has been filled by J. Aspell. Dr. Bened board has also remo of the sanitary di quested and refu was appointed hi

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d studied medicine there and in Vienna. He had
n connected with the Budapest University for the
quarter of a century.

ına State Medical Society.—The annual meet-
his society will be held at La Fayette, May
, 1898, under the presidency of Dr. W. N.
of Indianapolis. The railroads have granted
ne and one-third rate for the round trip on
ıte plan.

sistant Surgeons for the Army.—It is
Washington that an appointment will be
-five acting assistant surgeons, with the
first lieutenant, for service with the
ght East under the present programme
ent. Few if any vacancies exist in
the army, but the surgeon-general
point acting assistant surgeons
the corps demands an increase.
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of those appointed regularly in
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patients within its walls. She also hired nurses and other attendants, and relieved the necessities of the starving outside of the hospital.

Obituary Note.—Dr. H. Bedell Crane, of Newark, N. J., died at his home in that city on March 23d, of pneumonia. He was a graduate of the medical school of the University of Pennsylvania in the class of 1882.

Small-Pox in Kentucky.—There is a general smallpox scare over eastern and central Kentucky. The disease began at Middlesboro and spread to Artemus, where there are fifteen cases, and to Richmond, where twenty negroes have it and where the schools are closed. The State board of health and the United States authorities are believed to have the epidemic under control now at Middlesboro, and the State authorities will assist the health officers of Richmond in stamping out the disease there. The city council of Lexington has passed a vaccination ordinance, to be enforced by city physicians.

Pensions for Medical Officers in State Hospitals for the Insane.—A bill has recently been placed before the New York State legislature by Senator Page, providing a pension for officers in the State hospitals who have become physically disabled by reason of injuries or illness incurred or contracted while in discharge of their duties. It requires a continuous service in the State by the applicant of at least fifteen years. Those who have been in service fifteen years shall receive annually for life a sum equal to one-third of the annual salary received at the time the pension is granted; those twenty years in service, one-half the annual salary. The State commission in lunacy shall investigate all applications for pensions, and has the power to grant them, subject to the approval of the governor. All such pensions are to be paid out of the annual appropriation for the support of the insane. The bill was referred to the senate committee on finance.

The Chair of diseases of the eye, ear, and throat, at the Medical College of Virginia, made vacant by the death of Prof. Charles M. Shields, will be filled at the annual meeting of the board of visitors of the college, April 21st. All applications, accompanied by credentials, should be forwarded to Christopher Tompkins, M.D., dean, Richmond, Va.

A State Colony for Consumptives.—At the suggestion of Dr. John H. Pryor, of Buffalo, a resolution has been introduced into the New York senate relative to the establishment of a colony for consumptives the State Forest reserve, and calling for an investiı and report by the public-health committee of ıate as to the advisability of establishing such The committee in its report said that it ter for serious consideration by the State point of political economy, because of the eaths from consumption annually (thir-, which entailed a great financial loss; setts had established such a colony; York City had appropriated $60,000 for

the proper care of these unfortunates. The committee recommended that a committee of five be appointed by the legislature to make further investigation during the interval of the session and report to the next legislature. The report was referred to the finance committee.

The Astoria Hospital will, it is said, probably close its doors as soon as the present patients are well enough to be removed. The reason for this is that, under the new charter, the city authorities cannot send public patients to the institution, and it cannot be successfully conducted without the income derived from them. The hospital was built three years ago. Besides the public wards, the hospital contains a number of private rooms endowed by residents of Astoria. There is a training-school for nurses connected with the institution. Before the final steps are taken, however, one more attempt will be made by the managers to keep the hospital open. It has been suggested that the hospital be converted into a branch of some institution in the borough of Manhattan, specifically mentioned by the charter in the list of those entitled to receive assistance from the city. If the managers are not successful in securing such recognition of the hospital, there will be no other alternative than to close the institution.

The Chicago Home for Incurables has recently received a gift of $40,000 from Mr. D. B. Shipman, of that city. The money will be used for the building of additional wards.

The Woman's Medical College. — There was a reception at the new building of the Woman's Medical College of the New York Infirmary, at No. 321 East Fifteenth Street, on the occasion of its opening on Thursday, March 31st. The old college building was burned in April last, and its rebuilding has just been finished. The infirmary, of which the college is an outgrowth, was established in 1854 by Drs. Elizabeth and Emily Blackwell. The college itself was incorporated some years later.

The Medical and Chirurgical Faculty of Maryland.—The annual meeting of this society will be held in Baltimore on April 26, 27, 28, and 29, 1898. The annual address will be delivered by Dr. William T. Councilman, of Boston, formerly of the Johns Hopkins University.

A Committee for the Study of Tuberculosis.—The Academy of Sciences of Paris has appointed a committee, consisting of the members of the section of medicine and surgery, the two permanent secretaries, and MM. Brouardel, de Freycinet, de Jonquières, Chauveau, Duclaux, Arm, Gautier, to study the question of the spread of tuberculosis and the best means of preventing it.

The Denver Meeting of the American Medical Association.—The committee of arrangements announces that preparations for the coming meeting are well advanced. A large number of prominent men have signified their intention to be present and read papers, and an excellent scientific programme is assured. The indications all point to a large and successful meeting. The entertainment of members and their families is being planned on an elaborate scale, and the committee promises all who may come a most enjoyable time. Local excursions are being arranged to take place after the meeting, that all may have ample opportunity of visiting various points of interest in the State and seeing the best scenery of the Rocky Mountains. The committee confidently expects to obtain a one-half rate and thirty-day limit for the round trip on roads west of Chicago and St. Louis, and reduced rates on Eastern roads.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending March 26, 1898. Surgeon L. G. Heneberger detached from the *Maine* and ordered home to await orders: Surgeon S. H. Griffith detached from the Museum of Hygiene, Washington, and ordered to the *Mayflower*.

Lectures on Climatology.—Dr. S. E. Solly, of Colorado Springs, has consented to deliver a special course of lectures on climatology, in the New York Post-Graduate Medical School and Hospital. The lectures will be on April 25th, 26th, 29th, May 2d, 4th, 6th, at 5 P.M. Admission will be by ticket only. Members of the profession not specially invited may secure tickets, without charge, on application, either personally or by note, to the superintendent, in the office of the school.

The Cincinnati Academy of Medicine. — At the annual meeting of this society, held March 7th, the following members were elected as officers for the ensuing year: *President*, Dr. Louis Schwab: *Vice-Presidents*, Drs. J. C. Oliver and Estella Riley; *Treasurer*, Dr. S. E. Allen; *Secretary*, Dr. W. H. Crane; *Trustees*, Drs. N. P. Dandridge, J. A. Murphy, and J. T. Whittaker.

Congress for the Study of Tuberculosis.—The fourth congress for the study of human and animal tuberculosis will be held in Paris during the week beginning July 27, 1898. The questions proposed for discussion are: (1) "Sanatoria as a Means of Prophylaxis and Treatment of Tuberculosis;" (2) "Serums and Antitoxins in the Treatment of Tuberculosis:" (3) "The *x*-Rays in the Diagnosis of Tuberculosis:" (4) "The *x*-Rays in the Treatment of Tuberculosis;" (5) "The Prophylaxis of Animal Tuberculosis:" (6) "The Prophylaxis of Human Tuberculosis by Disinfection of Places Inhabited by Tuberculous Patients;" (7) "The Diffusion of Tuberculosis in the Army and its Prophylaxis." Other titles of questions proposed for discussion are: "The Semeiological and Prognostic Value of Tachycardia in Pulmonary Tuberculosis:" "Tuberculous Infection by Milk and the Means of Avoiding it;" "The Modifications in Form of the Tubercle Bacilli and their Pathological Significance:" and "The Organic, Cellular, and Humoral Conditions which Constitute the Tuberculous Soil, and which Predispose to Tuberculosis."

Reviews and Notices.

DISEASES OF WOMEN. A Clinical Guide to their Diagnosis and Treatment. By GEORGE ERNEST HERMAN, M.B. Lond., F.R.C.P., Obstetric Physician to and Lecturer in Midwifery at the London Hospital, Consulting Physician-Accoucheur to the Lower Hamlets Dispensary, etc. With 252 Illustrations. Pp. xvi.+886. New York: William Wood and Company. 1898.

THE unusually brief and modest preface of this attractive volume concludes with this sentence, which forms the keynote to the whole: "I may plead that I have one qualification for writing such a book, not always possessed by the authors of text-books, namely, clinical experience."

The arrangement of the subject matter is not only novel but most helpful to the student. It is divided into eleven parts, as follows: Part I. is introductory, dealing with neurasthenia, hysteria, headache, and pelvic and abdominal pain. Part II., on "Chronic Pelvic Pain," includes chapters on ovarian pain, uterine pain, and uterine displacements. Part III. treats of pelvic inflammations, Part IV. of internal hemorrhage, and Part V. of uterine hemorrhage from all causes. Five chapters are devoted to leucorrhœa and its causes and ten to the disorders of menstruation. Part X. (six chapters) treats of urinary disorders, while the concluding section includes nine chapters on abdominal tumors.

The author discusses in turn the principal symptoms of pelvic trouble—pain, hemorrhage, and disorders of menstruation—and after thoroughly analyzing the causes of each proceeds to describe the local condition which gives rise to it. This arrangement presents many advantages and invests the study of gynæcology with a new interest. For example, the familiar symptom, backache, has never been treated more rationally than in Chapter V. Chronic ovarian pain is handled most ably, the remarks on "So-Called Chronic Oöphoritis" being in every sense sound and conservative. Notwithstanding that the pathological views of the author are in certain instances at variance with generally accepted opinions, from a clinical standpoint he is safe and eminently practical.

A strict adherence to his plan leads, necessarily, at times to repetition, but this is a minor fault.

We can hardly approve of some of his dogmatic statements in the chapters on displacements and pelvic inflammation, though his opinions are always well supported. He does not fear, on this and other subjects, to differ from high authorities.

The style is forcible and epigrammatic. Operations are described briefly, but with a clearness and attention to practical details rarely met with even in monographs on operative gynæcology. The illustrations are most attractive, and the type and binding above reproach. Taken as a whole, we have no hesitation in bestowing our warm commendation upon this recent addition to special literature, believing it to be in many respects one of the most honest and original works on gynæcology that have yet appeared. To the student it will be simply invaluable.

TEXT-BOOK OF NERVOUS DISEASES. Being a Compendium for the Use of Students and Practitioners of Medicine. By CHARLES L. DANA, A.M., M.D., Professor of Nervous and Mental Diseases in Bellevue Hospital Medical College, Visiting Physician to Bellevue Hospital, Neurologist to the Montefiore Home, ex-President of the American Neurological Association, etc. Fourth Edition, Revised and Enlarged. With 246 Illustrations. New York: William Wood and Company. 1897.

As the merit of the former editions of Dr. Dana's work has obtained for it a well-deserved recognition as a standard text-book, it is of interest to note here those additions and rearrangements which the author has made to keep the book abreast of the rapid advances in work along neurological lines. The recasting of the chapters on the general considerations of the structure and relations of the neuron presents that part of the work in a new and philosophical manner. In the chapters upon the diseases of the cranial nerves, etc., the classification has been judiciously modified so as to present in distinct chapters the motor neuroses of the cranial nerves, the motor neuroses of the spinal nerves, and the sensory neuroses of the cerebro-spinal nerves. The chapter on locomotor ataxia has been rewritten, to accord with the teachings of the past few years, and some valuable illustrations have been added. The group of diseases allied to spastic spinal paralysis, the combined scleroses and the hereditary paralyses, has been definitely set forth and its perplexing synonymy put in a clear light. A number of new subchapters is here added, treating of glosso-labial paralysis, asthenic bulbar paralysis, etc. The rapid increase in knowledge relative to the muscular atrophies and the muscular dystrophies is briefly and well epitomized in the chapters upon these diseases. The chapter on "Neurasthenia" is a most scholarly discussion of this condition and presents the subject fully and clearly. Under trophic and vasomotor neuroses a number of new paragraphs has been added, among which are included the subjects of myxœdema and cretinism.

The fine quality of book work in this edition cannot but impress the reader. The typography and spacing of the letters as well as the heavy paper and broad margins lend an ease to the student which he seldom finds in reading a text-book. Many new illustrations have been added to replace former cuts, as well as illustrate new points. All are suggestive and well reproduced, and add to the interest and value of the reading-matter. In short, Dr. Dana's already well-known work on nervous diseases is as fine an example of the modern text-book as can be found, thoroughly scientific and up to date, modern in its treatment, clear and succinct in its diction, and a fine specimen of the publisher's art.

ARCHIVES OF THE ROENTGEN RAY. Edited by W. S. HEDLEY, M.D., and SYDNEY ROWLAND, M.A. London: The Rebman Publishing Company, Limited. Philadelphia: W. B. Saunders. 1897.

VOLUME II. of what was formerly called the "Archives of Skiagraphy" has appeared. Besides the usual number of skiagraphs of rare and interesting conditions, including the entire skeleton of a woman taken at one exposure by Morton, there is an article on the nature of the rays, by Silvanus P. Thompson, and other *x*-ray literature, aside from the explanatory text for the plates.

MEDICAL REPORTS. From the Poliklinik for Diseases of Children of Privatdocent Dr. Huho Neumann in Berlin. 1897.

THE first announcement from this institution has just been received. It describes in detail the various departments, the laboratories, dissecting-room, surgical and emergency wards, infectious and isolating rooms, etc.

The poliklinik is modelled on a very unique plan. First, no adults are treated. Second, there are a children's (*a*) dental, (*b*) laryngological, (*c*) eye and ear, (*d*) orthopædic, (*e*) surgical, (*f*) medical (heart, lungs, gastric), (*g*) dermatological, (*h*) isolating wards for infectious cases. Third, only a few cases are retained and no infectious child is admitted.

The location of the building is in the Blumenstrasse, No. 78, in the most densely populated district of the city and Dr. Neumann, hopes to do great good for this reason. There are articles on "Clinical Diagnosis of Scrofulosis" and "Scleroderma," by Dr. Neumann; "The Etiology of Acute Summer Diarrhœa," by Dr. Hermann Cohn; on "Infantile Tabes and Hereditary Syphilis," by Dr. H. Maass and Dr. S. Kalischer; on "Congenital Defects of the Eyes," by Dr. Ginsberg; and on "Acute Middle-Ear Disease," by Dr. Teichman and Dr. Alfred Gebart.

The scientific contributions in this first number deserve especial mention, and will repay all who read them. The director of this poliklinik is too well known to need introduction, and is entitled to great credit for the most thorough manner in which this work has been commenced. It will serve as a good model for all future pædiatric institutions. The whole series of articles is reprinted *in extenso* in Professor Baginsky's *Archiv für Kinderheilkunde*, which speaks for itself.

LECTURES ON THE MALARIAL FEVERS. By WILLIAM SYDNEY THAYER, M.D., Associate Professor of Medicine in the Johns Hopkins University. New York: D. Appleton & Co. 1897.

THE author of this volume has made the attempt to place before the reader a summary of what is at present known and alleged to be known on the widely interesting subject of malaria. Presented in the form of lectures, the topics dis-

cussed are fairly complete, and the reader is never left in doubt concerning the author's position in regard to most points in connection with paludal infection. The somewhat obtrusive tendency to dogmatic assertion appears pardonable when we remember that these lectures were primarily intended for the instruction of students.

The chapters devoted to laboratory methods and pathology are far more satisfactory than those relating to clinical matters, showing that the author is more at home in his study than at the bedside of *bona-fide* patients. In some directions Dr. Thayer goes too far. Thus, we cannot accept his sweeping statements in regard to the non-existence of "malarial pneumonia," "typho-malarial" fever, etc. It is utterly absurd, for example, for one appointed to teach medicine to young students, to assert that "with our modern methods of diagnosis, and the recent advances in our knowledge of the intimate nature of both typhoid and malarial fevers, we now know that no such condition exists." Competent observers, at least as well qualified to judge as Dr. Thayer, have positively demonstrated the actual occurrence of these mixed infections, and it is merely gratuitous assumption on the author's part to set aside well-established facts.

The chapters on treatment are the least satisfactory part of the volume, showing bedside inexperience and a lack of therapeutic resource which actual patients would not be disposed to tolerate. The charts and colored plates help to elucidate the text of these lectures, which, with added clinical experience and greater tolerance on the part of the author, may readily be made fairly representative of the present state of our knowledge concerning malaria.

TRANSACTIONS OF THE MEDICAL SOCIETY OF NEW JERSEY. 1897.

THIS year's report comes as a bound volume of three hundred and forty-five pages. Besides the president's address there are essays by George Bayles, "The Value of Antitoxin;" by L. F. Bishop, "The Treatment of Pneumonia;" by T. R. Chambers "The Progress of Ophthalmology and Otology;" and a "Report on Surgery" by Charles Young, etc.

CONSTIPATION IN ADULTS AND CHILDREN. With Special Reference to Habitual Constipation and its Most Successful Treatment by the Mechanical Methods. By H. ILLOWAY, M.D., formerly Professor of the Diseases of Children, Cincinnati College of Medicine and Surgery, etc. New York. The Macmillan Company. 1897.

ALMOST five hundred pages of constipation seems a good deal for what is really only a single chapter of alimentary symptomatology. Nevertheless, when one reflects that almost all Americans are supposed to be more or less constipated, excepting that hopeless minority which suffers from chronic diarrhœa, one is tempted to forgive the author of so profound and elaborate an exposition of what slow stools really mean. After a careful examination of Dr. Illoway's beautifully illustrated treatise, the reader will be inclined to exclaim: "There is more in defecation than is dreamt of by those who have not been closely associated with expert fæcologists." Certainly the straight path of the rectal specialist seems a small field of activity when thus contrasted with the never-ending tortuousness of uncomfortably constipated sigmoid flexures. The coilful cooings of sluggish colons, too full for spontaneous stalsis, are alluringly set forth by the author.

As we continue our examination we discover that Dr. Illoway is equally familiar with all branches of the long tract which constitutes his theme. Whether we look into the open main road of intestinal construction, or follow him into the more modest nooks given over to jejunal enjoyments; whether we peer into the numerous bends and bypaths of iliac fields, or finally penetrate to the uttermost recesses of occult cæcal impaction, we will always find that the author has been there before us, and that he has left us no alternative but to admire his indefatigable zeal and learning. Nor are we at all surprised to be confronted with so many kinds of constipation. Indeed, we have looked in vain for some particular variety which might have escaped the author's deep insight.

In the matter of treatment also, Dr. Illoway is not disposed to overlook a single measure which might aid in expediting dangerously delayed stools. Altogether, from whatever aspect we may regard this volume, we must credit the author with having produced a satisfactory treatise on a subject which is of daily concern to all of us, and which no practitioner can well afford to neglect.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D. In Twenty Volumes. Vol. XIII. Infectious Diseases. New York. William Wood and Company. 1898.

ALTHOUGH the number thirteen is usually supposed to carry with it certain elements of ill-fortune, we can discover nothing about the present volume to warrant a supposition of misfortune attending its production, unless it be in the recent and untimely death of one of its contributors—Mr. Ernest Hart. In his article on "Water-Borne Diseases" he was assisted by Dr. Solomon C. Smith, also of London, and together they have made a very interesting study of water, not only as a medium in which pathogenic organisms may grow, but also as the vehicle of distribution of poisons both of organic and inorganic substances. Much of the space is naturally devoted to cholera, typhoid, and malaria. The first chapter deals with ptomains, toxins, and leucomains, and has been very carefully prepared by Victor C. Vaughan, of Ann Arbor, so well known for his labors in this particular field. An important feature of the chapter is a subdivision in which are considered the poisons of the specific infectious diseases. This is followed by a still longer chapter contributed by Harvard's professor of bacteriology, Harold C. Ernst, on infection and immunity. By "infection" is understood "the condition produced by the entrance and multiplication of pathogenic micro-organisms within the body." When we consider all the possibilities of simple and mixed infections, and the broad subject of acquired immunity, we can realize the task of stating the whole case, as it appears to the scientist to-day, in the allotted number of pages. Dawson Williams, of London, physician to the East London Hospital for Children, has given ten pages to the "duration of the period of incubation and infectiousness in acute specific diseases," and very appropriately following this chapter is one on small-pox by John William Moore, of Dublin, who, among many other things, is consulting physician to the Fever Hospital. The excellence of the article shows that the editor has chosen well. "Vaccina" is the title of a chapter by Professor Brouardel, of Paris, in which vaccination in its many phases has been considered.

Not the least interesting chapter for its size is that on "Mumps," by Jules Comby, the well-known French writer on children's diseases. For one who has not kept up with the literature of parotitis during recent years, there will be found in this report on the subject much that is striking and important.

Taken as a whole, the volume is as advanced and scientific as any of the series we have had an opportunity to read, and maintains the high standard originally promised by the editor.

THE RETROSPECT OF MEDICINE. A Half-Yearly Journal. Edited by JAMES BRAITHWAITE, M.D. Lond., Obstetric Physician and Surgeon to the Leeds General Infirmary, etc., assisted by E. F. Trevelyan, M.D. Lond., B.Sc., M.R.C.P., Assistant Physician to the Leeds General Infirmary, etc. Vol. CXVI. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1898.

THIS issue, covering the literature from July to December, fairly well represents the progress made in various departments. The bulk of material, however, is drawn from English and American sources, and reflects only imperfectly the vast amount of work done in surgery and special branches in Germany, France, and Russia. It is an ever-welcome and highly useful publication.

RINGWORM AND ALOPECIA AREATA. Their Pathology, Diagnosis, and Treatment. By H. ALDERSMITH, M.B. Lond., F.R.C.S.; Medical Officer, Christ's Hospital, London. Fourth Edition, Enlarged and Rewritten, with New Illustrations. London: H. K. Lewis. 1897.

ALTHOUGH called a fourth edition, the work as it is here presented may be considered a new book.

Recent French investigations have exercised an undoubted influence, and Sabouraud's varieties of tinea have in the main been accepted after corroborative investigation.

Seven beautiful plates illustrate the small and large spored

tineas, under various amplitudes and demonstrating different phases of development.

Much space is devoted to treatment, and the subject has been very conveniently subdivided.

The croton-oil treatment and needling, advocated many years ago by the author, has received particular attention, and the question of medical certificates has been dealt with in a manner both timely and praiseworthy and deserving of consideration because of the long experience upon which opinions are based. An interesting chapter on alopecia closes the volume.

Lexique-Formulaire des Nouveautés Médicales et Biologiques. Par le Prof. Paul Lefert. Paris: Librairie J. B. Baillière et Fils. 1898.

This little duodecimo of three hundred and fifty pages, including a "répertoire," deals not only with new remedies but with new diseases, new syndromes, and new operations.

There are also some matters touched upon which cannot be counted as novelties.

It offers an easy means of keeping up with the times.

Association Française d'Urologie, Paris, 1897. M. le Dr. Desnos, Secrétaire-Général. Paris: Octave Doin, Editeur. 1898.

This is a report of the transactions, memoirs, and discussions of the society in its second session.

There are sixty-five woodcuts scattered through four hundred and eighty pages of text, comprising many valuable papers and reports.

An excellent feature is the analytic table of contents.

Louis Kuhne's Facial Diagnosis. Illustrated. A Free and Abridged Translation with Notes. By August F. Reinhold, M.A., Manager of the Reinhold Institute of Water Cure of New York City. Published by A. F. Reinhold, New York City. 1897.

This is not a medical work, but one written by a man who opposes treatment by drugs and diagnosis by recognized methods: the author says his method will appeal more particularly to women, and, in this, we most fully agree. There are many pictures of people with "encumbraes," all however curable by water, as applied at the translator's institute.

Transactions of the Colorado State Medical Society. Twenty-Seventh Annual Convention, Denver, June, 1897.

Bound in conformity to the volumes of previous years and with a frontispiece portrait of President Levy, the report covers four hundred and seventy pages and embraces a large number of papers, of which many are above the average of excellence.

The publication committee, headed by Dr. H. B. Whitney, deserves a word of praise for the manner in which its work has been done.

Transactions of the Chicago Pathological Society. From December, 1895, to April, 1897. Vol. XI.

The salient points in the various sessions of the year have been touched upon and many papers are given *in extenso* or in *résumé*.

Much of the three hundred and twenty-eight pages is given up to the description of cases presented and discussion thereon.

Transactions of the British Orthopædic Society. Vol. XI. Session of 1896. Published by the Society. London: John Bale, Sons & Danielsson, Limited. 1897.

This is a very brief report, covering but fifty pages. It contains, however, interesting papers on congenital torticollis, congenital dislocation of the hips, recrudescent rickets, and early diagnosis of affections of the spinal column.

Die bacteriologische Technik. Von Dr. Bruno Schürmayer. Leipzig: Druck und Verlag von C. G. Naumann.

This compact handbook (duodecimo) is evidently intended for use in the laboratory. It is divided into two parts: the first treating of the bacteriological technique, the second of the pathogenic bacteria. The part on technique is very complete, and for such a small, unpretentious volume is very much up to date in methods of preparation of media and staining and culture. It is liberally illustrated, with an index of its own. The second part, on the pathogenic bacteria, is also quite exhaustive and contains much information in small compass. Each section, such as, we will say, that on the bacillus typhosus, is accompanied by an exhaustive summary of literature which will be found invaluable. We feel that this small work is a useful addition to our laboratory manuals.

Studies in the Psychology of Sex. Vol. I. Sexual Inversion. By Havelock Ellis. London: The University Press. 1897.

The author prefaces his work with the declaration that a resolve slowly grew up within him that "one main part of my life work should be to make clear the problems of sex." This elucidation is one of such magnitude that the reader is not surprised to see farther along that, instead of settling those great problems, the author is "quite content" to do "little more than state them." One is reminded by the general scope and the cases recorded of the well-known German works on the same subject, but the facts are new and presented in a somewhat new light. The school (especially in England) is looked upon as the great breeding-place of artificial homo-sexuality, and in a large proportion of instances there is thought to be little of the congenital element.

The medical, medico-legal, and social aspects are all duly considered in a scientific spirit, free from prudery or morbid sentimentality. Among the appendices is a chapter on homosexuality among tramps, by Josiah Flynt, well known by his writings in American magazines.

Street Cleaning and the Disposal of a City's Wastes. Methods and Results and the Effect upon Public Health, Public Morals, and Municipal Prosperity. By George E. Waring, Jr., Commissioner of Street Cleaning in the City of New York. New York: Doubleday & McClure Company. 1898.

This is a most interesting account by the former street-cleaning commissioner of the way the streets of this city were cleaned under his administration. The entire work is here explained—street sweeping, carting, removal of snow, and the removal and final disposition of garbage, street sweepings and ashes, and paper and rubbish. The story told is instructive, for it illustrates what can be done for a community by taking the administration of its affairs away from the domination of professional politicians and placing it in the hands of competent men who are free from the smirch of "patronage."

Handbook of Materia Medica, Pharmacy, and Therapeutics. Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P. Lond.; Professor of the Principles and Practice of Medicine and Clinical Medicine in the College of Physicians and Surgeons of San Francisco; Medical Superintendent of St. Mark's Hospital, etc. Sixth Edition, Fully Revised and Greatly Enlarged. Philadelphia: P. Blakiston, Son & Co. 1897.

We have no desire to detract in any way from the Medical Record's originally expressed opinion of Dr. Potter's work. The unusually strong terms employed on former occasions have proved warrantable by the fact of this sixth edition appearing. The claim that the work has been fully revised is a just one. Much labor must have been spent in perfecting the various departments and bringing them abreast of the times. When you are trying to find out something about a drug and what it is supposed to do, Dr. Potter's handbook is a good source of information to which one can confidently turn.

La Diphthérie et la Sérum Thérapie. Études Cliniques Faites au Pavillon Bretonneau. Par le Dr. G. Variot, Médecin de l'Hôpital Trousseau, avec la collaboration pour la partie bactériologique de M. le Dr. Tollemer. Paris: A. Maloine, Editeur. 1898.

This very timely work is by two well-qualified observers, Dr. Tollemer being the chief of the laboratory for diphtheria at the Trousseau hospital for sick children, and Dr. Variot having been during 1895 and 1896 in charge of the special diphtheria service. They have produced a volume of five hun-

dred and sixty pages, containing twenty-eight figures in the text and one colored plate.

The whole question of treatment by serums is gone over and considerable attention has been paid to intubation, a number of pictures being introduced to explain matters of technique. The technique of clinical bacteriology has been gone into extensively and new observations upon modifications brought about by the serum of Behring will be noted. Observations extending to upward of three thousand cases, treated with the result of bringing down the mortality from fifty per cent. to fourteen per cent., will prove interesting to all who have to do with pædiatric practice.

A Practical Treatise on Diseases of the Skin. Fourth and Revised Edition. By James Nevins Hyde, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago; Dermatologist to the Presbyterian, Augustana, and Michael Reese Hospitals, etc.; and Frank H. Montgomery, M.D., Lecturer on Dermatology and Genito-Urinary Diseases and Chief Assistant to the Clinic for Skin and Venereal Diseases, Rush Medical College, Chicago, etc. Philadelphia and New York: Lea Brothers & Co. 1897.

Dr. Hyde's work has been well received. It is illustrated with one hundred and ten engravings and twelve plates in colors and monochrome. The present edition is more pleasing to the eye, and attentive reading of the text shows many alterations and improvements. Certain unnecessary paragraphs and matter have been omitted to make room for a discussion of newer facts pertaining to important affections. Thus the size of the volume has not been materially increased by the elaboration.

A Practical Treatise on Appendicitis. Prepared Especially for the Use of Students and General Practitioners. By Howard Crutchers, M.D., Professor of Surgical Anatomy and the Principles of Surgery in the Dunham Medical College, Chicago, etc. Illustrated. Chicago: Hahnemann Publishing Company. 1897.

For those whose experience in this rapidly increasing affection is still limited the author presents one hundred and thirty-two pages of instructive information and advice. Readers of the Medical Record have already had an opportunity of learning the author's views bearing upon the subject of appendicitis, and many will undoubtedly be pleased to learn further of them.

Proceedings of the Seventh Annual Meeting of the Association of Military Surgeons of the United States. Held at Columbus, Ohio, May 25, 26, and 27, 1897. Edited by James E. Pilcher, M.D., Captain in the Medical Department of the United States Army, Secretary and Editor of the Association.

This handsomely bound volume of over seven hundred pages contains many interesting papers, chiefly upon topics of military surgical interest. A frontispiece represents a grouping of the members in uniform. Besides this there are many well-executed pictures in the text and in the appendix, the latter from scenes about the Columbus barracks, etc. The paper and print are excellent, and the report as a whole calls for a word of praise for the editor.

Transactions of the Clinical Society of London. London: Longmans, Green & Co. 1897.

This is the thirteenth edition of this society's proceedings. It is interesting from the brief description of numerous cases, some of them rare ones.

The Physician's Visiting List for 1898. Philadelphia: P. Blakiston, Son & Co.

This is the forty-seventh year of this firm's (formerly Lindsay & Blakiston) publication. Besides the blank pages, arranged as usual, there are a dose table including the newer remedies; "Asphyxia and Apnœa," from Potter's work; and a table of comparison of thermometers from Gould's Dictionary.

Exercise in the Morning.—Early morning exercise is denounced nowadays by the majority of hygienic teachers. At that time, they say, vitality is at its lowest ebb and needs the stimulation of food.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 17, 1898.

Edward G. Janeway, M.D., President.

Dr. Seguin's Bequest to the Academy. The will of the late Dr. E. C. Seguin bequeaths to the Academy of Medicine a valuable collection of pamphlets on the nervous system, together with all of his books directly relating to pathology and etiology of diseases of the nervous system; also an oil painting of his father, Dr. Seguin; also an autograph letter from Pope Pius IX., regarding his father's work for backward and imbecile children; also a bronze medallion of Charcot, given him by Charcot himself; also a large photograph of Brown-Séquard, the only large picture of him now extant.

The New York Hospital Library. It was announced that the Society of the New York Hospital had donated its entire library of twenty-three thousand volumes to the academy, and that as soon as these books could be arranged and properly catalogued they would be placed at the disposal of the members. This munificent gift will greatly enlarge the circulating portion of the library.

The Ultimate Results of Thyroid Treatment in Sporadic Cretinism.—Dr. Henry Koplik read a paper on this subject. The meeting was in charge of the section on pædiatrics. Dr. Koplik said that the disease in question was identical in its symptomatology in all countries. In this country alone Osler had collected fifty-eight cases of cretinism; of these subjects twelve were born here. In no part of this land did one meet with endemic cretinism. Before the introduction of the thyroid treatment, the cretins were banished from society and were treated very much as lepers. To-day, thyroid therapy made it possible to care for these unfortunates within the family circle. After three weeks of treatment the infant would have lost the prominent features of its disorder. Three great classes should be sharply distinguished, viz., those coming under treatment in infancy, in childhood, and in adolescence or adult life. The most satisfactory results were naturally obtained in the first class. The three cases of this class that he had treated had exhibited wonderful improvement. In the second class the diagnosis was made when the patient had fully developed into a cretin idiot. The ages in this group ranged from fifteen months to four years. In fifty-two cases collected in Great Britain, more than half the patients presented symptoms of the disease before eighteen months of age. He had treated two cases of this class, but with results which were not entirely satisfactory. Of Osler's fifty-eight cases, eighteen were in children below the age of five years, and of these eighteen only five were considered to be perfectly normal after treatment. The other thirteen showed a marked and immediate improvement, especially in the myxœdematous symptoms. Of Osler's series, forty patients were over five years old, the oldest being between of sixty and seventy years. Thirteen were put on the thyroid treatment, and improved to varying degrees, yet in not one instance did the record indicate that the person had been restored to the normal. In children of from five to sixteen years the myxœdematous symptoms disappeared, but they were childish, possessed a limited vocabulary, and walked with an uncertain gait. If the cases were treated early, before the disease had stultified the brain and nervous system, the results reached the greatest perfection; hence the importance of making

an early diagnosis. In the first class the results seemed at present to be the most promising. In the second class—those under five years—the results had been variable. The immediate effect of the thyroid treatment was marvellous, as far as regarded the prompt transformation in the physique and features of all cretins. The older the cretin, the more lacking would be the essentials for making a perfectly normal individual. It had been recently suggested to give thyroid to pregnant women who had borne cretins, but it had been shown that cretinism had supervened years after birth. He recalled one woman who had borne a normal child after having given birth to a cretin.

A series of lantern slides was then exhibited to illustrate the peculiar features of cretins and the results of thyroid treatment.

Dr. A. Jacobi said that he had found that, as a rule, when the treatment was interrupted, there was a speedy relapse. If the treatment could be kept up indefinitely, there would be marked improvement, but not a cure. So far no satisfactory substitute for the thyroid had been found. Last year Fraenkel had announced that thyro-antitoxin relieved the symptoms, but it was found on further investigation that only some of the symptoms were ameliorated, chiefly the convulsive ones.

Future Hope Lies in Thyroid Transplantation.—The hope of permanent cure, he believed, was to be found only in transplantation of the thyroid. This had been tried some years ago. One of the first of these cases was quite successful, as far as it went. The first transplantation was made in January, 1889, in a cretin girl who had epilepsy. The thyroid was transplanted into the peritoneum. She became very much better, and remained so for a few months, but then relapsed. Did this implanted thyroid act by its vascular connection, or because thyroid was present in the body of that girl? He did not believe a permanent cure could be effected unless a vascular connection could be established. It would seem that there must have been a vascular connection in this case in order to cause improvement in this girl for a period of months.

Some Cases are Brachycephalous.—In a certain number of cases it was not the degenerated thyroid only which was the cause of the condition. About one-third of the cretins that he had seen showed the peculiar symptoms of brachycephalism. The base of the cranium and correspondingly the base of the brain were abnormally short. More than forty years ago it had been shown that this shortness was because the junction between the sphenoid and the occipital bones became ossified at a very early stage. As this condition could not be relieved, such patients must necessarily continue to suffer from the symptoms dependent upon this defect. A few of the cases exhibited this evening appeared to him to be due to brachycephalism. This was often due to rachitis. The eburnation of the bone which usually took place in the third year occurred in these infants before birth, and before the other bones had become ossified. The younger the infant, the more reason there was to expect a good effect from the remedy.

Persistence of the Thymus.—Dr. Jacobi said that in a number of cases he had observed one peculiarity, *i.e.*, the large size of the thymus gland. There must be some anatomical or physiological connection between degeneration and atrophy of the thyroid gland and the large size and persistence of the thymus gland. He had seen cretins of eight or ten years who had a very large thymus. The large majority of cases in which he had observed persistence and enlargement of the thymus had been cases of cretinism.

Children's Tolerance of Thyroid.—Dr. George W. Crary said that most observers who had had cretin children under their care had been disappointed with the results of the thyroid treatment. If the child had been developing for some time along the false route of cretinism, some time must elapse before developmental changes could be noted as a result of treatment with thyroid, although the myxœdematous symptoms promptly responded. It should be remembered also that all cretins of the same age were not in the same condition—in other words, there were various degrees of cretinism. Another point worthy of note was that infants showed a tolerance to increasing doses of the thyroid which was out of all proportion to their increasing age.

Best Results from the Gland Itself.—He had also been struck with the great differences observed in the preparations of different though reputable manufacturers. He did not think any of the preparations on the market contained all the elements needed. This was shown by the results obtained in children. He had obtained far better results from using the actual gland than from any of the preparations.

The Chief Obstacle to Treatment.—The fever and restlessness and insomnia induced by the thyroid he had found the chief obstacle to carrying out the treatment. He was sceptical regarding softening of the bones and the occurrence of spinal curvature being the result of thyroid treatment, as some had claimed. Their bones were soft because they were cretins and not because of the thyroid treatment. The administration of thyroid to pregnant women to prevent the birth of cretins seemed to him utterly illogical. He could not agree with Dr. Jacobi that there was much to be expected from transplantation of the thyroid, for it had been demonstrated experimentally that the thyroid disappeared. When the thyroid had been transplanted into the peritoneal cavity with its capsule, the absorption was so slow that improvement might very easily extend over two or three months.

Hydrocephalus and Cretinism Confounded.—Dr. E. D. Fisher also thought that the great difficulty in continuing treatment was the fever and restlessness produced. He recalled one child who brightened up under the use of the thyroid, but showed a mental irritability rather than a true improvement in mentality. A very common mistake in diagnosis was to confound hydrocephalus and cretinism; yet in the former the head was large, while in the latter, although the head was large, the face appeared rather small. The short, stumpy appearance of the cretin was quite characteristic. The thin skin, the blue veins, and the generally refined appearance of the face in hydrocephalus were in striking contrast with the myxœdematous skin and the brutish appearance of the cretin. He had never had a case in which he could say that there had been a perfect restoration to the normal.

Dr. W. M. Leszynsky said that his experience with the thyroid treatment had been, on the whole, unsatisfactory. In one or two advanced cases the only improvement noted was in the myxœdema.

The Fever and Restlessness Due to Cadaveric Toxins.—Dr. Koplik said that it was true that some of his cases were of the brachycephalic type. He had also found that children often became quickly tolerant to the use of the thyroid gland. It had been ascertained by one physiologist recently that the fever and restlessness referred to were not due to the thyroid gland itself, but to toxic substances which developed in the gland, as a result of decomposition after it had been taken from the animal. It would seem, therefore, that Dr. Crary's plan of giving the fresh gland was the better one.

National Bureau of Health.—In response to the resolutions on this subject recently adopted and forwarded by the academy to the chamber of commerce, that body sent a communication, stating that it had unanimously adopted the following resolutions:

"*Resolved*, That this chamber hereby records its hearty approval of the principles contained in senate bill No. 3,433, introduced by Senator Spooner in the senate of the United States, entitled, 'A bill to establish a commission of public health, and define its duties.'

"*Resolved*, That senate bill No. 2,680, introduced by Senator Caffrey, and bill of the house of representatives No. 4,663, introduced in the house by Mr. Hepburn, in the opinion of this chamber would, if passed, defeat the efforts that have been made in the past for the establishment of a much-needed national board of health; and

"*Resolved*, That copies of these resolutions be sent to each member of the senate and to each member of the house of representatives."

SECTION ON GENERAL MEDICINE.

Stated Meeting, March 15, 1898.

LOUIS FAUGÈRES BISHOP, M.D., CHAIRMAN.

Double-Current Irrigation.—DR. ROBERT COLEMAN KEMP gave a demonstration of the method of using double-current irrigation. He said that he had found that by elevation of the hips as good results could be obtained with short tubes as with the long colon tube. The advantages claimed were: (1) the quantity of fluid in the bowel was absolutely under control; (2) the temperature of the fluid could be kept uniform; (3) a clean solution continually replaced the foul solution—a matter of importance in cases of typhoid fever or of dysentery; (4) tympanites was rapidly relieved by such irrigation, for the water as it passed out carried the gas with it; and (5) it permitted using a large quantity of fluid and utilizing a large surface for absorption, as was required in uræmia and shock. It was convenient to place the patient in the Sims position, with the hips considerably raised.

DR. BEVERLEY ROBINSON asked what was the advantage of the method over the use of a single tube in cases in which it was desired to have a quantity of saline solution absorbed. He also asked if there was any method of determining the height to which the fluid had gone, aside from the sensations of the patient and the results of percussion.

DR. KEMP replied that it was a simple matter to use a graduated irrigator and a graduated jar for receiving the outflowing fluid, and thus determine the quantity of fluid in the bowel. If a high enema was given with a single tube, it cooled much more rapidly than when the double tube was used. Then, again, in many cases of uræmia there was incontinence of fæces, and without the double tube it was very difficult to have a sufficient quantity of fluid retained in the bowel long enough to be of benefit. The method with the double tube was also very much more efficacious in removing accumulations of gas. It acted on the principle of the Sprengel air-pump, the air being removed in a series of small bubbles with the circulating fluid. This was the theory of its action, and it was very easy to demonstrate this clinically.

DR. ROBINSON spoke of some remarkably good effects that he had observed from injecting saline fluid into the bowel in desperate cases of typhoid fever. It probably acted by diluting the poison, but its salutary action could not be doubted. He would like to know if in such cases the absorption of the fluid would be greater from the double-current method than from the use of the single rectal tube.

DR. KEMP said that he had found by laboratory experiments that the absorption from the intestine did not manifest itself until the hot saline solution had been flowing for twenty minutes. This prolonged action could not be well secured by the single tube.

Rheumatoid Arthritis.—DR. C. C. RANSOM read a paper with this title. He said the term rheumatoid arthritis was open to a number of objections, not the least of which was the suggestion that this condition should be treated as a rheumatic disorder. He, therefore, greatly preferred the term arthritis deformans. Osteo-arthritis he looked upon as a condition of the joints which might be present in gout, rheumatism, or arthritis deformans—in other words, it was not a disease *sui generis*. Sydenham believed arthritis deformans to be a form of rheumatism, and many other well-known clinicians had held the same opinion. Hutchinson believed it to be made up of chronic rheumatism and gout, and others were of the opinion that the affection was the result of gout, and that the trophic changes in the joints were brought about by an excess of uric acid circulating in the blood. The most recent theory, and the one which seemed to him best to account for the phenomena of the disease, was that which asserts arthritis deformans to be due to a species of bacteria, which by natural selection first attack the joints, and afterward by the toxins give rise to the general feature of the disease. Certain special micro-organisms had been found constantly in the synovial fluid in these cases. This organism was a minute bacillus which exhibited marked polar staining. By this theory all the curious and hitherto unexplained phenomena could be easily accounted for. According to his own experience, heredity had not been a prominent etiological factor. Tuberculosis and scrofula had been regarded as frequent antecedents, but in the five cases that he now had under observation there was no history of rheumatism, gout, or tuberculosis. As a rule, the onset was very insidious, there being occasional joint pains for months, with more or less constitutional disturbance and a feeling of general malaise. There were also a diminution in general weight and a peculiar atrophy of certain sets of muscles. Albuminuria was exceedingly rare, and the urine showed no excess of uric acid. Profound anæmia was observed early. Although there might be hæmic murmurs heard about the heart, there was no associated organic cardiac disease. In the beginning the joints assumed a typical spindle-shaped deformity. Very soon structural changes took place.

Treatment.—The treatment of arthritis deformans had very little to offer. The aim should be to check the progress of the disease as far as possible and to limit the disease to the joints already affected. The remedies used in the treatment of rheumatism and gout had a depressing effect on the system, and were distinctly prejudicial. According to the germ theory of the origin of the disease, some antiseptic should be given, and guaiacol carbonate had been specially recommended in doses of five grains, three or four times a day. The diet should be most nourishing, and should consist of plenty of red meats, meat juice, milk, cream, and similar articles; and the food should be administered at frequent intervals. Hydrotherapy should be used with great care and discrimination. The sulphur waters were particularly beneficial. Local douching of the joints was not of much utility, but douching of the spine was of signal value. The immersion bath should be used cautiously, and should be of short duration and of moderate temperature, in order not to enervate the patient. Massage was also useful, but should not be too prolonged so as to cause fatigue. In many instances the deformity of the joints was due largely to contracture of the ligaments and tendons. It might be overcome by slow and careful stretching under ether, but the backward and forward movement often used in breaking up adhesions should not be employed in these cases.

DR. BEVERLEY ROBINSON said, regarding the bacterial origin of the disease, that it did not seem to

him there was as yet any very conclusive evidence in support of this view. Inasmuch as he had not met with cardiac complications and but seldom with visceral troubles, he was inclined to think that the affection was not rheumatic in character. Many of the joint lesions of arthritis deformans closely simulated certain lesions of the joints resulting from disease of the nervous system, notably Charcot's disease. The trouble in deciding upon the correctness of any one of these theories was that no single physician could have an extensive experience in the observation of cases of arthritis deformans. According to his experience the dietary of people so affected must be of a very simple kind and carefully selected. While he agreed with the reader of the paper that a systematic and prolonged use of the alkaline treatment for rheumatism in these cases was to be deprecated, he could not agree with him that the occasional, temporary, and judicious use of antirheumatic remedies might not be beneficial. In his opinion the intelligent and rational use of baths was productive of the greatest benefit. In a general way he favored the use of the waters from warm sulphur springs. In some cases persistent massage would be found most valuable, but it was not applicable to all cases. The *séance* should not be too vigorous, or repeated too often. He had found that these patients did not do well at the seashore, and that they did better if they spent their winters in warm climates. As to the diet, he favored the very cautious use of the dark meats, and a general abstinence from wines and beers. In the winter he relied chiefly on the continuous use of cod-liver oil, not having observed any marked results from iron and arsenic.

Dr. C. A. Herter said that, while the subject was one worthy of discussion, it was one which could be discussed only with great difficulty in the present state of our knowledge. Careful investigations were still lacking regarding many important points. Touching upon the etiology, he said that there were certain important similarities between the lesions of arthritis deformans and those associated with affections of the posterior nerve roots. The fact that there were muscular atrophies, that the skin was occasionally glossy, and that the nails were rigid in cases of arthritis deformans seemed to point to a nervous origin. We were yet very much in the dark regarding the influence of lesions in the posterior ganglia and posterior columns of the cord upon the changes in the bones and in the joints. Some of these cases had been shown, upon pretty good authority, to follow closely upon shock. The work that had been done by the propounder of the bacterial theory seemed to him to be rather crude and it had not as yet been sufficiently confirmed. Personally, he was disposed to regard the condition as one in which there were marked nutritive changes acting in connection with some peculiar constitutional condition. There were assuredly nutritive derangements in most cases of arthritis deformans. We were especially in need of early observations on such points. In his own observations he had found that the total acidity of the urine was a good deal larger than it commonly was, and he had also found evidence of excessive putrefactive changes in the intestine. These changes, however, were in no wise specific. As to the matter of diet, he believed that the carbohydrate element was the one which needs to be most restricted. A few years ago he had seen a girl of thirteen years, who had been allowed to live on all kinds of pastry and sweetmeats, with but little wholesome food. She took very little exercise. Gradually she developed a typical arthritis deformans. After a year's efforts to improve her nutrition, she was sent to California, where her diet was carefully restricted, and she was made to live properly and take long horseback rides, so as to cause free sweating. She had now been there two years, and the reports that he had received from a medical gentleman there were very encouraging. Dr. Herter said that he did not think there was any connection between lithæmia and arthritis deformans, for it was not uncommon for persons to remain markedly lithæmic for many years and yet develop none of the elements of arthritis deformans.

Prevent the Deformity.—Dr. W. R. Townsend said that the prevention of the deformity arising from arthritis deformans should be a part of the duty of the physician. A very little attention to position would accomplish very much. It was possible also to prevent much damage from pressure and friction. Within the last month he had applied in two cases of locomotor ataxia the simplest form of brace to the knee-joints, which were being worn away by friction.

Dr. Ransom, in closing, said that his treatment of this disorder had usually been directed to improving the nutritive state. It was in this way that he believed hydrotherapy acted favorably.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 21, 1898.

George Tucker Harrison, M.D., President.

Cystic Goitre—Operation.—Dr. Parker Syms presented a man, about sixty years of age, who had suffered from a slowly increasing tumor of the thyroid gland. This had become cystic at the time he had first come under the speaker's observation, about one year ago. As the growth pressed upon the trachea and caused great dyspnœa, he sought relief. Dr. Syms at once operated, removing a large cyst of the right side of the thyroid. He had found it possible to remove the cyst entirely by enucleation, the mantle of the thyroid being cut through and the cyst extirpated without rupturing the sac. The man made an uneventful recovery, and had since then been in perfect health. Both the specimen and the patient were submitted for inspection.

Dr. Thomas H. Manley asked if the goitre had developed as an acute or chronic growth; also as to the amount of hemorrhage, the manner of operating, and whether general or local anæsthesia had been employed.

Dr. Syms replied that the tumor was of the ordinary slow growth, the man having been aware of it for sixteen years, but it had finally broken down rapidly and become cystic. He had not felt that a local anæsthetic would be sufficient, in view of the great uncertainty regarding the extent of the operation that would be required. Ordinarily the incision should be a straight one in the median line, but this man had such a short thick neck that it became necessary to make an incision from the upper part of the median incision to the right for a distance of two or three inches. The remaining portion of the thyroid gland outside of the cyst was cut through, and the enlarged veins were tied off. It should be remembered that these veins required to be ligated with stout catgut, as the smaller sizes were apt to tear through. The man probably did not lose more than one ounce of blood in the whole operation. The wound was partly sutured, and partly packed, because of the great liability of infection taking place in the deep planes of the neck.

Dr. Robert Newman said that he was very much interested in this operation, because he had had the honor to assist, with Dr. Krackowitzer, in such an operation as far back as 1864. In this pioneer operation also the median incision had been used, and an attempt had been made to enucleate the growth, but

the vascularity was so great that each vessel, as it was reached, had to be doubly ligated and divided. There must have been at least fifty ligations in that operation. Only a few were present at the operation, and of these probably Dr. Lewis A. Sayre and himself alone survived. Eight days later, Dr. Newman said, he had performed a similar operation. Since then a number of these tumors had been treated by his friend, Dr. Charles R. Dickson, of Toronto. A photograph of one of these cases was shown. It had been first treated by electricity, and the tumor had been reduced in size a great deal in this way. The tumor proved to be malignant, and the patient died. In the year 1895 Dr. Dickson reported over one hundred cases of goitre treated by him. If the tumor was cystic he withdrew the contents, injected iodine, and applied a galvanic current. His plan was to apply the negative pole over the tumor and the positive electrode to the shoulder. Notwithstanding the success attained by this electrolytic treatment, Dr. Newman said he believed the operation of excision would maintain its position as an admirable procedure in certain cases. As the early operative cases he had referred to had not been reported, he mentioned them in order that they might be placed on record.

The remainder of the evening was devoted to an exhibition of lantern views of the region around Denver, *à propos* of the approaching meeting of the American Medical Association in that city.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 9, 1898.

T. Mitchell Prudden, M.D., President.

A Foreign Body Removed from the Abdominal Cavity.—Dr. H. J. Boldt presented a large gauze serviette and the portion of the bowel in which it had been lodged. He said that it was not at all uncommon for sponges, gauze compresses, and instruments to be left in the abdominal cavity through an error on the part of the nurse or by the oversight of the surgeon himself. He had been able to collect fifty-nine such cases, but that number could be quickly swelled tenfold if operators would publish accounts of their errors as well as of their successes. Only a few of these fifty-nine cases had been published. The two instances observed in his own practice were the following:

Case I.—This was a case of total extirpation of the uterus and adnexa for cancer of the uterus. A gauze strip had been lightly packed in the pelvis and the house surgeon directed to remove it per vaginam three days subsequently. This was done, but it was not noted that another had been substituted. The patient's convalescence was uninterrupted, but a few weeks after leaving the hospital she began to suffer from griping pain in the pelvis and abdomen, and from obstinate constipation. After about two months she passed a strip of gauze with a fecal evacuation, and then her pain and constipation entirely disappeared. Apparently the house surgeon had inserted the second piece of gauze beyond the edges of the vagina, and, the wound closing below the gauze, he thought it had been removed.

Case II.—The other case was one of abdominal hysterectomy for myofibroma. The operation was done in the early part of 1897, and convalescence was protracted on account of an abscess of the abdominal wall and phlebitis. The patient was discharged after the healing of the wound, but complained of constant pain midway between the umbilicus and the epigastrium. When she was seen in October, there was a swelling in this situation, which appeared to consist of adherent coils of intestine. On November 3, 1897, the abdomen was reopened and the diagnosis found to be correct, but the patient sank so rapidly during the disentanglement of the intestine that the operation could not be completed. An abdomino-intestinal fistula resulted, and, a fatal termination being inevitable unless relief could be afforded, the abdomen was again opened on January 10th. After an unusually difficult separation of the adhesions, during which the bowel was injured five times, a portion of distended bowel presented itself, and on examination of a rent in the bowel near this place a piece of discolored gauze was discovered. On withdrawal it was found to be the large gauze serviette that he had just exhibited to the society. The distended bowel immediately collapsed after the removal of the piece of gauze. The only explanation for its presence there was that the operating nurse had, in some way, made an erroneous report. The protracted convalescence had been due to the inflammatory changes caused by the foreign body gradually perforating the bowel, and this inflammation had caused the adhesions and tortuousness of the bowel, and had thus prevented the expulsion of the gauze in the natural way. The portion of gut injured during the operation was resected, and an anastomosis made with sutures. The woman died from shock two or three hours after the completion of the operation. The walls of the intestine exhibited great thickening as a result of the inflammatory changes set up by the prolonged irritation of the gauze. The speaker said that a study of these cases showed that the perforation of such a body into the intestine did not seem to be accompanied by any special symptoms. Unless such foreign bodies found their way into the small intestine the chances of their being expelled were good. If they did not perforate the bowel, they usually found their way to the surface and gave rise to local symptoms which led to investigation. In some instances the foreign body worked its way to the scar made by the primary operation, and there produced a fistula which, if enlarged, disclosed the nature of the trouble. As to the prevention of these accidents, Dr. Boldt said that surgeons differed. They all agreed that it was improper to use small pads or sponges as temporary packing, and that the sponges, pads, and clamps used should be counted before and after the operation. A good rule followed by some surgeons, to prevent leaving a clamp behind, was to ligate every vessel as soon as it had been seized and secured with the clamp. The method which he had himself recently adopted was as follows: If a small area in the pelvis was to be temporarily tamponed, a long strip of gauze was used, and either a long clamp was left attached to it or the end of the gauze was left protruding some distance from the abdominal cavity. For protecting the peritoneal cavity, sterilized towels were used in preference to gauze compresses. For smaller surfaces large gauze compresses were employed, and to these was attached a piece of silk or tape, and to the end of this a pair of forceps. No pad was permitted to be torn up for an emergency, and all pads discarded during the operation must be thrown into a special receptacle. All pads and forceps were controlled by double count before and after the operation. If a large number of small pads were required, they were never left in the cavity, even temporarily. By attaching tape and forceps to the gauze pads, the missing compress was readily found without unnecessary handling of the abdominal contents. The abdomen should never be finally closed until all pads and towels had been accounted for, and this counting should be done by the surgeon himself or by a reliable assistant.

Dr. Harlow Brooks said that he now had under treatment a patient in whom a foreign body had found

its way out through the original incision, forming a fistula. The patient, a young woman, had been subjected to ovariotomy in Philadelphia. Union had been delayed, and about one week after leaving hospital she had come to New York City. At that time there was a small discharge of pus from the lower part of the abdominal incision. The house surgeon introduced forceps and drew out a long piece of iodoform gauze. This was followed by the development of a hernia, but after a reparative operation she made a good recovery. The original operation had been done in the clinic of an eminent and notoriously careful surgeon.

Absence of the Vermiform Appendix.—Dr. Boldt then presented as an anatomical curiosity a cæcum that had been removed by him post mortem four or five weeks after a laparotomy. There was no trace of the appendix vermiformis—a condition which he understood to be quite rare.

Leukæmic Infiltration of Kidneys, Liver, and Heart.—Dr. J. S. Thacher presented sections, photographs, and drawings showing a leukæmic or lymphoid infiltration of the different viscera. The patient, a girl, three and one-half years old, was brought to the Presbyterian Hospital at 7:30 P.M., and died at 5 A.M. the following morning. The only history obtained was that she had been getting weak and anæmic, and had begun to have chills and sweatings about one month before. A few days prior to admission she had vomited blood and had also passed blood in the stools. On admission she was very cachectic, the spleen was much enlarged, and she had a bloody stool after an enema. The pulse was from 155 to 200; respirations, from 30 to 60; and the temperature, from 100° to 104.5° F. At the autopsy numerous ecchymoses were found beneath the endocardium and pleura, in the omentum, the mucous membrane of the stomach, the kidney, and the lungs. The heart muscle was fatty. The mesenteric glands were enlarged. Some of the blood from the heart was examined, and found to contain an abnormal abundance of white cells. Cultures from the lungs, liver, spleen, and kidneys showed pure growths of cocci which had a tendency to form short chains. Microscopical examination of sections of the heart, liver, kidney, and stomach showed areas containing small cells, the nuclei of which were usually small, rounded, and oval. The contents were granular and stained rather deeply with hæmatoxylin. The cell bodies were not appreciable, nor could any fibres be detected between the cells except where the latter had invaded fibrous tisue. These areas occupied about one-third of the total liver sections and one-half the area of the kidney sections examined. The proper tissues of the organs seemed to be scarcely affected by the presence of these areas. From these facts he had concluded that it was a leukæmic or adenoid infiltration rather than an inflammation.

Dr. C. A. Herter said that he had had an opportunity to examine these specimens previously, and he had shown them to Dr. W. H. Welch, who had been much interested in them. The latter gentleman had expressed the opinion that the lesion was a leukæmic infiltration rather than an inflammation.

The President also thought it a leukæmic infiltration. The case, he said, was particularly interesting because of its extent. In regard to nomenclature it was a question whether such infiltrations should be called "adenoid." He thought the whole matter would be clearer if we abolished the term "glands" for lymph nodes, and he suggested the term "lymphoid" or "indifferent cell" infiltration as applicable to the condition under discussion.

Dissecting Aneurism.—Dr. George P. Biggs presented a specimen showing a dissecting aneurism of the aorta. It was obtained at autopsy on a colored man, aged thirty-five years, a waiter by occupation, who was admitted to the New York Hospital on January 21, 1897, with the following history: Never had rheumatism; alcoholic habit marked; no evidence of syphilis except a few suspicious scars on the legs. He had had cough for some time, but otherwise he was well until one month before admission to the hospital, when the cough became more troublesome and severe attacks of dyspnœa developed. Since that time he had steadily lost flesh and strength; the legs had become swollen and the dyspnœa more constant. Physical examination: Harsh breathing and a few moist râles over both lungs; heart moderately hypertrophied, the apex being felt in the sixth intercostal space five and one-half inches to the left of the median line; systolic and diastolic aortic murmurs quite pronounced. The case was under observation for three months and during that time the urine contained from five to twenty per cent. (by bulk) of albumin; the pulse was from 80 to 120, and the temperature from 99° to 100° F., except one month before death, when for three days it rose to 101° and 104° F., and marked pulmonary signs developed on the right side. Death resulted from heart failure and pulmonary œdema. The autopsy showed general anasarca and chronic venous congestion. A large thrombus occluded the branch of the pulmonary artery going to the right lower lobe of the lung and practically converted the whole lobe into a red infarction. The remainder of the lungs was congested and œdematous. The heart was considerably enlarged, the cavities being dilated and their walls thickened. The valves were normal except the aortic, the cusps of which were considerably thickened and retracted. The muscular substance appeared normal. There was considerable dilatation of the pulmonary artery, due evidently to induration about it and compression of it as it passed under the aortic arch. The coronary arteries and aorta were moderately atheromatous. At the junction of the transverse and descending portions of the aortic arch, and looking to the left, there was found an oval opening measuring three and one-half centimetres antero-posteriorly and one centimetre vertically. The opening had a perfectly smooth, rounded border, and led into an old dissecting aneurism, the wall of which was formed exclusively by the adventitia and external layers of the media of the aorta. In its upper portion the aneurism was to the left of the aorta, but in the greater part of its course it lay in front of it and caused almost complete flattening of the aorta against the spinal column. The aneurism measured twenty-three centimetres in length and four centimetres in diameter, and it terminated by communicating again with the aorta a little below the cœliac axis, through an oval opening measuring two centimetres by one centimetre. The lining of the sac had practically the same appearance as that of a dilated, atheromatous aorta. Most of the intercostal arteries arose from the aorta, but the eighth, ninth, and tenth left arteries came directly from the aneurism. The cœliac axis also arose from the aneurism, but there was an opening of the same size exactly opposite it, in the anterior wall of the aorta, which undoubtedly indicated the original connection of the vessel with the aorta. The force of the blood current would easily explain the obliteration of the portions of intercostal arteries and the cœliac axis which at first traversed the aneurism. Dr. Biggs said that the specimen was very similar to one presented to the society about two years ago by Dr. Herbert Williams, of Buffalo, who at the time considered it a double aorta but later concluded it was a dissecting aneurism.

Dr. H. N. Heineman said that it had been fairly well established that dissecting aneurisms were the result of traumatism. The traumatism was usually at

the base of the aorta, and assumed the form of a transverse break in the aorta, which was in direct opposition to what took place when there was fatty degeneration of the intima and media, for in the latter case the rupture was longitudinal. Such a dissecting aneurism might heal, or might be carried by the person for many years without special discomfort. Meanwhile the aneurism dissected its way down to the cœliac axis, or to the renal arteries, and then found its way back to the aorta. This was the reason why the person did not die immediately from it. There was a very remarkable specimen in the museum of Giessen University, which had been taken from a man who thirteen years before, after having been injured in a scrimmage, had developed what was then supposed to be heart disease. He recovered from this, and thirteen years later died under the observation of one of the professors who had seen him in the first illness. The post-mortem examination showed a dissecting aneurism of the aorta.

A Valvular Lesion with Disappearance of Vegetations.— Dr. W. B. Noyes presented the heart of a child of thirteen years who, for seven months before admission to the hospital, had suffered from cough and shortness of breath and pain in the cardiac region. The heart action was rapid, the respirations were accelerated, and the expectoration was at times bloody, but no murmur was heard. The child died suddenly a week after admission, with no special premonitory symptoms. At the autopsy the mitral valve was found to be reduced to the size of a lead pencil, but there were no vegetations on it. The right heart was very much dilated. The specimen was presented as an instance of a valvular affection which had originated from a rheumatic endocarditis one year before, the fresh vegetations having disappeared. There was, of course, a possibility of the lesion being congenital. During life the affection of the heart had been considered to be functional.

Extreme Mitral Stenosis and Dilatation of Both Auricles, with Large Organizing Thrombus of Left Auricle.—Dr. Eugene Hodenpyl presented this specimen together with microscopical sections. It had been removed from a man, seventy-four years of age, who for many years had suffered from chronic diffuse nephritis, repeated attacks of asthma, and bronchitis. He died during an asthmatic attack. At autopsy the right auricle was found enormously distended with recent blood clot, which extended into the larger branches of the pulmonary arteries. The left auricle was distended and firm. Its cavity was filled with an old decolorized clot firmly adherent to the wall of the auricle. This showed evidence of organization about its periphery. There was extreme stenosis of the mitral orifice.

(To be Continued.)

Pyæmia.—There are very few terms in surgery so confusing as the name pyæmia. It has been used by different authors to include all the varieties of traumatic fevers, while it is recognized that some of the symptoms are seen only in rare cases. It seems to me we can safely restrict the term to a distinct disease characterized by a state of depression common to all typhoidal conditions but distinguished by the formation of pus cavities in different and widely separated parts of the body. No tissue may be exempt. Abscesses have been found in the lungs, liver, kidney, joints, muscles, bones, brain, lymphatic glands; coagulability of the blood is diminished, and there is leucocytosis with purulent effusions into the serous cavities. The disease is contagious, being communicable by instruments or sponges in the hands of the surgeon or other attendant, and passes along the vascular or lymphatic channels.—Edmund W. Holmes.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A FURTHER DISCUSSION ON CANCER OF THE BREAST—INTERMENSTRUAL PAINS—PERILS IN PRACTICE—DIPHTHERIAL INFECTION—ANTISTREPTOCOCCAL SERUM—MIDDLESBOROUGH EPIDEMIC—DIPHTHERIA IN LONDON—GLYCERINATED LYMPH—SIR R. QUAIN—UNREGISTERED BUT PRACTISING—UNQUALIFIED ASSISTANTS—DR. R. RUSSELL.

London, March 11, 1898.

The subject of extensive operations for mammary cancer has received further illustration in our societies. Mr. Clinton Dent related at the Medico-Chirurgical Society meeting on Tuesday a case in which he had removed an entire upper extremity for recurrent carcinoma after amputation of the breast. The woman, aged fifty-three years, had the left breast removed in December, 1894, and the axillary glands were also freely removed. In 1896, a recurrent nodule near the cicatrix was removed. In October, 1897, recurrent ulcerating growth high up in the axilla, great swelling in the arm, and intense pain were met by removal of the arm, scapula, and the outer two-thirds of the clavicle. The subclavian artery, scapular branches, and the vein were tied after removal of part of the scapula; there was no shock. Only two or three ounces of blood were lost. The patient left for a convalescent hospital on the twenty-sixth day. The growth had encircled the axillary artery and vein and the main nerve trunks. The coracoid process was replaced by the growth, which was columnar celled (duct cancer), in which recurrence is unusual. Mr. Dent laid down the indications for and against such an operation, and said he had seen the patient within the last few days, and found there were signs of deposit in the liver which were not present when he operated. There was also some growth on the thorax, but the operation had entirely relieved her of the distressing pain, and he would do it again in an equally urgent case.

Mr. Willett and Mr. Boyd both supported the propriety of the operation as giving great relief. One of them had recommended it to two patients, but neither of them had been willing to undergo it.

At the Obstetrical Society meeting the subject of intermenstrual pain was discussed. Dr. Addinsell introduced the subject, and related four cases of his own and compared them with those recorded by others. In most cases, besides pain of so marked a character that it had been sometimes improperly termed intermenstrual dysmenorrhœa, the most marked symptom was a clear watery discharge. Dr. Addinsell attributed this to a tubal lesion leading to hydrosalpinx, and suggested as the cause a secondary intermediate discharge of nerve energy in certain individuals—an explanation which explains little.

Dr. Herman said there was certainly present or past disease of the appendages in many cases. He thought the pain was due to painful ovulation, not coincident with menstruation, and was sceptical as to dilated tubes being the source of the discharge. If a dilated tube be lifted up during an operation the fluid does not escape. He would call it intermediate monthly pain, a name which had the merit of being simple and sufficiently distinct.

Mr. Bland Sutton admitted that if the blood pressure within the tube reached a certain pitch blood might escape into the uterus, but this must be exceedingly rare, and we had no clear evidence of such an occurrence. Dr. A. Routh suggested that in some persons an intermenstrual cycle was added to the menstrual one.

Dr. Boxall thought no single pelvic lesion would explain the cases. He had attended a case in which there had never been any sign of tubal disease. The pain returned after an abortion had occurred through a cycling imprudence. The patient became pregnant later on, though there had been retroversion.

Dr. Heywood Smith held to the notion of intermittent Fallopian hydrorrhœa.

Dr. A. Giles said that admitting menstrual congestion could occlude the uterine ostia of the tubes, accumulation might occur and lead to pain. On the cessation of menstruation the swelling would go down and the fluid in the tubes pass into the uterus.

Dr. E. Maclean thought some cases might be regarded as an attempt at double menstruation.

The president (Dr. Cullingworth) observed that in only three of the thirteen cases cited was there a distinct tubal lesion. He had known bath water to be pent up in the vagina and subsequently discharged, and in another case urine, so that caution was necessary in admitting that the escape of fluid indicated a tubal source, which was extremely unlikely.

Dr. Addinsell in his reply said that in his own cases he had found a swelling which disappeared after the discharge of the fluid.

Unpleasant reminders of the perils of practice have lately occurred. A boy was admitted to one of our hospitals for a chronic disease requiring operation. In a few days he was seized with dyspnœa, which became so urgent and seemed of so obstructive a nature that one of the surgeons called to see him hastily performed tracheotomy. A little blood entered the trachea with the tube. The aspirating-apparatus had not been brought with the other instruments and the surgeon sucked the tube. Two days later he was seized with sore throat, and as the boy in the mean time had clearly developed diphtheria, bacilli having been found, the surgeon had antitoxin injected as a precaution and a bacteriological examination of his own case made. The result was that bacilli were found; he was isolated and treated actively with antitoxin. He passed through a mild illness, but bacilli persisted for four or five weeks, and he had to take a holiday before being restored to his family.

A more serious case is that of another hospital surgeon, who wounded his finger when examining a tuberculous bone and had antistreptococcal serum injected. Reaction speedily ensued and he went through all the horrors of septicæmia. No doubt the serum was impure, you will say; but that illustrates a danger too apt to be present. This serum is a two-edged weapon, and from all the evidence that has been accumulated seems to be useless against any organism except the streptococcus. How injurious it may be, was shown in a case lately reported to the Liverpool Medical Society. It was given in puerperal fever and followed by thrombosis and nephritis. On examination the dried serum was found to contain streptococci, evidently due to defective filtration. The utmost care then is demanded in such cases, and indeed it would seem as if every serum might well be re-examined immediately before use.

"Only eleven cases of small-pox were notified yesterday." That is the report from Middlesborough, and, though it seems hopeful to some of the people there, it shows that the epidemic is by no means over. Other days during the week have had as many as seventeen, nineteen, twelve, or thirteen fresh cases.

The notified cases of diphtheria in London for the four weeks of February were 939, the weekly average 235. In the January four weeks the average was 225; total, 901.

Glycerinated calf lymph is to be brought into general use as rapidly as possible.

Sir Richard Quain has been in feeble health for some time. To-day the venerable baronet's condition is reported to be critical. He retains his interest in the Medical Council and other matters. At a meeting of the executive committee of the council on the 21st ult., a letter from him was read, dealing with the forthcoming pharmacopœia.

A summons against a person who had continued practice after the Medical Council had erased his name from the register was this week refused by a magistrate, who said he could find nothing in the medical act to compel a man to be registered. Of course the council must take other proceedings.

The cause of unqualified assistants has been taken up by *Truth*, with the mixture of invective and ignorance which so often characterizes that journal.

Dr. R. Russell has been appointed assistant physician to University College Hospital.

THE PERILS OF ANÆSTHETIC MIXTURES.

To the Editor of the Medical Record.

Sir: The Schleich method of anæsthesia seems to have become very fashionable since the publication of Dr. Willy Meyer's article a few weeks ago, and the general impression seems to be that it is far less dangerous than anæsthesia by ether or chloroform alone.

I must say that my faith in the safety of anæsthetic mixtures has been low since I saw a young and apparently healthy man die on the table in Billroth's clinic eighteen years ago. I shall never forget the scene.

The patient had been brought in for the reduction of a luxation of the hip-joint, and the anæsthetic, a special mixture of Billroth's own, consisting of alcohol, ether, and chloroform, was being administered in the careful manner always employed in this amphitheatre.

Billroth had just reduced the luxation and had turned to talk to the class, when the assistant called his attention to the condition of the patient, who had stopped breathing. The professor turned hurriedly to the patient, and by means of artificial respiration everything seemed restored to a normal state. Turning again to the class, Billroth said, "Thank God he is all right." Then he went on to state how safe he considered this mixture and how he had never had an accident under it. Again his attention was called to the patient, and then for the only time during my attendance on his clinics the great surgeon showed signs of extreme excitement. Artificial respiration and every other restorative measure were tried. Billroth's hand shook like a leaf as he hurriedly performed tracheotomy, but all to no effect. The man was dead.

The next day after a post-mortem examination Billroth stated that no lesion of any kind was apparent, and that he could account for the man's death only on the score of idiosyncrasy. Last week I had an experience with the use of Schleich's mixture and for the time I thought I had a corpse instead of a patient on my hands.

I had arranged to circumcise a young man, about twenty-eight years of age, at his father's house, and, as my experience with the Schleich mixture had been favorable up to that time, I concluded to use it. My assistant is an expert in giving anæsthetics, so that I know that everything was done correctly.

During the first period the patient was very hilarious, then he breathed badly, and my assistant said afterward that his pulse was variable; but this might have occurred under any anæsthetic, from nausea, or as it frequently does in half-narcotized patients, so nothing was thought of it.

I had just snipped off the end of the foreskin when the anæsthetist asked me for a pair of tongue forceps.

I thought the patient dead; his pupils were dilated, breathing had stopped, and the pulse could not be felt. His jaw dropped and the face was cyanosed. I confess that I was thoroughly frightened, but with stimulation, artificial respiration, and moving the tongue outward and inward, the functions of life slowly returned.

The operation was finished without any further administration of an anæsthetic, and I have decided that in the future I shall use straight goods instead of mixtures. The trouble is, one never knows exactly what he is giving. The differing densities of the various components cause them to separate, and one can never be sure whether he is giving a larger proportion of one or another. I have had what seemed dangerous conditions present themselves many times before, but nothing like this.

SIDNEY F. WILCOX, M.D.

51 WEST FIFTY-SECOND STREET.

ANTIPYRIN AS A LOCAL ANÆSTHETIC.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I desire to call attention in this preliminary note to what promises to be a new departure in genito-urinary surgery. I have used, as a substitute for cocaine in a number of cases of urethrotomy, a ten-per-cent. solution of antipyrin in a one-per-cent. solution of carbolic acid. As far as my observations have gone, the solution appears to be quite as efficacious as cocaine. In meatotomies, when, as is well known, the skin incision is usually painful, I have found even less complaint than when cocaine is used.

The advantages of the agent as compared with cocaine are 1, absolute safety; 2, freedom from constitutional effects; 3, distinct lessening of hemorrhage, both before and after operation; 4, less disturbance of nutrition of the wounded tissues.

I have thus far used only a ten-per-cent. solution of antipyrin. I have not experimented as yet with a simple aqueous solution. The solution should be fresh, and should be allowed to remain in the urethra for ten minutes, as a rule. I have, however, begun cutting within five minutes after injecting it. I would suggest the antipyrin solution for nose and throat work. It will at least make a safe foundation for further anæsthesia with cocaine. Absorption of the cocaine and hemorrhage will both be inhibited, thus adding greatly to the safety of operations. Unlike that of cocaine, the styptic effect of antipyrin is not followed by vascular relaxation and often almost uncontrollable hemorrhage.

G. FRANK LYDSTON, M.D.

CHICAGO, ILL., March 17, 1898.

DOES FORMALDEHYDE DISINFECT?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: During the past year much interest has been manifested by sanitarians in the promise of a new disinfectant—formaldehyde.

This substance has been lauded by several writers in the medical press as the disinfectant *par excellence*, a substance which, in its gaseous state, none of the lower forms of life could successfully resist. Experiments undertaken by some investigators known to the medical and scientific world have been cited by the manufacturers of formaldehyde and by the makers of the different forms of apparatus for the generation of formaldehyde gas. Most of these experiments have been conducted in laboratories where it would seem that every necessary convenience would be provided for determining the true efficiency of this new agent. Laboratory experiments are not, however, always borne out by work in practice. For instance, many of the laboratory experiments undertaken with formaldehyde are found to have been made upon dry cultures of diphtheria, typhoid, and anthrax bacilli exposed to an atmosphere of formaldehyde gas for varying lengths of time. Experiments may have been made upon plate or tube cultures, but favorable reports of such experiments have not come to my notice. Laboratory experiments conducted with dry cultures do not seem to be all that is necessary in practice. In practical disinfection where diphtheria or tuberculosis occurs (the two chief diseases for which a gaseous disinfectant is wanted), we do not always find the bacilli dried and hung out ready for a disinfectant. If cleaning is done in an infected house into which the practical work of disinfection is carried, and any nests of infection remain, there will necessarily be closely associated with these foci of infection a certain amount of moisture. Under such conditions formaldehyde disinfection has not been successful in our hands. On the other hand, if cleaning is not used before formaldehyde disinfection, there would necessarily be a larger number of foci of infection to be destroyed. The action of formaldehyde in vapor must necessarily be very great, and its penetrating power far greater than has been proven by favorable experiments. Recent teaching based upon bacteriological studies has been that thorough cleaning with good soap and clean water intelligently applied is the best means for ridding premises of infectious material, and that after thorough cleaning disinfection should be used as a supplementary measure. From some of the experiments with formaldehyde, it would appear that, as formaldehyde operates best on dry media, cleaning should be dispensed with because of the necessary moisture.

A series of five experiments has been conducted in the laboratory of the Rochester health department—four of them to determine the efficiency of formaldehyde in practice, the fifth to determine the efficiency of sulphur as compared with formaldehyde.

EXPERIMENT 1.—Apparatus used according to directions in a room containing less than fourteen hundred cubic feet and having a considerable amount of laboratory furniture. Amount of formaldehyde vaporized, six ounces. Material exposed, three tubes of mixed cultures of diphtheria bacilli upon nutrient blood serum in open Petri dishes, a quantity of sputum containing tubercle bacilli in a shallow wide-mouthed bottle, and four tubes of mixed cultures of diphtheria bacilli. Time of exposure, five hours. Result: tubes inoculated from the cultures all showed good growths at the end of twelve hours.

EXPERIMENT 2.—Cultures of diphtheria and sputum containing tubercle bacilli were exposed in the same way and under the same conditions for six hours. Amount of formaldehyde vaporized, eight ounces. Inoculations from the cultures exposed upon appropriate media all showed that the diphtheria and tubercle bacilli in the cultures and sputum had not been destroyed, nor had their power for growth been perceptibly interfered with.

EXPERIMENT 3.—Cultures of diphtheria bacilli and sputum containing tubercle bacilli exposed as in experiment 1. Result: similar to those of experiments 1 and 2. In this experiment eighteen ounces of formaldehyde was used.

EXPERIMENT 4.—As objection was made that the room in which experiment 3 was conducted was not tight enough, although the door casings and casings about the transoms were fitted with rubber weather strips, additional means were taken to prevent the escape of gas by caulking with paper the spaces about the door casings and transoms. Amount of formaldehyde vaporized, thirty ounces. Time of conducting the experiment while the lamp of the apparatus was

still burning, forty-five minutes. Material exposed similar to that in experiment 1. Result: similar to that in experiment 1.

Experiment 5.—Four pounds of sulphur burned in the same room in the presence of steam generated from two quarts of water in a basin eight inches wide placed over a two-flamed Bunsen burner. The cultures made after six hours' exposure showed no growth. Furthermore, several unused tubes of Loeffler diphtheria serum inadvertently left in the room were afterward found to have been rendered useless by the sulphur fumes. No growth could be obtained in these tubes, even though carefully inoculated with an abundance of mucus from the throats of patients having diphtheria.

The results of these experiments lead me to believe that the value of formaldehyde as a disinfectant, with a sufficient penetrating power thoroughly to disinfect in practice, has not yet been proven.

G. W. Goler, M.D.,
Health Officer, Rochester, N. Y.

March 12, 1898.

A FINAL WORD TO DR. W. MEYER WITH REFERENCE TO THE USE OF THE CYSTOSCOPE IN PROSTATIC HYPERTROPHY.

To the Editor of the Medical Record

Sir: Dr. Meyer, in his reply to me in the March 26th number of the Medical Record, defines what he meant by the term "configuration" in the sentence, "We can very well diagnose the configuration of the prostate with the help of the cystoscope," in the following words: "I meant, of course, that we can diagnose with the cystoscope whether the prostate is hypertrophied or not; if so, whether this hypertrophy is a pronounced or a slight one; whether there is a third lobe or not." If that is all he means by configuration, then I am sure that I can see as much as he can. I judged from statements made by Dr. Meyer in the article wherein he misquoted me and also elsewhere in his answer to me, that he laid claim to being able to see more than that. If that is all that can be seen, then it would be impossible for one to make from the cystoscopic picture a drawing or a clay model which would accurately represent the real state of affairs—which would be my idea of "configuration."

I have no desire to decry the value of the cystoscope. I depend much upon it. There are, however, limits to its usefulness, and the instrument is not helped with the profession by the extravagant claims which are sometimes made in its behalf.

Eugene Fuller, M.D.

New York, March 26, 1898.

Alcohol as a Hypnotic.—Mr. Jonathan Hutchinson says: "I was urging strongly on a man who well knew his failing that he should reduce his quantity of whiskey. In giving a reluctant assent, he remarked: 'But, you see, it gives me sound sleep. If I do not take my normal allowance at bedtime, I dream dreadfully all night; but if I have had it, why, I sleep like a child and never dream at all.' 'But,' I suggested, 'do you not wake with a dry mouth and a headache?' 'No,' he said: 'I wake as bright as possible and enjoy my breakfast.' The latter point was confirmed by the fact that he had a perfectly clean and soft tongue. He had, as he well recognized, been on the verge of delirium tremens more than once, and was anxious to amend his mode of life. What made it especially difficult for him was that alcohol always seemed at the time to suit well and never gave him at the time any immediate discomfort. There are many who are, I believe, in the same position as my patient, and those may be thankful in whom indiscretions and excesses are followed by prompt and well-recognized penalties."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending March 26, 1898:

	Cases.	Deaths.
Tuberculosis	176	129
Typhoid fever	8	1
Scarlet fever	189	15
Measles	400	16
Diphtheria	147	19
Laryngeal diphtheria (croup)	10	3
Chicken-pox	31	0
Cerebro-spinal meningitis	5	4
Pertussis	2	0
Erysipelas	2	0
Parotiditis	1	0

The First Thermometers.—The *Revue des deux Mondes* has an extremely interesting article on the above subject, which has been translated and published in *Appleton's Popular Science Monthly* for March, some of which is quoted below: "According to the Abbé Nollet, the first thermometer was invented by a peasant named Drebbel, of North Holland. Drebbel's thermometer was composed of a vertical glass tube ending at the top in a bulb, while the lower end was plunged into a vessel filled with water or some colored fluid. When the bulb was warmed, a part of the air contained within it was driven back into the water and escaped without. When the air became as cool again as the temperature around it, the external pressure caused the liquid to rise in the tube, the limit of its ascent being determined by the degree to which the air in the bulb had been heated and the tension it had acquired. The members of the Accademia del Cimento soon substituted for this hardly practical apparatus the more convenient instrument which we still use. The Venetian physiologist Santorio Santori made it a sensitive and precise indicator of the progress of fever. Réaumur observed in 1730 that a thermometer placed in freezing water went down to a certain degree and remained fixed there as long as the water was not wholly solidified, and, therefore, came to the conclusion that the temperature of water in process of congelation was always the same and fixed. Subsequent researches showed that the melting-point of water was the fixed one. Alcohol thermometers were used until Misschenbroeck introduced the use of mercury. It was some time before the two fixed temperatures at which the thermometric scale should be marked were determined upon. Dulencé in 1688 took a mixture of water and ice for the zero and the melting-point of butter as the upper point. Renaldini in 1694 recommended a mixture of water and ice, and the boiling point of water, but his process was not applicable to the alcohol thermometers, for the vapor of alcohol has a tension at the boiling-point of water which would burst the reservoirs of the instruments. About 1714 Daniel Gabriel Fahrenheit furnished chemists with alcohol thermometers, which he replaced in 1720 with mercury thermometers, and took for his zero the temperature of a mixture of ice and muriate of ammonium, and for his highest degree the temperature of the human body. In 1742 Andrew Celsius proposed to restore the method of Renaldini and divide into a hundred degrees the interval which the mercury in the thermometer would traverse between the temperature of melting ice and that of boiling water. He marked the lower temperature 100 and the higher 0. Linnæus, reversing this order, gave the mercury thermometer (Centigrade) the form under which it is now known

The Myophone.—A French scientist has proved, with an apparatus called the myophone, that the nerves may live many hours after the death of the body. The sound in the instrument shows that a nerve may act on a muscle in a state of electric excitability, without producing more than molecular vibration.

The Story of a Barber Surgeon.—According to the London *Daily Telegraph*, an inhabitant of a little village near Mainz fell down and seriously injured his arm, which became swollen and very painful. The village barber surgeon was appealed to, and ordered applications of Goulard water—in German, Bleiwasser. The patient's wife, however, being very anxious, on arriving at the village shop made a mistake and asked for Wasserblei, or black lead. On arriving home she mixed this with water and rubbed it well over the injured arm, finally polishing the limb with flannel. The treatment had an excellent effect—the pain disappeared and the swelling went down. Next morning the barber called to see how the patient was getting on, and was met by the delighted wife, who congratulated him on the efficacy of his treatment. Upon seeing the arm, however, which was quite black, he was horrified. "What!" he said, "no pain! Of course he doesn't feel any pain. The arm is quite dead; gangrene has set in, and if the arm is not taken off at once he will die." A surgeon was sent for, who of course discovered the real state of the case. What happened to the barber is unfortunately not stated, but we fear that most unqualified practitioners do not see such favorable results from their prescriptions as did their German brother.

Anæsthetics Administered in the London Hospital from January 1 to December 31, 1897.—Ether in 2,910 cases, nitrous oxide in 1,362 cases, chloroform in 677 cases, A. C. E. in 510 cases. Ether followed by chloroform in 293 cases, nitrous oxide and oxygen in 240 cases. Nitrous oxide followed by ether in 220 cases, ether followed by A. C. E. in 82 cases. Nitrous oxide, ether, and chloroform in succession in 68 cases, A. C. E. followed by ether in 35 cases, other successions in 93 cases. Not stated, 167. Total, 6,657.

Effects of Alcoholic Excess on Occupational Mortality.—The experience of the period 1890–92 agrees with that of earlier periods in showing that publicans (saloon keepers) as a class succumb to the effects of intemperance much more rapidly than men engaged in any other occupation. Of the two divisions of the publican class, innkeepers suffer from alcoholism and diseases of the liver more severely than their servants do; the former die from these diseases more than seven times faster and the latter four times faster than other occupied males. The mortality of publicans varies according to the locality in which they trade; they die most rapidly in the industrial districts and least rapidly in London. Next to publicans come butchers, with a mortality figure from intemperance which is two and a fourth times as high as that of occupied males generally. Among the remaining occupations in the list chimney sweepers and dock laborers suffer most severely from alcoholic excess, while coachmen and cabmen suffer least severely, the mortality of the last two from alcoholism and liver diseases exceeding that of other occupied males by about one-half.—*Lancet.*

British Women Doctors.—There are two hundred and forty women on the medical register of Great Britain. Over fifty are established in London, quite as many are absorbed by missionary work, etc., in India and the East generally; the provinces claim about sixty; a few have gone to the colonies or have settled in continental resorts. The remainder are either taken up with hospital work or are not practising. A considerable number of medical institutions for women and children are officered wholly or partly by registered medical women. In London there are nearly a dozen such, including the Royal Free Hospital, Gray's Inn Road, and the New Hospital for Women, Euston Road. As more than half the population of Great Britain is female, the proportion of women doctors is still extraordinarily small, for there are no fewer than eighteen thousand members of the British Medical Association alone. But if women have not rushed to doctor their own sex in the numbers anticipated, the movement is still, I am glad to acknowledge, an eminently respectable one. On the part of the Royal College of Physicians and the Royal College of Surgeons, opposition to it has almost died out, and the road to a medical qualification lies open to women through the University of London, the Scotch and Irish universities, the University of Durham, the conjoint colleges of Scotland and of Ireland, and the Apothecaries' Society of London. Of schools at which they can study medicine, there is in the United Kingdom no stint. The London School has at present, I am told, one hundred and sixty-three students; there are two schools in Edinburgh, two in Glasgow; likewise schools at Newcastle, Aberdeen, Dublin, Cork, and Belfast. Naturally the medical career remains to a certain extent exclusive, by reason of its cost, though not more so to women than to men. The course of study takes at least five years, and its average length is more like seven, during which time, of course, the student has to be supported. What the chances are of a medical woman earning an adequate income it is difficult to say, but some of them certainly do well, as one may judge by the establishments they keep up. They are to be found in most of the expensive quarters of London. One more fact I must append, as it bears upon the question of the relations of women to doctors of their own sex. "The New Hospital charges its patients a small fee, two pence (four cents), each visit, and sixpence (twelve cents) the first time. These fees amounted in 1895 to £1,231 7*s* 6*d* (about $6,000). The significance of these figures will be seen when it is added that within a few minutes' walk of the New Hospital on either side are the Royal Free and University College hospitals, at both of which women could be attended for nothing by men. In one or two respects the woman doctor remains unquestionably handicapped. Unlike the male practitioner, she must draw her patients chiefly, if not entirely, from among women; and if she ventured to purchase a partnership along with a male practitioner, people would talk—would they not?—despite her diplomas.—*London Referee.*

Jewels Affected by Ill Health.—Professor von Schroen, of the Naples University, declares that diamonds are alive. Be this as it may, there would appear to be many reasons for believing that some precious stones are affected by the health of the wearer. A contribution to an English weekly journal says: "Pearls and opals are both said to grow dull through the ill health of her by whom they are worn, and the turquoise is said to become pale from the same cause: while I have heard, and on excellent authority, though it is a fact I can hardly credit, of a ruby ring which on the hand of an invalid went paler and paler until on the patient's death the stones lost their color entirely. Pearls are extraordinarily sensitive to the condition of the skin on which they rest. An example of this fact is shown by an episode of which an acquaintance of my own was the heroine. She greatly desired to possess a pearl necklace, and her husband bought her a very

beautiful one. A month or two afterward, however, the pearls began to lose their lustre, and, much annoyed, he took the necklace back to the jeweller who sold it to him. The salesman admitted the deterioration. 'You are quite right,' he said; 'but the truth is that your wife cannot wear pearls next her skin. Let her maid wear the necklace for a few weeks, and the pearls will regain their brilliancy.' The turquoise, again, will change color. I know of one which, after having been worn for years, turned a vivid green when its wearer was passing through the Red Sea; possibly it was affected by the temperature of her skin. It is probable that the turquoise has a form of life, as pearls undoubtedly do. A pearl dies as actually as a flower, though its life is a great deal longer, and all its color and brilliancy disappear. Its average life it is impossible to estimate, as some pearls are known to be hundreds of years old; but it is probable that the life of others is far shorter."

Anæsthesia by the Schleich Method.—Drs. Stillman and Greeley, of the New York Infirmary for Women and Children, report forty-four cases anæsthetized by the Schleich method during January and February. These cases include five laparotomies and a large proportion of double and triple vaginal operations. The average length of operation was fifty-two minutes. The average total quantity of anæsthetic employed was three and one-third ounces, of which amount seven-eighths of an ounce was required to induce anæsthesia in an average period of ten and one-half minutes. The patients recovered consciousness in fourteen minutes. During the following twenty-four hours eighteen were considerably nauseated, three of them more so than after ether administered at previous operations. In one case there was mild excitement during recovery, for half an hour only. Three cases required stimulation; in one of these ether was substituted because of a persistently weak pulse. Three cases, not the above, had valvular lesions of the heart. In general the pulse and color were good; in the earlier cases less so, the cause, in the opinion of the anæsthetizer, lying in the fact that the vapor was too concentrated. Mixture No. 1 was used in twenty-four cases, No. 2 in sixteen, No. 3 in four. The muscular reflexes were difficult to control with No. 1, and No. 2 or No. 3 would be used in a larger proportion of cases again. The inhaler employed was the Esmarch covered with a single thickness each of gauze, flannel, and oiled muslin. With a few exceptions the patients received the customary hypodermic of one-eighth of a grain of morphine and one-one-hundred-and-fiftieth of a grain of atropine half an hour before operation.

Heat in Australia.—A correspondent from Australia writes to the *London Times*, in reference to the late heat wave in that part of the globe, as follows: "When we reached Melbourne we found the thermometer at 108° F., with a good stiff breeze like the blast from a furnace. The whole country was enveloped in bush fires, and the sun looked as it does in London through a November fog. The haze was so great that after proceeding for about two hours on our course through Hobson's Bay we had to drop anchor, as the pilot could not discern the channel. We were thus unable to move till midnight. For some hundreds of miles up the coast the bush fires continued to rage. The sight was a curious one, for the ship was invaded by parrots, cockatoos, and other land birds, which were forced out to sea by the flames and intense heat. Besides the birds, burnt leaves, charred wood, and small stones were picked up on deck, although we were several miles from land. The sky was very lurid at the time."

The Bones of Sir Thomas Browne.—The Rev. Pelham Burn is the rector of St. Peter's Mancroft Church, Norwich, England. Certain changes of the convenience of the choir were thought necessary in the church, notably the lowering of the floor. But it happens that in this choir lie the mortal remains of Sir Thomas Browne, one of the most famous of English physicians and author of the well-known "Religio Medici." When Mr. Burn was asked if he did not feel some respect for the last resting-place of Sir Thomas Browne, his answer was facetious: "Yes, he is buried there; we shall probably see him again."

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

HOW TO BECOME A TRAINED NURSE. By Jane Hodson. 8vo, 260 pages. Illustrated. William Abbatt, New York.

INTERNATIONAL CLINICS. Edited by Dr. J. Daland, J. M. Bruce, and Dr. D. W. Finlay. Vol. IV. Seventh Series. 1898. J. B. Lippincott Company, Philadelphia.

THE X-RAYS. By Dr. F. S. Kolle. 8vo, 250 pages. Illustrated. J. S. Ogilvie Publishing Company, New York. Price, $1.00.

TRANSACTIONS OF THE OHIO STATE MEDICAL SOCIETY, 1897. Edited by Dr. R. Harvey Reed. 8vo, 488 pages. Illustrated. The Lansing Printing Company, Norwalk, Ohio.

THERAPEUTISCHES VADEMECUM. By Dr. Reinhold Ledermann. 8vo, 159 pages. Oscar Coblentz, Berlin.

DISEASES OF WOMEN. By Dr. J. C. Webster. 8vo, 688 pages. Illustrated. The Macmillan Company, New York. Price, $3.50.

LESSONS IN HYPNOTISM. By Leslie J. Meacham. 8vo, 180 pages. Illustrated. The Bishop Publishing Company, Cincinnati, Ohio.

THE YEAR BOOK OF TREATMENT FOR 1898. 8vo, 484 pages. Lea Brothers & Co., New York.

THE ESSENTIALS OF EXPERIMENTAL PHYSIOLOGY. By Dr. T. G. Brodie. 8vo, 231 pages. Illustrated. Longmans, Green & Co., New York.

RECENT MATERIA MEDICA. Fifth Edition. By F. H. Lescher, F.C.S. 8vo, 219 pages. J. & A. Churchill, London.

INTRODUCTION TO CHEMICAL METHODS OF CLINICAL DIAGNOSIS. By Dr. H. Tappeiner. Translated by Dr. Edmund J. McWeeney. Small 8vo, 152 pages. Illustrated. Longmans, Green & Co., New York.

PREMATURE BURIAL. By Dr. D. Walsh. Small 8vo, 49 pages. William Wood and Company, New York.

DISEASES OF WOMEN. By George E. Herman, M.B. Lond., F.R.C.P. 8vo, 886 pages. Illustrated. William Wood and Company, New York.

ATLAS AND ESSENTIALS OF PATHOLOGICAL ANATOMY. By Dr. O. Bollinger. Vol. I. (Wood's Medical Hand Atlases.) 8vo, 246 pages. William Wood and Company, New York.

EXCRETORY IRRITATION. By Dr. David Walsh. 8vo, 68 pages. William Wood and Company, New York.

A MANUAL OF PRACTICAL MEDICAL ELECTRICITY. By Dr. D. Turner. 8vo, 335 pages. Illustrated. William Wood and Company, New York.

DISEASES OF THE NOSE. By Dr. J. B. Ball. Third Edition. 8vo, 404 pages. Illustrated. William Wood and Company, New York.

THE PRACTICE OF MASSAGE. By A. S. Eccles, M.B. Second Edition. 8vo, 374 pages. William Wood and Company, New York.

THE ROENTGEN RAYS IN MEDICAL WORK. By Dr. D. Walsh and J. E. Greenhill. 8vo, 144 pages. Illustrated. William Wood and Company, New York.

AIR, FOOD, AND EXERCISES. By A. Rabagliati. Second Edition. 8vo, 220 pages. William Wood and Company, New York.

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Original Articles.

A NEW DIAGNOSTIC SIGN OF MEASLES.

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IN an article entitled "The Diagnosis of the Invasion of Measles from a Study of the Exanthema as it Appears on the Buccal Mucous Membrane,"[1] I described for the first time a hitherto unobserved and pathognomonic appearance of the mucous membrane lining the cheeks and the upper and lower lips. This phenomenon had never to my knowledge been described before, and, as I said in my first article, its importance in enabling us to make a positive diagnosis of the invasion of measles cannot be overestimated. Inasmuch as this very valuable, and, as I think, original sign of the invasion of measles before even the appearance of the eruption has not received the notice it should have received, I have decided to describe it here at greater length, and add some illustrative cases.

This new phenomenon of measles appears only on the mucous membrane lining the cheeks and lips, and I have called this the buccal mucous membrane as strictly distinguished from the mucous membrane of the other regions of the mouth, such as that of the soft and hard palates and fauces, which do not concern us here. The eruption or phenomenon or sign which I wish to describe appears on the mucous membrane of the cheeks and lips fully twenty-four or forty-eight or even seventy-two hours before the appearance of the eruption or exanthema of the skin. It spreads and reaches its height just as the skin eruption has appeared and is spreading. It then fades. Thus we have a sort of cycle.

If we look in the mouth, at the invasion of measles there is nothing distinctive, especially about the eruption on the pharynx or on the soft and hard palates. The throat in the beginning is reddened: the fauces and the soft palate may be spotted, but this is also the case in many other affections, such as grippe, rotheln, ordinary catarrhal angina, scarlet fever. In the latter the redness is diffuse, not spotted. The first twenty-four or forty-eight hours of the invasion of measles is marked by a suffusion, slight or marked, of the eyes, and the conjunctiva at the nasal canthus is not only reddened but is distinctly redundant. There is at this stage a slight febrile movement. There may be a cough or some little sneezing. The mother has noticed nothing except that the infant or child has a slight fever. At this period the eruption has not made its appearance on the skin. In the vast number of cases there is no suggestion of an exanthema. In a few cases there may be an indistinct spotting around the lips and alæ nasi, but there is no eruption. In other cases nothing is seen on the face, but the back may show a few discrete spots.

The Mouth.—If we look into the mouth at this period we see in a strong light the usual redness of the fauces, perhaps not in all cases a few spots on the soft palate. On the mucous membrane lining the cheeks and lips (buccal mucous membrane) we see a distinct and pathognomonic eruption. This consists of small irregular spots of a bright red color, in the centre of each spot is the interesting sign to which I wish to call attention. In strong daylight we see a most minute bluish-white speck. These minute bluish-white specks in the centre of a reddish spot are absolutely pathognomonic of beginning measles. I have never met them elsewhere, and, when once seen, they are a certain forerunner of the skin exanthema. These bluish-white specks are sometimes so delicate that they can be seen only in a strong window light. No one has ever called attention to these bluish-white specks as a forerunner of the skin eruption. Their background is the irregular red spots referred to above. They cannot be mistaken for sprue, for they are not so deeply white nor are they as large as sprue spots, and sometimes we must, as I said, look sharply and evert the mucous membrane of the cheeks to find them. These bluish-white specks surrounded by a red area are found, as I said, on the mucous membrane of the cheeks and lips and not on the soft or hard palate. Sometimes only a few red spots exist with their central bluish points, a dozen or more, and again these whitish specks may cover the whole lining membrane of the cheeks and lips. If these bluish-white specks on a spotted background are at the height of their development, they never become as white and opaque as sprue spots, and therefore can be easily differentiated after having been once seen. Nor do they ever coalesce to become plaque-like in form. They always retain their punctate character. If the mouth has been washed these spots may have been rubbed off, and then the appearance is lost. I have noted, and, as I will show, diagnosticated these bluish-white specks on the inside of the cheeks and lips when the other symptoms of measles were so slight that other physicians have doubted the diagnosis. Subsequent investigation showed that the diagnosis was invariably followed by the exanthema.

The Cycle.—The phenomenon which I have described above is of especial value at the outset, before the appearance of the exanthema, and at the first appearance of the invading spots of the measles. As the exanthema on the skin appears and spreads, the eruption on the mucous membrane inside of the cheeks and lips becomes diffuse and the characters of a discrete eruption or spotting disappear, and we have an intense general redness which is simply dusted over with myriads of these bluish-white specks. This being so, it will be seen that this eruption of bluish-white specks on a spotted or red background is of the greatest value at the very outset of the disease, before the appearance of the eruption: also at the beginning and height of the skin eruption. When the skin eruption or exanthema is at its efflorescence, the buccal eruption begins to fade and gradually disappears, even while the exanthema is still out. In the later stages of the fading skin eruption the phenomena described above are no longer seen.

In demonstrating to physicians I have found that they will invariably tell me that other authors describe red spotting. I have admitted that this is so, but that my phenomenon is the bluish-white specks on the red spotted background. Henoch describes the eruption

[1] Archives of Pediatrics, December, 1896.

on the mucous membrane of the mouth thus: "Before the end of the second day you may observe, especially in robust children, on the hard and soft palates a diffuse redness spotted in places. More often the pale mucous membrane shows the so-called palate exanthema to a greater or less extent, punctate or star-shaped spots. These when distinctly visible may be considered a positive evidence of beginning measles."

It will be seen that the above does not mention the phenomenon described by me. Baginsky in his text-book speaks of a "spotted red appearance of the pharynx." Barthez and Rilliet simply mention a redness of the throat as preceding the eruption of the skin, quoting Heine and Despine. Bednar makes no mention of the eruption. Osler says in his text-book:[1] "Examination of the throat may show a reddish hyperæmia or in some instances a distinct punctiform rash. Occasionally this spreads over the whole mucous membrane of the mouth, with the exception of the tongue." Bohn[2] says: "Generally on the second or third day after the onset of the fever there appears on the slightly hyperæmic mucous membrane of the soft palate, the uvula, and the pillars of the fauces, small and large, somewhat indistinct dark spots, which later on spread over the buccal mucous membrane, at times on the hard palate, the lips, the gums. Not uncommonly they develop from a punctiform injection. They soon assume a distinct form and deeper coloring, and are distinctly circumscribed from the rest of the mucous membrane."

Here also we see no mention of the phenomena I have described.

Series of Cases.—I give now a series of cases in which the phenomena I describe were found; to illustrate the certainty of diagnosis, and the early diagnosis of the disease, simply by its aid alone. These patients appeared in my ambulatorium, were immediately isolated, and the exanthema was observed at the house of the patient.

Case I.—Annie R——, nine years old; ill three days. Exanthema just showing on the face and a few spots on the neck. Buccal mucous membrane shows full crop of my eruption. Measles subsequently confirmed.

Case II.—Ida W——, fourteen months old: first day ill. No eruption on the body; bluish-white spots in the mouth. Pyrexia; diagnosis, measles. Exanthema appeared three days after.

Case III.—Max P——, twenty-two months old. No eruption on any part of the body or face. Has my spots on mucous membrane of the cheeks and lips. Diagnosis, measles; confirmed by appearance of exanthema next day.

Case IV.—Harry Q——, six and one-half years old; as been ill with fever and cough two days. Absolutely no sign of an exanthema on any part of the body or face. Diagnosis, measles; confirmed by appearance of exanthema two days after.

Case V.—Rose L——, one year old; ill three days. Has no exanthema on any part of body or a suggestion of any. Has my spots on the mucous membrane of the cheeks and lips. Diagnosis, measles; confirmed by observation.

Case VI.—Birdie L——, five years old; has been ill three days. Has no exanthema; spots as described on the mucous membrane of the cheeks and lips. Diagnosis, measles; confirmed by subsequent study.

Case VII.—Sara F——, five and one-half years old: has been ill three days. No eruption on the face, slight suffusion of the eyes, a few indefinite spots on the back and abdomen. Buccal eruption brilliant. Diagnosis, measles. Exanthema appeared next day.

Case VIII.—Rose X——, three years of age. No eruption on the face: slight indication of an eruption on the back; febrile movement; bronchitis. My eruption on the mucous membrane of the cheeks and lips slight. Diagnosis, measles; confirmed by subsequent observation.

Case IX.—Sam J——, two years old; has been ill two days. Absolutely no exanthema. My eruption on the mucous membrane of the cheeks and lips. Diagnosis, measles: confirmed by subsequent observation of the exanthema.

Case X.—Sadie S——, two years and three months old; has been ill three days. Absolutely no eruption on the body; eyes red. Mucous membrane of the cheeks and lips shows my spots. Diagnosis, measles; confirmed by subsequent appearance of the exanthema.

Case XI.—Harry S——, seven years old; has been ill two days. No exanthema on any part of the body; eyes red. My spots on the mucous membrane lining the cheeks and lips. Diagnosis, measles; confirmed.

Case XII.—David H——, four years old; has been ill three days. Eyes red and suffused; no exanthema on the face; a few spots on the abdomen, upper part. Buccal mucous membrane shows my eruption. Diagnosis, measles. Exanthema came out next day.

Case XIII.—Sam K——, six years old. Exanthema has just appeared on the face: a few spots around the chin and some on the body. Has my eruption on the mucous membrane of the cheeks and lips. Diagnosis, measles; confirmed.

Case XIV.—Bessie L——, eleven months old; this is the third day of the disease. Has a very slight and discrete eruption on the face and body. Mucous membrane of the cheeks and lips shows my white specks on the red background. Diagnosis, measles: confirmed.

Case XV.—Joseph Q——, three years and four months old. There is no eruption on the face: a few indefinite spots on the upper part of the back. The mucous membrane of the cheeks and lips shows the eruption I have described. Diagnosis, measles; confirmed.

Case XVI.—Harry W——, four and one-half years old; has been ill forty-eight hours. There is suffusion of the eyes; a few spots show indefinitely around the eyes and alæ nasi. Mucous membrane of cheeks and lips shows my spots. Diagnosis, measles: confirmed.

The above cases are not picked cases, but are taken just as they came to me in my dispensary and observed by me and my assistants. I will say that it is absolutely necessary that the mouth should not have been washed. If this occurs, then the bluish-white specks will have been rubbed off and we simply have the irregular red spots left on the mucous membrane of the cheeks and lips; and these are not my eruption, and, as I will show, may occur in other affections, not especially with measles (aphthæ).

Analysis of the Cases.—It is most interesting to note that the exanthema of measles does not always appear first on the face, but that the back and upper part of the abdomen are sometimes the seat of the first indications of the measles exanthema. Again measles can be positively diagnosed in some cases fully two or three days before the appearance of the exanthema; in all cases positively twenty-four hours ahead of the exanthema, and without hesitation, if a few spots of the exanthema are present, no matter what the statements of the parents may be as to a previous attack of measles. And here let me add that it has often occurred to me that the parents would scout the idea of measles on my diagnosis, saying the child had had a previous attack. In these cases I have invariably had the parents tell me at a subsequent meeting that my diagnosis was correct. Of course the question always arises whether the first attack was one of real measles. I cannot stop over this question here.

The great value of this new sign of measles is shown in aborting epidemics of the disease in hospitals and

[1] 1892 edition. [2] Gerhardt's "Handbook."

institutions in which large numbers of children are housed. I have had occasion to see the test applied in an institution with which I am connected, with much satisfaction to the staff. In this hospital the question of the presence or absence of measles has often arisen since I have demonstrated my sign to the staff, and cases have been decided positively on its presence or absence. In a children's ward or in a large ambulatory clinic it can be readily understood how satisfactory it is both to the physician and patient, if a diagnosis of measles can be made before the appearance of the exanthema on any part of the body. Isolation is then practised at the earliest period.

Differential Diagnosis.—This sign of beginning measles is valuable not only in diagnosing the disease, but in sharply differentiating measles from a number of skin eruptions which in their onset simulate the measles rash very closely. Among these diseases we find rötheln, or German measles, forms of erythema multiforme, drug eruptions (quinine), scarlet fever. Again, beginning grippe is apt to simulate beginning measles. Aphthæ in the mouth are apt to be mistaken for measles eruption.

Rötheln: In rötheln we may have at most a slight reddening of the tonsils and the pillars of the fauces. The mucous membrane lining the cheeks and lips does not show the white specks, described above, on a reddened background. The mucous membrane has a normal pale pink hue. There may be a slight rise of temperature.

Erythema multiforme, or urticarious eruptions in infants or children, will often resemble very closely a measles rash, and mothers will send in great haste for the physician in order to decide the question of isolation from other children. It is also a serious matter, if the diagnosis of measles is once made, to keep the infant or child in the house, especially if we find that in a day or so the skin eruption has disappeared. In erythema or urticarious eruptions the buccal mucous membrane will decide the question at once. If the white specks on the red speckled background are absent, we may positively rule out measles.

Drug eruptions: I have seen the test applied to supposed cases of drug eruptions. In drug eruptions my sign is absent (cinchona, antipyrin).

Grippe: Beginning grippe simulates measles very closely. There are the suffusion of the eyes, coryza, and pyrexia. In grippe the mucous membrane covering the cheeks and lips has a normal pale pink hue.

Scarlet fever: The invasion of scarlet fever is marked by a redness of the fauces and also tonsillitis; there are a few red spots on the soft palate in most cases. The buccal mucous membrane has a pale normal hue; the measles signs are absent.

Aphthous stomatitis: The presence of small aphthæ in the mouth on the mucous membrane of the cheeks and lips is often associated with a slight febrile movement. They should not be mistaken for our sign. The spots of aphthæ are much larger and yellowish, and show ulcerations.

Examining for this Sign of Measles.—I have found that when asked about my sign of measles physicians would invariably say that they had seen it of old, when in reality closer questioning revealed the fact that they had reference to the red punctate appearance of the mucous membrane, which in itself is not my sign nor is it particularly diagnostic. They refer to the text-books, and reiterate that these spots are found on the soft and hard palates. I find in all these cases that physicians in reality have not seen or understood my sign of measles.

My sign can be seen only in very strong daylight falling from a window direct on the mucous membrane. It is then necessary to evert the mucous membrane covering the lips and cheeks, either with the fingers or by means of a spatula. One can then see by close study the infinitesimally minute bluish-white specks on a reddish punctate area in beginning measles, and on a more diffusely reddened background in advanced cases, which are absolutely pathognomonic of measles.

66 East Fifty-Eighth Street.

INSUFFICIENCY OF THE OCULAR MUSCLES.

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On the 18th of May, 1893, I read before the ophthalmological section of the Academy of Medicine a paper on the insufficiency of the ocular muscles due to errors of refraction. I presented in that paper an original idea of mine, based upon the results of my work, and reported two hundred cases to prove the correctness of my conclusions. The especial point in the paper was to show that a vertical as well as a horizontal tendency for the eyes to deviate existed when the two eyes differed in refraction, and a horizontal tendency only when the refraction was the same. I have two especial objects in this paper: the one above mentioned, and the other to show that insufficiencies of the oblique muscles are due to a difference in the refraction of the two eyes, and that they cannot be found to exist when the refraction is the same. This last idea did not come to me until I had finished copying my cases for this report. I concluded to investigate and examined a few cases, and found three with oblique tendency, all of which were in patients whose eyes differed in refraction, and none in those whose eyes had the same refraction, though I found some difference in refraction in patients whose eyes showed no oblique tendency. I made my examinations with the Madox double prism. Dr. Eaton, of Portland, Ore., says that the oblique tendency exists frequently when it cannot be found with Madox prisms. As I am not familiar with his method of testing, I shall not attempt to explain it. He and others have written at some length on this subject, but it would take up too much space and time to include their views in this paper.

In my other paper I explained how the eyes turned downward as well as inward in accommodation, by the contraction of the inferior recti. I believed that the superior recti also acted in accommodation, but that, as the inferior recti were attached nearer to the cornea, they had the control of the eyes over the superior recti. We know that when we read a book or paper it is held below the horizontal plane of our eyes, and the nearer we hold the paper to us the farther it is below the horizontal plane. For instance, it is farther below the horizontal plane held thirteen inches or 3 D distant, than it is at twenty inches or 2 D distant. If we should have a hypermetropia in both eyes of 2 D, the tendency would be to converge to a point twenty inches from the eyes and downward in the same ratio. Again, if the hypermetropia should be 3 D in each eye, the tendency would be to a point thirteen inches and downward in the same ratio, provided the ciliary muscles had corrected the hypermetropia. If one eye had hypermetropia of 2 D, the tendency of that eye would be to converge to a point twenty inches distant and a little downward; and if the fellow eye had hypermetropia of 3 D, the tendency of that eye would be to a point thirteen inches distant and still farther below the horizontal plane.

In studying the cause of oblique insufficiency, I included the inferior obliques in the action of ac-

[1] Read before the ophthalmic section of the New York Academy of Medicine, May 17, 1897.

commodation, which embraces all the external ocular muscles supplied by the third nerve. While these muscles are contracting they have the control over the externi and superior obliques, which are then in a state of relaxation. If such a physiological action did not exist at the time of accommodation, the vertical meridians of the retina would be turned outward below and inward above from the vertical plane. Instead of the upper part of the eyes being turned outward by the inferior obliques, to retain their vertical plane in accommodation, the superior recti and inferior obliques counterbalance each other, while the superior obliques, which turn the eyes downward and outward, relax with the externi, and allow the inferior recti and interni to turn the eyes downward and inward, which keeps the eyes in their vertical plane.

In a case of hypermetropia the same in both eyes, the tendency is inward and downward and there is a torsion inward and downward the same with both eyes. If one eye has more hypermetropia than the fellow eye, and both are corrected by accommodation, the torsion downward and inward will be greater of the eye with the larger amount of hypermetropia, and consequently the vertical meridian of the retina will be thrown in a different plane, which will give the oblique insufficiency.

Myopic eyes are most always different in refraction and consequently cannot focus together, and for another reason the images are of different sizes on the retinæ. This causes a confusion, and as the eyes are without accommodation, or have less than is necessary for the required amount of convergence, the eye having the greater amount of myopia, or the poorer vision, is turned outward and downward by the externus and superior oblique, which are supplied by the fourth and sixth nerves, while the muscles supplied by the third nerve are in a state of relaxation. In this way that eye is turned below the plane of its fellow eye, and also has a torsion downward and outward. To explain more fully, I will take the obliques, the superior and inferior recti, in their paralyzed state. When the superior oblique of one eye is paralyzed, the vertical plane is turned inward below and outward above. A candle flame would then be tipped toward the nasal side, because the image of the upper part of the flame would be on the temporal side of the vertical meridian of the retina at the lower part of the macula, while the image of the base of the flame would be toward the nasal side of the vertical meridian of the retina at the upper part of the macula, which would turn the base of the flame outward. Again, the horizontal plane of the eye would be turned downward on the temporal side and upward on the nasal side. Place the double prisms base together, apices up and down, before the eye not affected, then place a card with a horizontal line in front of patient twelve inches or more distant, so that two parallel lines on a horizontal plane are seen with the eye behind the prisms. The eye affected would see one line between the two displaced lines. This middle line would run upward toward the temporal end and downward toward the nasal end.

When an eye has more hypermetropia than its fellow eye, the horizontal plane on its temporal half moves downward and on its nasal half upward more than does that of the fellow eye. The double prism being over the eye with less hypermetropia, the middle line seen with the greater hypermetropic eye would point the temporal end upward and the nasal end downward.

Paralysis of the superior rectus gives a torsion of the eye in the same direction as the superior oblique. Paralysis of the inferior rectus of an eye would allow the vertical torsion outward below and inward above, thus turning the lower half of the vertical plane outward, the temporal half of the horizontal plane upward, the upper half of the vertical plane inward, and the nasal half of the horizontal plane downward. The candle flame would tip outward above and inward at its base; the middle horizontal line with Madox prisms would turn downward to the temporal side and upward to the nasal side. Paralysis of the inferior oblique has the same torsion as has that of the inferior rectus.

In myopia the better eye fixes while the other turns downward and outward, and we have an entire relaxation of accommodation and a relaxation of the external ocular muscles supplied by the third nerve. This gives a torsion outward of the lower half of the vertical plane, upward of the temporal half of the horizontal plane, inward of the upper half of the vertical plane, and downward of the nasal half of the horizontal plane, thus tipping the candle flame outward above and inward below. The horizontal line is turned downward on the temporal side and upward on the nasal side, just as the paralysis of the inferior rectus or the inferior oblique.

When an eye that has more hypermetropia than its fellow eye fixes, the fellow eye turns or has a tendency to turn upward and inward, and the torsion will be inward below and outward above, just as the torsion of the greater hypermetropic eye would be if the fellow eye fixed. The greater hypermetropic eye fixes below the plane of the fellow eye, or the lesser hypermetropic eye fixes above the plane of the greater hypermetropic eye.

As I said before, the eye having the greater amount of myopia turns downward and outward by a relaxation of all the muscles supplied by the third nerve and a contraction of the external and superior oblique, and when that eye fixes the other eye turns upward and outward, still keeping the eye with the more myopia on a lower plane: but the torsion is inward above and outward below with either eye, just the opposite to hypermetropia, and consequently the candle is tipped outward above, and the horizontal line downward on temporal side and upward on the nasal side, just the reverse of hypermetropia. It is a very common thing to see a person with one eye turning downward and outward, and when that eye is made to fix the other eye turns upward and outward: the eye with the greater amount of myopia always keeping on a lower plane.

I do not hesitate to say that the right way to correct these tendencies to deviate is very simple and easy, but the wrong way will get one into a lot of trouble sooner or later. Theories that the muscle is attached too far forward or too near the cornea and must be set back by a tenotomy: or that it is too strong and either it must be cut or the muscle called the weaker muscle must be exercised by prisms to make it as strong as the opposing muscle; or to prescribe prisms to wear to make up the deficiency, are wrong in my opinion. I believe that some of our oculists who have worked on this line are becoming more conservative and depend more upon correcting the error of refraction. The compromise that some of them have made is that there are a pseudo and a true tendency to deviate—that is, if hypermetropia and esophoria exist, the amount of esophoria corrected by the correcting-glasses is the pseudo, and whatever remains is the true and should be removed by operation or prisms; also if exophoria exists with hypermetropia, it is true exophoria, and the scissors or prisms should be resorted to: that to give convex glasses, epecially the full correction, would increase the exophoria and consequently increase the asthenopia; that the amount of exophoria left when myopic eyes are corrected is the true, and should be corrected by tenotomy or prisms; that if esophoria exists with myopia, glasses may be prescribed for distant but not for near vision, as they would increase the esophoria and consequently the asthenopia.

Nothing is more perfectly adjusted than a pair of emmetropic eyes, free from paralysis, from paresis of their muscles, or from lesions. And there is no machine or organ that could lose its balance more easily. The controlling impulse is, first, to see as distinctly as possible, and secondly, to have an image of one object on each macula. Errors of refraction bring about all this disturbance in the correct balance of the external ocular muscles, and in my opinion an overcounterbalance can easily occur which would cause exophoria with hypermetropia and esophoria with myopia. The first impulse with hypermetropic eyes causes the ciliary muscles to contract, which brings about an involuntary contraction of the interni. Homonymous diplopia is prevented by a voluntary contraction of the externi. I believe it is an overvoluntary contraction of the externi in some cases that causes exophoria, or the line of central vision to move slightly too far outward. Correct the hypermetropia, and you remove the necessity of accommodation over and above what is required by emmetropic eye; the interni are then not forced to contract, and a voluntary contraction of the externi is not called for, and your exophoria with hypermetropia is corrected.

I believe that esophoria exists with myopia when there is an attempt to attain binocular single vision by a voluntary contraction of the interni; this voluntary contraction is overdone, and brings the line of vision beyond the line of vision of the other eye, just as a person running is unable to stop on a line.

If prisms are prescribed for esophoria with hypermetropia, they cause a voluntary contraction of the interni to overcome the amount of the prisms plus the involuntary contraction of the interni induced by contraction of the ciliary muscles. You will find the esophoria about the same with the prisms on after a few days' or weeks' wearing as it was on first examination before prisms were prescribed. If prisms are prescribed, with the hypermetropic correction exophoria is produced to the amount of the prisms, and is corrected by a voluntary contraction of the interni, since the esophoria was corrected by the correcting glasses. In myopia with exophoria the same voluntary contraction exists to overcome the prisms, in addition to the muscle action due to the myopia. If the myopia is different in the two eyes, the eye with more myopia will turn outward and downward in spite of all the prisms worn in front of the eye, as it is impossible for the object to be seen as one by throwing the image on the macula of the turned eye by a prism, since the images are different in size and the eye turns out just as much more to escape diplopia. If the prisms are prescribed with the correcting-glasses, esophoria is produced, because the glasses correct the exophoria, and the prisms, base in, make esophoria, which is corrected by the same amount of divergence that existed before the correcting-glasses were worn.

Prism exercises are resorted to with the object of increasing the strength of the weak muscle. If such a thing is possible it is not necessary, since the muscle is not too weak, nor is the opposing muscle too strong, but there is simply an overcontraction, which will be shown by a number of cases I shall describe at the close of this paper. It is bad practice, not only in that it does no good but also for the reason that it does harm. Nervous patients, women and children, for instance, it sends home exhausted bodily, and nothing short of a few hours in bed recuperates them. Several years ago I tried the prism practice on a few patients, and on their next visit they would tell me how exhausted they were, and that they had to go to bed for the rest of the day.

Partial tenotomies are misleading to both physician and patient, inasmuch as the eyes have an absolute rest for two or three weeks after the operation, which causes the disappearance of the asthenopia. Such patients would not dare use their eyes so long as they could see any blood under the conjunctiva. It is still more misleading when glasses are prescribed just after the operation, for, if they are the right glasses and no effect has been produced by the tenotomy, the operator never finds out that the tenotomy did not help to cure the asthenopia.

When by the operation an effect has been attained in removing entirely or partly the tendency to deviate, the surgeon and patient meet with a more serious difficulty. This difficulty is in retaining binocular single vision, more especially if the patient looks in the direction of the cut muscle, which has lost its ability to move the eye as far in that direction as the associated muscle can move the fellow eye in the same direction; consequently the eye with the cut muscle lags behind its fellow eye on account of the muscle being set farther back than its normal attachment. The effect is just the same if only part of the tendency to deviate is corrected by the tenotomy. That is, if one cuts for ten degrees of esophoria and still has five degrees of it left, when the patient looks toward the cut muscle he has exophoria or crossed diplopia. If an externus is cut for exophoria and only part of the exophoria is corrected, the patient has esophoria or homonymous diplopia when looking in the direction of the cut muscle. Not alone is the associated movement of the eyes disturbed, but also convergence in accommodation. If it is the internus which is cut, that eye does not come up to the same line of focus with its fellow eye; and if it is the externus, that eye moves beyond the line of focus with the other eye. Hypermetropic glasses give some relief, so far as to take the strain from the ciliary muscles. Myopic glasses give relief so far as to induce convergence in accommodation and take the strain from the cut externus. But these cases are never entirely relieved by glasses. If the muscle can be recut and brought forward to its original attachment, then the glasses will complete the cure, just as they would have done if the muscle had never been cut.

In order to remove the vertical tendency to deviate and also the oblique, correct the difference of refraction between the two eyes. To remove the horizontal tendency to deviate along with the vertical it may be necessary to correct the total amount of hypermetropia in both eyes, but usually this is not necessary if the uncorrected amount is small and the same. This then gives the same amount of work for the ciliary muscles to do, and the same amount of work for the external ocular muscles, which are associated with the ciliary muscles. The eyes then converge the same, and the line of vision is the same below the horizontal plane in convergence.

Manifest hypermetropia varies according to the way the examination is made. I remember finding in a patient 4 D in both eyes at once, when only a $\frac{1}{4}$ D had been found testing each eye separately. In another patient, who was wearing +0.50, examination showed no manifest hypermetropia with each eye separately, but with +1.5 D over both eyes the vision was $\frac{20}{15}$, and more distinct than without.

My method of finding manifest hypermetropia is to place the next stronger glass in front of the eye under examination before removing the one already in front of the eye, thus preventing the eye from accommodating to the amount of the glass removed, and to continue on in this way until the eye refuses a glass. I then place the next stronger and remove the glass which was refused. In a few seconds I replace the latter and then remove the stronger glass, and the chances are about equal that the glass first refused will be accepted. I then go on in this way until the eye refuses to accept the next weaker glass after the stronger has been removed.

After getting this result in each eye, I place the combination before both and work them up together by increasing the combination the same and in the same way as in each eye separately. It depends largely upon the intelligence of the patient as to the amount of manifest hypermetropia with both eyes together, over the amount of each tested separately. The intellectual class accepts a small amount of increase if any, while the most unintellectual are as a class as much disturbed over a blind in front of one eye as though it were a mosquito or bee flying around one eye. After you have explained why you have one eye covered they become a little more quiet, but accommodate to their utmost to see as much with one eye as they did with both. This would probably cause them to refuse the weakest convex glass, when they would accept a strong convex glass by giving them their natural way of seeing, both eyes together. Some patients refuse to show much manifest hypermetropia in any way you examine for the distance, when they are positively unable to read the diamond type or see it with difficulty, and often under a strain, with their manifest correction. In a case like this increase the strength of the manifest glass until they can read the diamond type easily. When you have arrived at this combination of glasses, give them ten minutes' time to read with it, and if there is no drawing or smarting feeling of the eyes, that is, if the eyes feel perfectly comfortable and easy, you may be sure that they have at least that much hypermetropia. When these glasses are prescribed, the more they are used for the near the sooner they will become all right for the distant wearing also. As patients more often complain of their eyes for near work, and the majority of them have to earn their living by near work, and children more often complain only of their eyes while studying, it is more important to give the correction best suited for the near. The difference between the manifest for the near and for the distant soon becomes the manifest for the distant. Your patients should be made as intelligent as possible about wearing their glasses, or they will soon become disgusted with the blurring of those for the distant and refuse to wear them any longer. If they are intelligent enough to understand the reason why there is a blurring at the distant, and why they should wear glasses for the distant as much as possible, they will do so. You may compromise with them by letting them take their glasses off in the street, but must insist that they keep them on while they are indoors, as most of the things they want to see while at work are within a few feet of them, which requires a small amount of accommodation. In this way they would have their glasses on almost the entire day and would soon accept them also for the street. The majority of patients who have prescribed for them the manifest of each eye for the distant have to change their glasses from time to time for stronger ones, which in the end gives them much more trouble and expense for glasses and examinations.

My plan of examination is to use the ophthalmoscope first, for a foundation. If pains are taken in this examination, the total or very nearly the total amount of hypermetropia can be found. When I turn on a convex glass that blurs the retinal vessels, I continue to look with it, and if more hypermetropia exists the patient soon relaxes the accommodation, as he is looking into a dark space with the eye not under examination, while the ophthalmoscope is too near the eye under examination for accommodation. An estimate can be made also of the astigmatism and its axis, if any exists. My second examination is made with the ophthalmometer. If it shows astigmatism, I know whether it is myopic or hypermetropic, as my ophthalmoscope has given me that information. I consider the primary position as being at the axis where the mires begin to lap. In this position, should there be myopic astigmatism, the long pointer indicates the axis of the myopic glass on the test frame; and if hypermetropic, the two short pointers which are on the mires indicate the axis of the convex cylinders on the test frame. That is, the mires lap up to the shortest curvature of the cornea. When plus and minus marks are placed before their respective hypermetropic and myopic astigmatism and the right axis for the glass is ascertained, the matter is very much simplified. The third step in the examination is to see what the tendency to deviate is, and the amount. If it is only a horizontal tendency, I expect to see the same error of refraction in the two eyes. If a vertical tendency exists alone, or together with a horizontal tendency, I expect to find that one eye has more error of refraction than the fellow eye. The fourth step of examination is with the test lenses, as before described. Lastly I make a note of the amount of the tendency to deviate with the glasses on. Thus having made the examination with the test lenses the last part of the examination, you are intelligent as to the result you ought to get with the test lenses and thus avoid the use of atropine in about ninety-five per cent. of cases. In permanent squint one eye is amblyopic and should have an absolute correction to correct the squint; it should be examined and have glasses prescribed under atropine.

In alternating squint neither eye is amblyopic and it takes less inducement to make the eyes see together, and it is seldom necessary to use atropine; besides, they usually have the same error of refraction.

Another suggestion I will make about manifest hypermetropia. In compound hypermetropic astigmatism, with one eye at a time under examination, both glasses together are often refused, while either glass separately improves the vision, and with both eyes together a sphero-cylindrical is accepted over each eye by using on the cylindrical combination and then with both eyes placing the same strength of spherical behind each cylinder and gradually increasing the strength until the maximum manifest is found. Again, when hypermetropia exists in both eyes with astigmatism in only one, the eye having the astigmatism refuses the spherical while the cylinder is on the eye. In this way a mistake is too often made by giving the spherical for one eye and a cylinder for the other. Instead of prescribing the above combination, place it in a frame before the eyes and then place a weak spherical along with the cylindrical and increase its strength up to the strength of the other spherical. As the strength of the glass approaches the strength of the other spherical, if the comfort of the eyes increases and the vision becomes more steady, you may be sure that you are not overcorrecting the hypermetropia in the astigmatic eye.

In compound hypermetropic astigmatism, differing in the two eyes, the difference is in the astigmatism, while the spherical part is the same in almost every case.

In myopia I always correct the whole amount in each eye, and have all patients under the age of presbyopia wear the full correction for near work as well as for distant, except in maximum degrees of myopia, say from 15 D to 20 D, when it seems impossible for them to read or do near work without a weaker glass. When this reduction is made I find that about 3 D has to be taken off the full correction. This amount of reduction brings the far point to thirteen inches. The patient can then see at thirteen inches without accommodation. When the myopia then is either 15, 16, 17, 18, 19, or 20 D, the reading glasses should be 12, 13, 14, 15, 16, or 17 D.

Such strong concave glasses would act as two prisms, bases in, as the rays of light coming from a point thirteen inches in front of the eyes diverge toward each

pupil and fall on the nasal side of the centre of each glass, provided the centres of the glasses are directly in front of each pupil. This would make up for the deficiency in convergence due to weak accommodation.

When the myopia is of a less degree than above mentioned, the total correction can be worn for both far and near unless the patient has approached too near the presbyopic age.

Myopia increases when an undercorrection is given for all distances and also when full correction is given for the distant and undercorrection for the near, under the presbyopic age, in just the same way as though no glasses were worn.

A positive proof of the above statement is from the large number of such patients who have been under my observation; their statement as to the doctor's examination and ordering of glasses; my measurement of their glasses; and my measurement of their refraction, showing that stronger glasses were required than their strongest glasses, which were intended for their full correction (or their distant glasses).

I remember only two cases in which when I gave the full correction to be worn for both far and near the myopia increased, and in one of the cases I prescribed the glasses under atropine, with which the myopia was 0.25 D less than without the atropine. The other was one of my first cases when I began ophthalmology. At that time I may not have given the exact or full correction. By giving the full correction to be worn all the time, the power of convergence is restored by the necessary action of the ciliary muscles for the near point, as the interni are stimulated to contract in the same proportion as is the ciliary muscle. Only the full correction restores entirely the power of accommodation and convergence, which does away with the tendency to divergence. When you give a partial correction for the near point you partly correct the tendency to divergence, or the tendency may remain just the same, as the inability to retain binocular single vision causes one eye to seek refuge far enough outward to avoid double vision, just as before any glasses were worn. It is evident to me that it is the tendency to deviate outward, or a deviation outward, that causes an increase of myopia, and for the same reason I believe that the starting-point of acquired myopia is the tendency to divergence in hypermetropia, which I attempted to explain while on the subject of hypermetropia.

When the myopia is different in the two eyes and the same strength of glass is given for both eyes, the point at which accommodation begins in one eye is different from that in the fellow eye. While focussing with the less myopic eye at the more distant point, the object appears blurred to the more myopic eye and looks larger. While the more myopic eye with its partial correction is focussing at a certain point, the less myopic eye, which has the same strength of glass, would see the object blurred and smaller. In either case, the more nearly the error is corrected the more distinct the object becomes, and the more the discarded eye is forced to recognize the object. This forces both eyes to try to work, though it is impossible for them to work together. It is not so bad for the patient if a plain glass is prescribed for the more myopic eye and a correction is given for the other eye, as the more myopic has become accustomed to discarding the image, and also as the difference of focus, distinctness, and size of the object have been increased by correcting the better eye.

Notwithstanding this there is a disturbance by the uncorrected eye in accommodation, for the nearer the object approaches the more distinct it becomes, and if the eye is not very near sighted there will be a point where it will be obliged to recognize the object.

In prescribing the full correction in myopia, I advise patients not to use their eyes for the near any more at first than they are obliged to do, and they will find that they will be able to use them longer each day, as the strength of the ciliary muscle will gradually recover. I have written up five hundred and forty cases for this report, but could have only five hundred and fourteen in the table which will be found at the conclusion of this paper. In the remaining twenty-six either the patient had been wearing prisms or some muscle had been crippled by a tenotomy, and consequently they could not be classed with the other cases. This fact was not noticed until they were written up and numbered.

I will present thirty-three cases selected from the five hunderd and forty, giving only my examination.

Case XVIII.—Miss K——, aged eighteen years. August 9, 1890. Old glasses are: R. +0.50 D prism 3 base in; L. +0.75 D +0.25 D ax. 90°. Reading small print one line becomes two, one above the other. R. V. = $\frac{20}{15}$; $\frac{20}{10}$ with + 1 D. L. V. = $\frac{20}{50}$; $\frac{20}{20}$ + with +1 D ⌒ +1 D ax. 95°. Hypophoria, L. ¾°. Exophoria, 4°. With the above correction, orthophoria.

Case XXX.—Mr. R——, aged twenty-eight years. October 2, 1890. R. V. = $\frac{5}{200}$; $\frac{20}{15}$ with −6 D ⌒ −0.75 D ax. 135°. L. V. = $\frac{20}{200}$; $\frac{20}{15}$ with −6 D. Hypophoria, R. 1°. Exophoria, 3°. With above correction, orthophoria.

Case XXXI.—Miss D——, aged thirty-six years. October 3, 1890. Under the care of a neurologist for nervousness. She is wearing +4 D. R. V. = $\frac{20}{100}$, $\frac{20}{40}$ with +5 D ax. 75°. L. V. = $\frac{20}{100}$; $\frac{20}{40}$ with +3.5 D ax. 105°. Hyperphoria, R. 2°. With above glasses, hyperphoria, ½°.

Case LIII.—Mrs. T——, aged sixty-six years. November 20, 1890. R. V. = $\frac{20}{20}$ with +4.50 D. L. V. = $\frac{20}{20}$ with +5 D. Hypophoria, L. 3°. Exophoria, 6°. With above glasses, orthophoria.

Case LIV.—Mrs. O——, aged twenty-nine years. November 24, 1890. R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with +0.50 D ax. 90°. L. V. = $\frac{20}{20}$; $\frac{20}{15}$ with +0.50 D ax. 90°. Next day atropine three times. R. V. = $\frac{20}{100}$; $\frac{20}{20}$ with +1.75 D. L. V. = $\frac{20}{100}$; $\frac{20}{20}$ with +1.75 D. Esophoria, 16°. With red glass, homonymous diplopia, 16°. With 0.75 D, esophoria, 3°. Ordered +1.150 D.

January 3, 1893. Over two years since the 1.50 D was ordered. With 1.50 D, esophoria, 6°; with 1.75 D, esophoria, 4°; with 2 D, esophoria, 0. V. = $\frac{20}{15}$ with +2 D, and more comfortable than with any other glass ordered. The esophoria 6° with the +1.50 D would be called the true esophoria by some of our distinguished oculists, because that much of the 16° was not corrected by wearing the +1.50 D.

Case LX.—Miss McL——, aged forty-eight years. December 9, 1890. R. V. = $\frac{20}{15}$; E. L. V. = $\frac{20}{50}$ −; $\frac{20}{30}$ with −0.75 D ax. 30°. Red glass showed crossed diplopia, 14°, and vertical diplopia, 8°. With red glass and correction for the left eye a pink candle flame is seen and she cannot make diplopia by trying.

Case C.—Miss C——, aged twenty-six years. March 6, 1891. Has 0.75 D, axis 90°, both. R. V. = $\frac{20}{50}$ +; $\frac{20}{15}$ with −0.50 D ⌒ +1.50 D ax. 75°. L. V. = $\frac{20}{100}$; $\frac{20}{15}$ − with −0.50 D ⌒ +2 D ax. 105°. Hypophoria, left ½°. With above correction, orthophoria.

February 15, 1894. Her eyes feel as though something was in them. Could make no change of the glasses and with them orthophoria.

Case XIII.—Mrs. H——, aged fifty-three years. May 12, 1891. R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with +0.75 D. L. V. = $\frac{20}{30}$ +; $\frac{20}{15}$ with +1 D ax. 120°. Hypophoria, L. 1°. With above combination, orthophoria.

Case CXXXII.—Mrs. K——, aged twenty-seven years. May 14, 1891. R. V. = $\frac{4}{200}$; $\frac{20}{20}$ with −8 D. L. V. = $\frac{4}{200}$; $\frac{20}{20}$ with −8 D. Red glass over one eye, candle flame crossed 3° and level. With above correction and red glass, only one light.

Case CXXXVIII.—Mrs. William H——, aged forty-eight years. June 20, 1891. London, England. R. V.= $\frac{20}{200}$; $\frac{20}{100}$ with −9 D. L. V.= $\frac{20}{15}$; E. Hypophoria, R. 4°. With −9 D over right eye and a red glass the lights are level. Ordered R. −9 D, L. plain glass.

June 14, 1892. One year later less six days. She says that the glasses cured her headaches.

Case CLXX.—October 6, 1891. Miss B——, aged fourteen years. R. V.= $\frac{20}{20}$; $\frac{20}{15}$ with +0.75 D. L. V. = $\frac{20}{30}$; $\frac{20}{15}$ with +0.75 D. Esophoria, 9°. No vertical tendency. Ophthalmoscope, +1.25 D.

November 11, 1892. Under atropine. R. V.= $\frac{20}{20}$; $\frac{20}{15}$ with +1.25 D. L. V.= $\frac{20}{30}$; $\frac{20}{15}$ with +1.25 D. Ordered the latter.

September 30, 1893. With her glasses +1.25 D, orthophoria.

Case CLXXIV.—October 10, 1894. S. G——, aged thirty-five years. R. V.= $\frac{20}{200}$; $\frac{20}{30}$ with −6 D. L. V. = $\frac{12}{200}$; $\frac{20}{30}$ with −9 D. With red glass over right eye the red flame is seen to the left and below, showing that the left eye is turning downward and outward. With the correction the lights are level but slightly crossed.

Case CCXXXVIII.—February 24, 1892. Miss M——, aged twenty-one years. R. V.= $\frac{20}{30}$; $\frac{20}{20}$ with −0.75 D ax. 165°. L. V.= $\frac{20}{30}$; $\frac{20}{20}$ with −0.50 D ax. 180°. Exophoria, 12. Hyperphoria, 1°. Crossed diplopia with red glass, which was corrected by the above combination and red glass remaining in front of one eye.

Case CCLXXXIII.—July 12, 1892. F. W. B——, aged three years. R. V.= $\frac{20}{40}$; $\frac{20}{30}$ with +3 D ax. 90° ⊂ −0.75 D ax. 180°. L. V. = $\frac{20}{20}$; E. Esophoria, 2°. Hyperphoria, R. ½°. Corrected with the above.

Case CCCXX.—October 13, 1892. Miss W——, aged forty years. Old glasses are 2 D. R. V.= $\frac{3}{200}$; $\frac{20}{40}$—with −9 D ⊂ −0.75 D ax. 180°. L. V.= $\frac{20}{30}$; $\frac{20}{15}$ +with +1.25 D ax. 90°. With red glass crossed and vertical diplopia, the right eye turning downward and outward. With red glass and the correcting-glasses, the lights moved into one light, which made the eyes comfortable. The above glasses were ordered for distance. For reading R. −8 D ⊂ −0.75 D ax. 180°. L. 1 D ⊃ +1.25 D ax. 90°.

Case CCII.—December 3, 1891. William N——, aged twenty-three years. R. V.= $\frac{20}{30}$+; $\frac{20}{20}$ with −0.75 D ax. 180°. L. V.= $\frac{20}{20}$; better with −0.25 D ax. 180°.

December 5, 1891. Under homatropine. Esophoria, 30°. Hypophoria, R. 2°. R. V.= $\frac{20}{200}$; $\frac{20}{30}$ +with +2.25 D ⊃ +1.25 D ax. 90°. L. V.= $\frac{20}{20}$; $\frac{20}{20}$ +with +1.50 D. With the last glasses, orthophoria.

Case CCXII.—December 28, 1891. Miss K——, aged seventeen years. R. V.= $\frac{20}{30}$ with +1.50 D ⊃ +1.25 D ax. 90°. L. V.= $\frac{20}{30}$ with +1.50 D ⊃ +1.25 D ax. 90°. Esophoria, 9°. No vertical tendency to deviate. With above correction, orthophoria.

Case CCXVI.—Miss W——, aged twenty-seven years. R. V.= $\frac{6}{200}$; $\frac{20}{30}$ with −9 D ⊃ −1.50 D ax. 160°. L. V.= $\frac{6}{200}$; $\frac{20}{30}$ with −7 D ⊂ −1.50 D ax. 15°. Hypophoria, R. 1°. Exophoria, 2°. With above correction, orthophoria.

Case CCCXLVI.—January 9, 1893. F. A. D——, aged twenty-seven years. R. V.= $\frac{20}{200}$; $\frac{20}{20}$ +with −2 D. L. V.= $\frac{20}{200}$; $\frac{20}{15}$ —with −1 D. With red glass over the left eye the red light is to the right and below, showing a turning downward and outward of the right or more myopic eye. Diplopia corrected by the glasses.

Case CCCLIII.—Mrs. F. M——, aged twenty-four years. R. V.= $\frac{8}{200}$; $\frac{20}{20}$ with −4 D. L. V.= $\frac{12}{200}$; $\frac{20}{20}$ with −3 D. Exotropia, 23°. Hypertropia, R. 7°. Second examination showed R. V.= $\frac{20}{15}$ with −3.50 D. L. V.= $\frac{20}{15}$ with −2.50 D. With last, above orthophoria and perfectly comfortable.

Case CCCLIX.—February 27, 1893. Mrs. E. O——, aged thirty-five years. R. V.= $\frac{20}{30}$ + with −5 D ax. 30° ⊂ +1.50 D. L. V.= $\frac{20}{30}$ + with −0.50 D ax. 150°. With red glass, right eye turns outward 3° and downward 1°. Corrected by the above glasses.

Case CCCLXXXVII.—May 15, 1893. Miss E. Z——, aged twenty years. R. V.= $\frac{20}{30}$; $\frac{20}{20}$+with +3 D. L. V. = $\frac{20}{30}$; $\frac{20}{20}$ + with +3 D. Esophoria, 14°; with +3 D, only 4°. Homonymous diplopia with red glass. Binocular single vision, with +3 D and red glass. No vertical tendency to deviate.

Case CCCCI.—June 26, 1893. Mrs. C. C——, aged thirty-four years. R. V.= $\frac{20}{50}$; $\frac{20}{20}$ + with 2 D ⊂ +1.25 D ax. 60°. L. V.= $\frac{20}{50}$; $\frac{20}{20}$ +with 2 D ⊂ +175 D ax. 120°. Ordered. Esophoria, 28°; with the above glasses, 18°.

July 19, 1893. Has worn the glasses all the time. Cannot see to read or sew and can hardly see to eat. Esophoria, 8° with her glasses and esotropia, 7° with red glass. V.= $\frac{20}{15}$ with +2 D. Ordered the +2 D increase over her glasses. With this combination: R. +4 D ⊂ +1.25 D ax. 60°; L. + 4 D ⊂ + 1.75 D ax. 120°. Her eyes have no tendency to deviate.

Case CCCCXIX.—October 16, 1893. W. G. S——, aged thirty-two years. Old glasses are −7 D. R. V. = $\frac{5}{200}$; $\frac{20}{50}$ with −7 D. L. V.= $\frac{5}{200}$; $\frac{20}{100}$ with −7 D. R. V.= $\frac{20}{15}$—; with −10 D ⊂ − 1 D ax. 180. L. V. = $\frac{20}{15}$—; with −10 D ⊂ −0.50 D ax. 180°. Ordered. Hypophoria, R. 1°. With the last glasses, hypophoria none or orthophoria.

Case CCCCLI.—January 21, 1894. Mrs. J. M. H——, aged sixty-five years. R. V.= $\frac{20}{100}$; $\frac{20}{30}$ with +2.75 D. L. V.= $\frac{20}{100}$; $\frac{20}{15}$ with +2 D. Hyperesophoria, R. With above glasses, orthophoria.

Case CCCCLIII.—January 29, 1894. A. B——, aged seventeen years. R. V.= $\frac{7}{200}$; $\frac{20}{30}$ —with −8 D ⊂ −0.75 D ax. 180°. L. V.= $\frac{7}{200}$; $\frac{20}{30}$ with −8 D ⊂ −0.50 D ax. 180°. Hypoexotropia, R. With red glass, no hypophoria. Exophoria, 4°. Corrected by the above, orthophoria.

Case CCCCLXVI.—April 2, 1894. Mrs. A. P. S——, aged twenty-four years. R. V.= $\frac{20}{100}$; $\frac{20}{20}$ with −3 D ax. 15°. L. V.= $\frac{20}{200}$; $\frac{20}{30}$ + with −3 D ⊂ −2.50 D ax. 165°. Red glass over left eye shows the left eye to turn downward and outward. With the above glasses and the red glass only one light is seen, and that a pink showing a mixing of the red and white light.

Case CCCCLXXVII.—June 5, 1894. O. K——, Jr., aged thirty-six years. R. V.= $\frac{20}{15}$; $\frac{20}{15}$ with + 2 D. L. V.= $\frac{20}{20}$; $\frac{20}{15}$ with +3 D. Hyperphoria, L. ½°. Esophoria, 1°. With the above corrected, orthophoria.

Case DXV.—January 15, 1895. Miss M. C——, aged eighteen years. R. V.= $\frac{20}{70}$; $\frac{20}{15}$ with −1.50 D ax. 90°. L. V.= $\frac{20}{70}$; $\frac{20}{15}$ with −0.50 D ⊂ −1.50 D ax. 90°. Hyperphoria, L. ½°; with above glasses, orthophoria.

Case DXVIII.—January 19, 1895. Miss A. A. G——, aged forty-one years. R. V.= $\frac{20}{40}$; $\frac{20}{20}$ with + 1.25 D ax. 90°. L. V. = $\frac{20}{30}$ W−8 D. Red glass over left eye makes a large red globe of the candle flame, and the right eye sees the flame in lower part of globe, which is a tendency downward of the left eye. With the above correction the eyes feel rested and the two lights go into one.

Case DXXVI.—February 12, 1895. Rev. G. V——, aged thirty-three years. Has R. −1.50 D. Left, plain glass. R. V.= $\frac{5}{200}$; $\frac{20}{15}$ with −5.50 D ⊂ −0.25 D ax. 105°. L. V.= $\frac{20}{15}$; $\frac{20}{15}$ + with − 0.25 D ax. 60°. With above correction no hyperphoria but still an exophoria of 12°, and a torsion inward of the left eye in accommodation at fifteen inches, while the right eye remained fixed, having no accommodation. This was made with the Madox double prisms, bases together, showing the middle of the three lines running obliquely downward to the left.

Case DXXXV.—F. G——, aged twenty-nine years.

Old glasses: R. 0.50 D; L. 1 D ax. 180°. R. V. $= \frac{20}{15}; \frac{20}{10}$ with +0.75 D. L. V. $= \frac{20}{20}; \frac{20}{15}$ + with −0.50 D. Hyperphoria, L. ½°. Esophoria, 1°. Corrected by the glasses.

CASE DXL.—Miss E. T——, aged twenty-two years. R. V. $= \frac{20}{20}; \frac{20}{15}$ with +0.75 D ax. 90°. L. V. $= \frac{20}{30}; \frac{20}{15}$ with +0.50 D ax. 90° ○ −1 D ax. 180°. Hypophoria, L. 3°. Esophoria, 3°. With Madox double prisms the middle line is oblique and half corrected by the above glasses.

Antimetropia.	Mixed Astigmatism.	Myopic Astigmatism.	Myopia with Astigmatism.	Myopia.	Hypermetropic Astigmatism.	Hypermetropia with Astigmatism.	Hypermetropia.	Total.	Refraction of Each Pair of Eyes Different.		
1	2	..	1	2	4	7	3	20	Esophoria		
1	1	1	5	4	1	8	1	22	Exophoria.		
1	2	1	5	5	3	5	4	26	Hyperphoria.		
3	5	..	4	5	10	8	8	43	Hypophoria.		
1	4	1	4	1	6	5	5	27	Hyperesophoria.		
7	1	4	9	3	4	8	9	45	Hypoesophoria.		
1	1	2	4	.	5	4	4	21	Hyperexophoria.		
3	9	5	13	6	10	15	10	71	Hypoexophoria.		
18	25	14	45	26	43	60	44	275			
16	22	13	39	20	38	45	40	233	275	Vertical tendency.	
2	3	1	6	6	5	15	4	42		No vertical tendency.	
4	4	2	10	4	3	10	7	44		Corrected with glasses	
3	3	2	3	1	2	2	3	19		Corrected with glasses, partly.	
..	..	..	..	..	..	1	..	1	275	No change with glasses.	
11	18	10	32	21	38	47	34	211		No examination with glasses.	

Mixed Astigmatism.	Myopic Astigmatism.	Myopia with Astigmatism.	Myopia.	Hyperopic Astigmatism.	Hypermetropia with Astigmatism.	Hypermetropia.	Total.	Refraction of Each Pair of Eyes the Same.	
2	3	1	3	23	13	98	143	Esophoria.	
1	4	3	2	12	2	27	51	Exophoria.	
..	1	1	1	4	2	10	19	Hyperphoria.	
..	..	..	..	..	1	1	2	Hypophoria.	
1	..	..	..	2	..	6	9	Hyperesophoria.	
..	..	..	1	..	1	2	4	Hypoesophoria.	
..	..	..	1	1	..	6	8	Hyperexophoria.	
..	1	1	..	..	..	1	3	Hypoexophoria.	
4	9	6	8	42	19	151	239		
3	7	4	5	35	15	125	194	239	No vertical tendency.
1	2	2	3	7	4	26	45		Vertical tendency.
..	..	..	..	..	3	28	33		Corrected by glasses
..	..	..	..	2	2	11	15		Partly corrected by glasses.
..	1	..	1	..	..	1	3	239	No change by glasses.
4	8	6	5	40	14	110	187		No examination by glasses.

Man's Ancestors.—We can point now to the long-since extinct ancestors of the lowest vertebrates; we are able to introduce all the reptiles, the birds, and the mammals to their primitive prototypes. In the mammals particularly, gap after gap which seemed to separate species and genera and orders has been successfully spanned by the discovery of intermediate forms; and we have now the genealogical types of the deer, musk, horse, tapir, rhinoceros, cat, lemur, monkey, and many others; and yet, as regards the pedigree of man, we are still in the dark. Professor Huxley's impressive words still hold. Paleontology sheds no light on man's origin: for, "so far as that light is bright, it shows him substantially as he is now, and when it grows dim it permits us to see no sign that he was other than he is now." Missing links to connect the human species with the demonstrated evolutionary law of the world of life and matter are quoted, of course: but it seems wellnigh impossible to prove that an alleged link is anything more than an extreme instance of some particular type. And it is pretty certain that if missing links exist, they must be sought for in a period much farther back than we are at present able to explore.—*Science Siftings.*

STUDIES ON GANGLION CELLS: A PRELIMINARY COMMUNICATION.[1]

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ALTHOUGH, during the past decade, a large and rapidly increasing number of observations have fully established the superiority in many respects of Nissl's method of staining nerve cells, and some facts have been proven and many more claims made regarding the significance of the changes demonstrated by the new stain, it has not yet been made possible fully to interpret the great variety of morphological appearances of the ganglion cell revealed by Nissl's technics.

In nearly every detail of the subject there has been great or irreconcilable difference of opinion among recognized authorities. A large number of modifications of Nissl's original procedure have been suggested, and their value and reliability variously estimated. The lack of uniformity in the effects of many fixing-agents employed has been a serious obstacle in the way of separating artifacts from pathological alterations. The normal histology of the ganglion cell in different regions of the central nervous system has not been fully determined, and we are still far from a knowledge of its ultimate structure, although much progress has been recognized in this department during the last few months. In 1895 practically nothing was known about post-mortem alterations in ganglion cells. In the group of infectious diseases, a series of cellular changes has been described by some observers, consisting principally in various grades of chromatolysis, while other investigators have failed to find these changes or have denied their importance. The cellular lesions induced by fatal doses of mineral and vegetable poisons have been described as characteristic and uniform by some writers, while others have failed to regard these appearances as specific. Probably the specific character of the peculiar form of degeneration of ganglion cells following experimental section of peripheral filaments, and consisting of central chromatolysis and eccentricity of nucleus, has been established beyond a doubt; but the observations are as yet entirely inadequate to warrant the statement that wherever such forms of degeneration are seen these cells have suffered a loss of function of their axis-cylinder processes.

Attempts have been made to distinguish this secondary degeneration of ganglion cells from the primary changes induced by circulating toxic agents, but the differences between these sets of changes have never been intelligently described, so far as the writer can find.

The morphological changes resulting from activity or fatigue of ganglion cells have formed the subject of several very painstaking studies, but to-day no definite morphological appearances can be regarded as indicating rest, activity, or fatigue on the part of the ganglion cell.

Profound changes in the anterior horn cells of the lumbar cord have several times been noted after ligature of the abdominal aorta in animals, but somewhat similar changes have been found under conditions apparently very dissimilar. Moreover, the whole subject of the importance of chromatolysis in the pathology of the ganglion cell received a serious blow from the evidence recently furnished that this condition may be extreme in still functionating cells (Goldscheider and Flatau). In hibernating animals also the chromophilic bodies have been found to disappear (Levi).

The wide field opened up by these recent results of experimental pathology for the application of Nissl's

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method in the study of the central nervous system in general diseases has led the writer to undertake the systematic examination of the central nervous system in a series of cases, representing a variety of conditions, and coming to autopsy at Roosevelt Hospital during the past two and one-half years. These cases may be grouped as follows:

Infectious diseases: Lobar pneumonia, 3; typhoid fever, 3; acute purulent meningitis, 3; tetanus, 1; hydrophobia, 1; pernicious malaria, 1; empyema, 1; peritonitis, 2; septicæmia, 2; pyæmia, 1.

Auto-intoxication: Uræmia, 7; eclampsia, 3; sunstroke, 3; epilepsy, 2; diabetic coma, 1; pernicious anæmia, 3; leukæmia, 2; asphyxia, 1.

Acute poisoning: Alcoholism, 3; morphinism, 2; carbolic-acid poisoning, 2; hydrochloric-acid poisoning, 1.

Mechanical disturbance of cerebral circulation: Hemorrhagic pachymeningitis, 3, subdural hemorrhage, 3; acute ependymitis, 1; thrombosis of basilar artery, 1, intraventricular hemorrhage, 1.

Miscellaneous: Aneurism of aorta, 1; rupture of viscera, 2; tabes and carcinoma, 1; peripheral neuritis, 1; Landry's paralysis, 1; hemiatrophy of brain, 1; asphyxia neonatorum, 1.

Also experiments and studies were conducted on animals to determine in some degree: 1, the normal structure of ganglion cells; 2, the effects of post-mortem processes, 3, the effects of artificial heating, 4, the effects of acute alcoholic poisoning; 5, the effects of snake poison, 6, the effects of cold and starvation.

The conclusions which it is believed may be justified by the study of this material it is intended here briefly to summarize:

I. Technics. Of the fixing-agents recommended for the preservation of the chromatic structure of ganglion cells, the writer has used extensively Lang's fluid, alcohol of ninety-five per cent., and Van Gehuchten's fluid. Formalin in concentrations varying from five to twenty per cent.; formalin in five-per-cent. solution, saturated with bichloride; saturated solutions of picric acid and bichloride; and saturated aqueous solution of bichloride—have all been tested with fairly satisfactory results, but without finding in them any distinct advantage over other fluids. Lang's solution has proved generally unsatisfactory and was discarded entirely. Under its action the chromatic structures appear roughly granular and in thin sections often indistinct in outline. The uneven penetration of the acetic acid and metallic salt leaves many confusing appearances, especially in deep-lying nuclei, and the sections of tissues hardened in this fluid fade more rapidly than with other methods. In uniformity of results probably nothing is superior to alcohol, ninety-five per cent. or absolute, as originally recommended by Nissl. Van Gehuchten's fluid has proved very reliable in the writer's hands, and may be highly recommended, especially on account of its rapid penetration.

Among many proposed modifications of Nissl's staining-method, the writer has found none superior, except for special purposes, to the following very simple procedure: Stain the section for one or two minutes in a one-per-cent. aqueous solution of methylene blue, heating gently. Wash in water; decolorize in absolute alcohol until the alcohol no longer visibly dissolves the stain. Clear in oil of cajuput and mount in Canada balsam. Neither in the addition of alkalies to the dye nor in that of aniline oil to the alcohol have distinct advantages been noted.

For differential staining of the "achromatic" reticulum, Held's method with erythrosin and methylene blue has been used with satisfactory results. The most perfect demonstration of the cyto-reticulum secured by the writer has been in freshly teased specimens fixed by heat, 100° C., and stained either by methylene blue alone or by erythrosin and methylene blue; but this procedure is not to be recommended for general purposes.

It may seem almost a superfluous statement, but it is nevertheless a conclusion that has been reached only after long study and consideration, that when fresh nervous tissues, cut in pieces not more than two or three millimetres in thickness, are treated with alcohol, ninety-five per cent., or by Van Gehuchten's fluid until thoroughly penetrated, full reliance may be placed upon the appearances that the ganglion cells may present, and any serious disturbing effect of fixation and staining may be thrown out of account.

II. Histology.—The present study has not been directed toward the investigation of many of the finer details of cellular structure, but has had reference mainly to the chromatic elements specially demonstrated by methylene blue. From the minute study of normal and pathological specimens, aided materially by the use of artificial light, apochromatic lenses, and an achromatic condenser (on which oil should be placed), the writer concludes that the so-called chromatic substance of the human ganglion cell is invariably arranged in the form of a network, with nodal thickenings very prominent in the anterior horn cells, Purkinje's cells, and the cells of the spinal ganglia. In Purkinje's cells, however, the chromatic threads connecting the chromophilic bodies are much thicker than in the cells of the spinal cord and ganglia.

On comparing sections stained by Held's method (erythrosin-methylene blue) with those stained by methylene blue alone, and by attending to the above details of microscopical technics, the writer finds that the so-called "achromatic" reticulum of Held is always demonstrable by methylene blue and is not strictly oxyphile, although much more so than are the nodal thickenings, *i.e.*, the chromophilic bodies. It does not appear, therefore, that the use of erythrosin, in so far as it demonstrates this reticulum, is of any great advantage over the ordinary method of staining by methylene blue. Moreover, under the above conditions there appears to be no great difficulty in discerning the fibrillar structures of cell processes as described by Flemming, this character being very distinct in the dendrites of Purkinje's cells; although the writer finds that these fibrils possess numerous lateral anastomoses, as shown in Held's drawings of cells and processes stained by erythrosin.

In addition to this cyto-reticulum, chromatic or achromatic, stainable by both methylene blue and erythrosin, there is a cytoplasm not fully demonstrable by either dye, but with acidophile tendencies, in which it is believed that there are important pathological changes, the early evidences of which are beyond the reach of any method of demonstration yet described.

Of the radiating rows of oxyphile granules depicted by Held at the roots of axis-cylinder processes, the writer has been able to find only indistinct traces. In the thinnest and most intensely stained specimens that could be secured this area appears granular, but the granules are usually distributed irregularly.

The coarsely reticular portion of the cell body is surrounded partly by a finely granular oxyphile cytoplasm similar to that found in the axis-cylinder process, and corresponding to Held's "axis-cylinder Geflechte."

A very abrupt and distinct line of demarcation between this oxyphile envelope and the coarsely reticular portion of the cell body may be demonstrated, in freshly teased specimens, in what may be termed the polar dendrite. Probably the continuation of the granular oxyphile substance, *i.e.*, of the axis-cylinder process, fills in the meshes of the reticulum of the cell body. If this be true, the oxyphile cytoplasm furnishes the material which undergoes pigmented and

other forms of degeneration, a great variety of stages of which were noted in the present cases. If this be true, also it follows that the essential lesions that lead to the loss of function and conducting-power of the nerve cell are to be found, not in the chromatic reticulum or bodies nor in the so-called achromatic reticulum, but in the inclosed cytoplasm. Moreover, this granular oxyphile substance of the axis-cylinder process is found abundantly enveloping the dendrites, at least of motor ganglionic cells; and this fact must be regarded as evidence that the dendrites as well as the axis-cylinder process take part in the function of conducting impulses.

This conclusion has been already reached by Held and Apathy, working with entirely different technical methods.

III. Post-Mortem Changes in Ganglion Cells.—The examination of the first few cases of the present series emphasized the necessity of determining the effects of cadaveric processes in the chromatic structures of the nerve cell. Observations were therefore made upon the course of putrefactive changes in the ganglion cells of animals, whose brains and cords were exposed to the air for periods varying from one to seventy-two hours, at different seasons of the year. Comparisons were then made with material secured from autopsies. From these observations it appears that the earliest cadaveric changes consist usually in:

1. Nuclear changes. The chromatin of the nucleolus diffuses through the nucleus, causing broad thickenings in the intranuclear network or in the nuclear membrane, and leading finally to a deep and diffuse chromophilia of the nucleus. The nucleolus may become subdivided. In advanced stages the nucleolus shrinks, becomes very small, and the outlines of the darkened nucleus are shrivelled and irregular.

2. Changes in the chromatic reticulum of the cell body. These consist essentially in a granular subdivision of the chromophilic bodies and reticulum, without actual loss of chromatic substance. This alteration gives a characteristic uniformly granular appearance to the cell body, which is not difficult to distinguish from any vital pathological alteration as yet encountered by the writer. Vacuolation is a nearly constant and sometimes very prominent feature of the process. Similar changes, accompanied by rupture and shrinkage, early affect the dendrites. No uniform sequence or rate can be given for the progress of cadaveric changes, which follow the ordinary rules of putrefactive processes, being influenced by the condition of the tissues at death, by the character of ante-mortem and post-mortem infections, and by many local external conditions.

IV. Changes in Ganglion Cells in General Diseases.—(*a*) Infectious diseases. In all of the specific infectious diseases coming under observation, cellular lesions of varying extent were found in the central nervous system, but the prominent feature in this group of cases was the lack of uniformity in distribution and intensity of these lesions. The changes embraced nearly every variety of acute cellular alteration that the writer has found described, including central or peripheral, partial, circumscribed, or complete chromatolysis, eccentricity of nuclei and nucleoli, and apparent loss of processes. In some regions the changes seemed to affect the chromatic substance only, while the nucleus and cyto-reticulum appeared intact; in other instances, to the simple chromatolysis was added a variety of changes in the cyto-reticulum, cytoplasm, and nucleus.

In pneumonia the medullary nuclei suffered most severely, while the cortical cells and lower spinal stichochromes often appeared little affected.

In typhoid fever the lesions were usually more general, and in the cortex were much more marked.

In the case of tetanus the cortical cells suffered most, and in this region the stichochromes were uniformly and markedly bleached. There were moderate changes in the deep medullary nuclei, very few in the twelfth nucleus and in the cord.

In meningitis, empyema, peritonitis, septicæmia, pyæmia, and pernicious malaria, lesions of very irregular distribution were observed.

In most of the seventeen cases of this group attention was continually drawn to the presence of perfectly normal-looking cells, usually stichochromes, either lying singly in nuclei of which the other cells were much damaged or over larger areas which appeared to be unaffected by the fatal bacterial toxæmia. The irregularity in the occurrence of the lesions is well illustrated in a case of meningitis, in which cells of the twelfth nucleus immediately adjacent to a tuberculous exudate showed only slight chromatolysis, while the more distant deep-lying nuclei of the same section were entirely bleached.

(*b*) Auto-intoxications. Under this heading are grouped twenty-one cases, including uræmia, eclampsia, sunstroke, diabetic coma, epilepsy (fatal from other causes), secondary pernicious anæmia, and leukæmia. In all of these cases cellular lesions were found, of the same general character, and, with some exceptions, with the same lack of uniformity in distribution and intensity as in the preceding group.

From the study of seven cases of uræmia the writer has been unable to find any characteristic lesion of the nerve cells in this condition, all the changes observed having been noted in a great variety of entirely different diseases.

In one of three cases of eclampsia, fatal in the twenty-first successive convulsion, the nuclei of Purkinje's cells were markedly shrunken and chromophilic and the nucleoli enormously swollen. The other cases had few convulsions and did not show this peculiarity. Its significance is of course uncertain.

In one case of sunstroke there was marked bleaching of most cortical and medullary cells. In another —temperature, 109° F.—very slight changes of the same character (uniform chromatolysis) were observed in the medullary nuclei only.

The stages of chromatolysis exhibited by the ganglion cells in sunstroke appear to be identical with those induced in rabbits by artificial elevation of temperature.

(*c*) Acute poisoning. In cases of acute alcoholism rather rapidly fatal from the effects of the drug alone, the usual lesions, now frequently described, were observed. The characteristic bleaching of the cells was here of somewhat uniform distribution, but not invariably so in every case.

In two cases of carbolic-acid poisoning, fatal within two or three hours, no characteristic lesions could be found. Possibly cases of longer duration might show a characteristic lesion referable to this common poison.

In acute morphine poisoning, somewhat peculiar changes were noted throughout the cortex and medulla. These consisted in the appearance of irregular areas in the bodies of the cortical and medullary stichochromes, affected by a peculiar form of chromatolysis; in great irregularity of outline of the cell body; and in the heaping of masses and rods of chromatic substance about one edge of an eccentric nucleus.

In a case of hydrochloric-acid poisoning, although the effects of the acid were distinctly noticeable in the blood of the general circulation, no peculiar changes were found in the morphology or staining-reaction of the nerve cells.

(*d*) Non-toxic conditions; mechanical disturbance of the cerebral circulation. In a group of cases characterized by mechanical obstruction to the cerebral

circulation, very uniform and profound cellular changes were found throughout the brain and medulla.

These cases include three of hemorrhagic pachymeningitis, three of subdural hemorrhage, and one each of intraventricular hemorrhage, thrombosis of the basilar artery, and acute ependymitis.

In these cases all the more advanced stages of diffuse chromatolysis, up to almost complete disappearance of chromatic substance, were found. Here the chromophilic bodies were not subdivided, but appeared to shrink gradually, leaving finally only the original and now very faint cyto-reticulum. The uniformity of distribution of this chromatolytic process was a very striking feature in these cases, very few cells escaping extreme alterations, limited usually to the chromatic structures. In all of the cases there was distinct microscopical evidence of venous stasis in the circulation, and to this factor, arterial anæmia and venous congestion, the writer must refer the chromatolytic changes. The cellular lesions found in this group of cases appear to resemble closely the effects induced in the lumbar cord by ligature of the abdominal aorta.

V. General Considerations.—From these observations on the condition of the ganglion cells in various infectious diseases, it appears that very virulent toxæmias may and frequently do fail to cause any alteration in nerve cells demonstrable by Nissl's method. In fact, it would seem that the chromatic reticulum and bodies, especially of the stichochrome cells, are structures which are comparatively resistant to the action of many bacterial toxins. The most perfect examples of the motor ganglion cells of the cortex secured in the entire course of this study came from a case of intra-alveolar pneumonia, of septic character from the first and terminating in prolonged delirium and coma.

In a case of rapid septicæmia experimentally induced in a rabbit, many spinal stichochromes were found harboring bacilli in the bodies of the cells, which nevertheless showed slight or no evidence of chromatolysis. Babes has observed the same condition in the spinal ganglia in leprosy. In nearly all the bacterial toxæmias examined, the twelfth cranial nucleus was found comparatively little affected or quite intact

Further, the conclusion seems justified that the lesions actually found in the brain and medulla in these cases are not wholly referable to the direct action of the circulating toxin, but to some other intermediate agency. Otherwise, it becomes difficult to explain the very frequent occurrence of one medullary nucleus practically intact, immediately adjoining a second of which the majority of cells are in an advanced state of chromatolysis; and even more difficult to explain the presence of nearly or quite normal cells in the midst of badly altered ones.

From the marked resemblance of the cellular changes in these cases to those known to follow the destruction of axis-cylinder processes after experimental section of nerve trunks, or the anæmia caused by ligation of vessels, there is strong evidence for believing that most of the alterations of nerve cells seen in the above infectious diseases are not due to the direct action upon the cells of the circulating toxin, but follow after loss of function in cell processes or loss of blood supply in capillary foci. Such intermediate lesions may reasonably be referred to disturbances of local circulation, œdema of tissues and meninges, capillary embolism, thrombosis, and stasis, obstruction in pericellular lymph spaces, and lesions of nerve trunks. Another possible intermediate factor in these cellular changes must not be ignored. In some of the cases of uræmia of the present series, the medullary nuclei, especially the tenth nucleus and the "nucleus ambiguus," suffered very much more than in others, and in these cases the clinical record showed that the patient had exhibited extreme dyspnœa and cardiac weakness for some time before death, while in other cases death occurred suddenly in convulsions. Also in cases of pneumonia the above medullary nuclei were always badly damaged. These and a number of related observations seem to point to the probable importance of overaction and fatigue in determining the distribution of these cellular lesions in infectious diseases.

In another group of infectious diseases in which the virus is located principally in the central nervous system, *e.g.*, hydrophobia, and of which the present study includes but few examples, it is evident that the presence of toxins and bacteria in and about the nerve cells leads to extreme and widespread cellular lesions affecting the cyto-reticulum, cytoplasm, and nucleus, as well as the chromatic bodies.

From the study of the cases of poisoning by chemical agents, it appears that these poisons may in rapid cases abolish nervous function without leaving demonstrable lesions in the nerve cells. On the other hand, when the action of the poison is more prolonged, at least twelve hours, these cases seem to present very marked and often characteristic changes in the chromophilic substance. Similar conclusions have, of course, long ago been drawn from the experimental study of the effects of various poisons on animals, and the present cases, while furnishing examples of the effects of two more of these poisons, merely indicate how far the results of experimental study may be applied to the ordinary cases occurring in the human subject. How far the influence of the above-mentioned intermediate conditions—disorders of circulation and loss of function in cell processes—may be traced in this class of lesions, is a subject deserving consideration. Dilatation of capillaries is a marked feature in the alcoholic brain, and the lesions are identical in appearance with those of artificial anæmia; while morphine has a specific action on nerve fibres, and eccentricity of nuclei is strikingly frequent in fatal poisoning by this drug.

General Character of the Lesions Observed in Ganglion Cells in General Diseases.—The minute examination of the structure of the altered cells throughout the present study indicates that in most acute lesions the process of chromatolysis is one and the same, although different stages may present very dissimilar appearances. In the lesions referable to local anæmia and consisting in uniform fading of the chromatic substance, the chromophilic bodies appear to shrink gradually, leaving the chromatic or achromatic reticulum faintly visible, but of uniform density throughout the cell body. Often the last remnants of the chromatic nodal thickenings appear as fine granules, which are integral parts of this reticulum. In this case the cell may have a faintly granular appearance. The stages of the process may readily be followed in the cases of mechanical obstruction to the cerebral circulation. Or the fading may begin at several points in the chromatic body, giving the cell a distinctly granular appearance at an early stage of the process, but ending in the same condition of complete loss of nodal thickenings and more or less uniform preservation of underlying reticulum. These changes may be noted after section of peripheral filaments or after the action of various poisons.

Besides the changes in the chromatic substance only, more significant lesions, affecting the nucleus, cyto-reticulum, and cytoplasm, may in some instances be found, and these alone seem to deserve classification as true degenerative changes. The nucleolus may be faded, swollen, vacuolated, subdivided, or displaced. The nuclear membrane and intranuclear network may be found granular, disintegrated, irregular,

or entirely absent. The cyto-reticulum may be uneven, granular, distorted by vacuoles, or may be invisible. The cytoplasm becomes the seat of vacuoles, it may become coarsely granular, and these granules may show altered staining-reactions and refrangibility. The cell borders and processes may become shrunken and irregular.

The writer finds, however, upon the closest possible scrutiny, no distinct difference in the appearance of the majority of cells in cases fatal from alcoholism, sunstroke, tetanus, and thrombosis of the basilar artery, or other mechanical lesions. All exhibit phases, often identical, of simple chromatolysis. Moreover, this uniform end result of the chromatolytic process may be reached without distinct change in the normal morphology of the nucleus.

These facts seem to indicate, further, that the cell which is thus by a variety of influences robbed of its chromatic substance must not be regarded as in a state of degeneration comparable to the condition of the renal cell suffering from the effects of arsenic, and no longer showing chromatic reticulum or stainable nucleus.

The true degenerative process may not and frequently does not begin, as the writer believes, until after chromatolysis is complete. In support of this conclusion may be cited, 1st, the common absence of nuclear changes in these altered cells; 2d, the preservation of their cyto-reticulum; 3d, the functional activity demonstrable in such cells in overheated rabbits; 4th, certain general considerations on the significance of the chromophilic substance of ganglion cells, presently to be noted.

The first two of these points have already been referred to. In respect to the third item, it may be said briefly that the writer has many times repeated the experiments of Goldscheider and Flatau in subjecting rabbits to high temperatures, and finds that the chromophilic bodies of the anterior horn cells may be largely obliterated, and yet these animals be running actively about the laboratory. However, the writer found it very difficult to avoid the fatal limit in the exposure of the animals to artificial heat, and does not fully agree with Goldscheider and Flatau in their claim that the motor functions of these extensively altered cells are practically normal, as in his experiments there were considerable motor paresis and extreme reflex hyperæsthesia, the animals sometimes dying unexpectedly in general convulsions.

The fourth point leads to the conclusions as to the significance of the chromatic substance of nerve cells:

1. Reference must again be made to the fact, amply demonstrated by the present study, that the chromatic substance of the nerve cell is much more susceptible to the influence of disordered circulation than to the action of very virulent bacterial toxins.

2. It is an extremely significant observation of Levi's, if it can be verified, that in animals the chromophilic bodies disappear during hibernation. The validity of this statement the writer is now investigating.

3. While the studies of Hodge, Mann, and Lugaro, on the effects of exhaustion on the nerve cell, have not shown that the exercise of functional activity leads to any reduction in the quantity of chromatic substance in the cell, these studies are now generally regarded as irrelevant to their subject, as the method of excitation employed—electrical stimulus—secures in no respect the condition of complete fatigue. The relation of the chromatic substance to the activities of the cell still remains, therefore, a matter of conjecture.

4. In the premature and even in the full-term infant, the chromophilic bodies have been found to be faint and imperfectly developed.

From these general considerations on the present state of our knowledge, the conclusion seems justified that the chromophilic substance of the ganglion cell represents a state of physiological nutrition, which may vary between the full development of chromatic bodies in the anterior horn of the lumbar cord in the human adult, and their temporary but complete absence in the motor cells of the hibernating animal.

Finally, while the chromatic substance of the nerve cell may be greatly diminished without the cell being necessarily in a state of pathological degeneration, it seems equally certain that when acute degeneration, in a strict sense, affects the ganglion cell, the process is usually evidenced by various forms of chromatolysis.

It would seem that we are still far from a systematized knowledge of the real pathology of the ganglion cell. No one who has not scrutinized most minutely and under most favorable conditions the structure of nerve cells can realize the difficulty of detecting changes in the reticulum and intermediate substance of these cells. Yet it is the impression gained from this study that until it becomes possible to demonstrate delicate morphological or chemical changes in the intermediate acidophile substance, the key to this branch of pathology will not be grasped.

SOME STATISTICS REGARDING THE CRIMINAL INSANE.

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At the present time when there is so much agitation of the question of making more efficient laws governing expert testimony in cases of alleged insanity in criminals, it is of more than passing interest to review the criminal records of New York State prisons and insane asylums, and see what inference may be drawn from them as to the actual mental condition of all classes of murderers who have been apprehended during the past quarter of a century. There is little use of attempting to gather accurate statistics previous to about 1874, for the records kept were meagre and inaccurate; but since that time the number and exactness of the records warrant the supposition that they will afford some valuable and useful data.

During the past twenty-five years four hundred and fifty-nine murderers have been apprehended in the State. Of that number forty per cent. have been confined in insane asylums since their crimes were committed, and fully thirty per cent. were insane at the time of their crimes. These figures are deduced from a careful perusal of the records of the prisons of the State, in comparison with the reports and records of the State insane asylums, and the Matteawan State Hospital for insane criminals. But what is more to the point, these records show that fully twenty per cent. of all the murderers apprehended should, long before their crimes were committed, have been confined where they could not harm other people, their mental aberrations having been so pronounced, of such a character, and of such long standing that there was no reasonable excuse for their being allowed at large.

The following case which happened a few months ago illustrates this: A young man who lived in New York City, and who had always been a quiet and inoffensive boy, gradually became so erratic, eccentric, and obviously unbalanced mentally that his family became alarmed at some of his actions, which were sometimes very threatening. They accordingly called in a competent physician to examine him. The physician, after carefully studying his condition, pronounced him insane and advised his immediate removal to some institution for the treatment of mental disorders, as he considered him a dangerous man to be at large. This

did not satisfy his relatives, who accordingly called in another medical man; but he also made the same diagnosis and advised immediate confinement of the patient.

His friends, however, concluded that the very best form of treatment would be to have him fall in love with some suitable young lady. Accordingly they laid all manner of plans to have him thrown much of the time into the company of an amiable and unsuspecting girl. Things were getting on nicely with the young people until one evening, when without cause or warning, he drew a revolver and shot his sweetheart.

This is a case in which there is little doubt that a murder should have been prevented; but the records show that this is only one case in many. After the Matteawan State Hospital records have been gone over carefully it is found that fully twenty per cent. of all the murderers apprehended were just as obviously insane as was this young man, and they had been known to be so by fully as many people and for as long a time.

This being the case, either our laws are defective or are not properly observed. And in this connection Dr. H. E. Allison, superintendent of the Matteawan Hospital, has recently published some statistics which explain why the plea of insanity is not more frequently resorted to by lawyers, even when there is evidence that their client is insane. Dr. Allison has gone carefully over all the New York prison records, and he finds that the average length of term of confinement of prisoners (including those with life sentences) is only a trifle over two years.

On the other hand, the average length of term of confinement in the asylum for insane criminals is over four years—practically twice that of prison life. The aim of the lawyer, of course, is to get for his client the shortest sentence possible, in case he is convicted; and, knowing that if he is declared insane he will be sent to the criminal asylum, where he stands a good chance of remaining twice as long as he would in prison, the lawyer is accordingly chary of advancing the plea of insanity.

The prevalent idea is that feigned insanity is a common "dodge," frequently resorted to and often successful; but as a matter of fact there are on record only two such cases during the last decade in New York State. In both these cases public sympathy was so strongly with the accused that one plea would have answered about as well as another; for acquittal was practically assured regardless of the line of defence.

On the other hand, insane people are constantly being condemned to death or penal servitude, regardless of their mental conditions. The Lizzie Halliday case is one of the most striking of modern times. She remained in prison only twenty-one days after being condemned as a common felon, her mental aberration being so obvious to the prison authorities that she was removed to the hospital for insane criminals. Her conviction was the more deplorable, as well as inexcusable, from the fact that her crime was practically motiveless, and because she had been released from an insane asylum only a few months previous to her crime.

The general public should learn that mental diseases are difficult to detect, and that the opinion of the average citizen, lawyer, judge, or physician is of little value as compared with that of an experienced alienist. Until this fact is generally recognized by the men in the jury box, justice is sure to miscarry in a large percentage of cases.

It is reported that the health-board bill has been killed in committee and that the dispensary bill has suffered the same fate. So much for the physicians not standing together and being consistent in their demands.

Progress of Medical Science.

The Surgery of the Stomach.—At a meeting of the French Academy of Medicine, held on February 8th, M. Doyen gave his experience with regard to the result of one hundred and forty-six cases of surgical operations upon the stomach. Of these, sixty-six were malignant, and eighty non-malignant. There were twenty-two deaths in all, and twenty of these were in cases of cancer. Of his last fifty-five cases, fifty were successful, five of the patients being *in extremis* when they came under treatment. Gastro-enterostomy is a proper treatment for dilatation and ulcer with or without hæmatemesis. Roux's method is the only satisfactory one; it avoids all danger of infecting the peritoneum. M. Doyen makes use of the lever compression forceps, which were originally made for compressing the pedicle of ovarian tumors. Recovery is undoubted in cases of serious dyspepsia or when there is ulceration without pyloric stenosis. The patients eat like everybody else, and are quite unaware they have a stomach. The operation is also of great use in patients who apparently suffer from intestinal dyspepsia; hæmatemesis ceases after its performance and the biliary function is re-established.

The Use of Anæsthetics.—*The Lancet*, referring to a fatality which occurred in the Woman's Hospital in Euston Road, in the case of a woman who was being operated on for cancer and to whom nitrous oxide followed by ether was administered, remarks: "We have not received any particulars as to the means adopted to restore the woman or whether the hemorrhage was severe. In all such cases positive warmth and guarding the patient from the effects of hemorrhage are undoubtedly the most important points for attention both before and during the operation. The fact is established that both chloroform and ether cause a fall of body temperature and so increase shock unless the trunk and limbs are kept wrapped in flannel or cotton wool. The fall of temperature under severe abdominal and vaginal operations, again, is considerable. A profound anæsthesia allows a considerable drop in arterial tension, which has been shown to be least when the limbs and pelvis are placed at a higher level than is the head. Again, saline transfusion of Ringer's fluid certainly lessens the collapse in such cases when the bleeding, always severe, is excessive." A death under chloroform occurred at Kidderminster Hospital, in which case the house surgeon administered the anæsthetic in the Scotch fashion, without apparatus. *The Lancet*, commenting on this accident, says: "We so often hear that the Scotch schools never meet with casualties under anæsthetics, because they always use chloroform and prefer to dispense with any apparatus. A glance over the long list of casualties under chloroform will unfortunately show that whatever charm Syme exercised during his life has not survived to his followers, and overdosage with chloroform proves as fatal to those who hail from beyond the Tweed as well as 'down south.'"

Cocaine Poisoning and its Prevention.—A. Pozzi, in his article, "Ueber die Aetiologie und Therapie des unstillbaren Erbrechens der Schwangeren" (*Therapeutische Wochenschrift*, No. 37, 1897), in referring to Dr. Tibone's treatment, gives some valuable data concerning cocaine. He says that idiosyncrasy and intolerance are manifested more often for cocaine than for any other anæsthetic, and that from therapeutic doses unpleasant symptoms frequently arise, due to the general and not to the local action of the drug. Numerous deaths have been reported from doses varying from 0.15 to 0.05 cgm. Cocaine should be employed with

great care, beginning with small doses, so as to ascertain the susceptibility and tolerance of the individual. The poisoning-symptoms develop at any time from one to ten hours, show various degrees of intensity, are paralytic or spastic in nature, and are associated with dizziness, nausea, vomiting, and great irregularity and frequency of pulse. Since heart paralysis takes place subsequent to respiratory paralysis, according to Battistini, in the spastic form chloroform should be administered. For psychical excitement, chloral is indicated; for respiratory paralysis, artificial respiration; in all cases of poisoning, elevated position and inhalation of amyl nitrite. For syncope, give excitants. To neutralize the vasoconstrictor action of cocaine, Gauthier recommends the addition of nitroglycerin in the following formula:

R Cocaine hydrochlor.	0.2
Aq. dest.	1.0
Sol. nitroglyc. (one per cent.)	gtt. x.

M. S. For subcutaneous injection.

The absorptive power of the various tissues must also be taken into consideration; in subcutaneous tissue, especially that of the head, absorption takes place very rapidly. More important than the size of the dose is the degree of concentration, and, since the result from a weak solution is the same as from a strong one, the use of a one or a two per-cent. solution recommends itself. The total dose should not exceed 0.15 to 0.20 cgm. No injection should be made with the patient in the horizontal position, and veins should be avoided. Reclus, who recommends these precautions, has made thirty-five hundred injections without a single manifest untoward symptom. The cocaine solution should be fresh and pure According to Battistini, such a solution remains clear upon the addition of sulphuric acid; if coloration occurs, then ignin and ergonin are present.

Hæmatoporphyrinuria.—Schulte (*Deutsches Archiv fur klinische Medicin*, lviii., p. 314) reports two cases of the above—one following a prolonged use of sulfonal, the other depending upon lead poisoning. Worthy of mention is the fact that in the first case the urine was strongly acid, and remained so even after the administration of twenty-four grains of citrate of sodium. Further, hæmatoporphyrin disappeared when the administration of the drug was stopped, and did not return again when sulfonal was once more used.

On the Sputum of Pulmonary Carcinoma. — P. Hampeln (*Zeitschrift fur klinische Medicin*, xxxii., 3, 4) claims that carcinoma of the lungs is not very rare, nor is the diagnosis so very difficult. He admits, however, that the symptoms produced by isolated, oftentimes metastatic carcinomatous tumors are very obscure. On the other hand, diffuse carcinoma of the lung, generally primary, gives a fairly characteristic symptom complex: 1, symptoms of unilateral consolidation of lung tissue, causing either retraction or expansion of the thorax; 2, irritation of the bronchi, producing cough and expectoration; 3, irritation of the pleura, producing exudation of all kinds; 4, pressure on the neighboring organs, particularly on the nerves and veins; 5, increasing cachexia. Added to these symptoms is the character of the sputum. Macroscopically the bloody character of the sputum is to be observed; generally the hæmoptysis is very mild and recurs two or three times; more rarely the pulmonary hemorrhage lasts a long time, though at no time is the bleeding copious. The hemorrhagic character of the sputum, its tenacious consistence, its early occurrence—these facts are of great diagnostic importance. The discovery of carcinomatous tissue in the sputum is of course almost pathognomonic, though this is extremely rarely found. Microscopically the writer lays great stress upon the discovery of polygonal alveolar epithelium, often pigmented, which in isolated cases is found in the sputum of many diseases, very rarely in normal sputum. If, on repeated or even on comparatively few examinations, such polymorphous polygonal epithelial cells alone are found, or there are found in overwhelming numbers cells with sharp contour, containing nucleoli, the cells either occurring in masses or separated, the inference is that a pulmonary new growth is present; indeed, the writer claims that the above microscopical picture presents itself only in cases of malignant tumor of the lung. The above-described cells are easily differentiated from the pavement and cylindrical cells; besides, the latter contain no pigment.

The Clinical Value of the Widal Test for Enteric Fever.—Dr. W. Gilman Thompson (*British Medical Journal*, December 18, 1897) draws the following conclusions from a brief study of five hundred and three cases of all kinds in which the Widal test was applied: 1. While the test is positive in the large majority of cases of enteric fever, and negative in the greater number of other diseases, there is a margin of error of eleven or twelve per cent. on each side of what might be called the normal line, between cases in which the test fails when it ought to succeed, and succeeds when it ought to fail, in order to make it of real clinical value. 2. This total of twenty-three per cent. of possible error unfortunately includes just those cases in which there is the greater doubt upon the purely clinical side. 3. As a genuine diagnostic aid, the test has about the value of the diazo reaction in typhoid urine or the study of leucocytosis in pneumonia—that is, it is confirmatory in connection with appropriate symptoms, but misleading if positive reliance be placed upon it. 4. The fact that an expert bacteriologist is required to make the test is offset by the ease of transportation of specimens of dried blood, which long retain the power of reaction, and it is greatly to be hoped that further possible improvements in technique may place this most ingenious test upon a firmer practical basis than can at present be claimed for it.

Ophthalmic Crises in Tabes Dorsalis. — P. K. Pel (Amsterdam) reports a case of locomotor ataxia with paroxysmal disturbances of both eyes, which consisted of irritation of the sensory, secretory, motor, and vasomotor nerve fibres. The most prominent symptoms were severe burning, lancinating pains in both eyes and their immediate neighborhood. During as well as after the attack an hyperæsthesia of the eyes and their surroundings could be confirmed. The psychical condition of the patient also showed slight changes during the attacks. Pel designates these attacks as tabetic ciliary neuralgias with marked vasomotor and secretory symptoms, and looks upon them as true ophthalmic crises (crises ophthalmiques).—*Wiener klin. Rundschau*, January, 1898.

Treatment of Gonorrhea.—Dr. Jules Janet (*Revue de Thérapeutique*, December 15, 1897), in a lengthy article on this subject, takes up the various complications of this affection. He divides extra-urethral foci into three classes: 1, prostatic foci; 2, foci of the glands of the anterior urethra; 3, the congenital para-urethral crypts and canals of the fossa navicularis and meatus. In order to find the prostatic foci, the patient is directed to urinate in two glasses and still retain some urine in the bladder. This done, he expels as much urine as the anterior urethra can contain, and the prostate is massaged, one or more drops of an aqueous liquid, white or yellowish-white in color, may

then appear at the meatus. This should be received on a glass slide and examined; if leucocytes and gonococci are present, they confirm the existence of a gonorrhœal focus in the prostate; if only leucocytes are present, the physician should still suspect prostatic infection and treat the patient accordingly. In these cases massage of the prostate often enables one to detect small indurated nodules, especially along the superior and lateral borders of the gland, and sometimes in the mass of the tissue itself. Again, there may be no prostatic anomaly perceptible, but more or less purulent liquid can be extracted. If this massage shows no drop at the meatus, the patient is told to evacuate the remainder of the urine contained in the bladder. If this third glass is more cloudy than the second, an analysis should be made; the character of the prostatic secretion can be ascertained. Search is made for glandular foci of the anterior urethra in the same way, massaging the anterior urethra instead of the prostate. If, after micturition, a purulent drop is obtained, with or without gonococci, the physician may expect infection of the urethral glands. Quite frequently he can detect in these cases small indurated nodules along the urethral canal. Sometimes they offer resistance and do not disappear on pressure, but more often they appear to sink into the urethra. They sometimes form para-urethral abscesses, and if allowed to follow their natural evolution they open by small orifices either on the sides of the frenum or the inferior angle or on the lips of the meatus. Sometimes they open simultaneously into the urethra and on the exterior, thus forming a fistula. The congenital para-urethral crypts and canals are often found in the neighborhood of the meatus. They are especially frequent in hypospadias. They are formed either by a large lacuna situated at the superior angle of the meatus or by different canals situated along the sides. As many as eight have been found in the same subject. The treatment of prostatic foci consists simply of massage of the prostate before each permanganate irrigation. The treatment of foci of urethral glands opening into the urethra consists in massaging the anterior urethra before each irrigation. If a para-urethral abscess does not open into the urethra, it should be opened freely and the wall curetted. If the abscess communicates with the urethra, the same procedure should be adopted. The urethral orifice should be found, and a silk thread should be passed by way of the meatus and should be allowed to remain. This keeps the fistula open and permits the liquid used in irrigations to pass along the silk. The fistula easily closes of itself when the gonococci disappear. Several cauterizations with the galvano-cautery aid in closing the opening. As to the para-urethral crypts and canals, they should be incised from the side of the urethra, so as to make a large communication between their cavity and that of the urethra. For this purpose the author has had a small automatic instrument made. It is composed of a fine cannula sound, which is attached to the blade. The sound is introduced to the depth of the para-urethral canal. A button on the blade is pressed toward the urethral orifice; the blade is pushed the length of the sound, and it cuts from one end to the other the wall that separates the canal from the urethra. Irrigations soon complete the cure. The author finds his method of treatment satisfactory. In some cases the patient becomes accustomed to the permanganate, and it is advisable to use citrate of silver, 25 to 1,000, a few times and then to return to the permanganate. In the treatment of gonorrhœa complicated with stricture, if the stricture is sufficiently large (15 F. or more) not to provoke retention or to cause urethral obstruction under the congestive influence of irrigation, it should be left alone until the gonococci have disappeared, and then any necessary dilatation may be practised. If, on the other hand, the stricture is very narrow and if there is vesical retention, it would not be prudent to follow this method of treatment, as there would then be the risk of complete retention under the influence of irrigations. In such cases dilatations and irrigations could be practised simultaneously. The patient should evacuate the bladder, and a small irrigation of borated water should be made. The bladder should then be filled with the borated water. Next, dilatation should be practised, after which the patient should evacuate the borated water; and then should follow a complete irrigation with permanganate, 25 to 1,000, during the first séances. When a No. 18 sound can be passed, dilatation may cease and the irrigations may be completed, dilatation being resumed later. When cystitis complicates gonorrhœa it may be the result of irritation of the bladder by the soluble products coming from the posterior urethra, or it may come from an extension of the inflammation of the posterior urethra to the bladder wall, or it may perhaps be due to infection by a secondary microbe—the bacillus coli or other cocci. The gonococci are so rarely encountered in cystitis that one can say that practically they are not cultivated in the bladder. The large number of cases of gonorrhœic cystitis are due to irritation, as one can easily recognize by analyzing the second glass of urine. The treatment in such cases is the same as for ordinary gonorrhœa, care being taken to use weak solutions in the beginning and to introduce only small quantities of liquid successively into the bladder. Permanganate solutions cause the soluble products due to the urethral gonococci and the inflammation that they occasion to disappear. If, on the contrary, the cystitis is infectious—which fact will, on analysis of the urine, be recognized by the innumerable microbes, coli bacilli, or cocci—the treatment by permanganate will suffice to exterminate the urethral gonococci, but will have little action on the secondary microbes contained in the bladder. One should, nevertheless, resort to disinfection of the bladder by silver salts, but it is more simple to unite the two treatments by mixing in the same solution the desired quantity of each drug. If prepared immediately before being used, these substances do not act upon one another. The author generally uses twenty-five centigrams of permanganate to one thousand parts of water, and adds twenty-five centigrams of nitrate of silver or five centigrams of sublimate. If the secondary infection persists after the disappearance of the gonococci, one may use irrigations of nitrate of silver or of the citrate, which is not so painful as the former. In the treatment of gonorrhœa complicated with orchitis, the author has attempted the usual irrigations during the acute stage, but against his better judgment. Traumatisms caused by these irrigations exaggerate rather than allay the congestion of the epididymis. It is preferable in these cases to suspend treatment during the acute stage. The acute period passed, large irrigations of the permanganate soon effect a cure. In case of prostatitis the same procedure should be followed. In the presence of general complications of gonorrhœa, rheumatism, endocarditis, meningitis, and conjunctivitis, the urethral treatment should be pushed whether the urethritis or its complications are very acute or not. In a case in which the general complications are due to the toxins of the gonococci—and these cases are frequent—a cure of the general affection will be obtained by use of the irrigations: if, on the contrary, the case is due to a generalization of the gonorrhœal infection, the treatment will have no effect. It is necessary, however, always to practise the irrigations, in order to eliminate the primary foci of infection and the toxins which it produces, and to attack the extra-urethral focus if it is accessible.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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NATIONAL QUARANTINE.

IT is reported from Washington that a strong opposition is being manifested against the passage of the Caffery bill, enlarging the powers of the Marine Hospital service, and it is thought the Spooner bill, which provides for a national commission of public health, to be constituted a bureau of the treasury department, will more probably be passed by Congress. We need not here discuss the relative merits of the rival bills, for we have already expressed our views and see no occasion to alter them. The one important thing, it is indeed an imperative necessity, is the immediate passage of some measure to protect the inhabitants, not only of the Southern States but of the whole Atlantic seaboard and indeed the entire country, against the pestilence which is more to be dreaded and more difficult to ward off than all the warships in the Spanish navy.

There is, however, one very strong argument in favor of the Caffery bill, or at least of intrusting national quarantine to the Marine Hospital service for this summer. Whatever the outcome of the present Cuban controversy, whether the coming summer see peace or war, the danger of importing yellow fever from the pesthole, which Spain's persistent disregard of the most elementary hygiene or even of simple cleanliness has permitted to exist, is most real. Only the greatest vigilance on the part of experienced guardians will offer the slightest guarantee against an epidemic invasion of our land. In the Marine Hospital service we have an organized body of educated physicians and experienced hygienists, who are stationed even now at most of the danger points and can be distributed to others without loss of time. On the other hand, if a new bureau is to be established, it is beyond reason to hope that the complicated machinery of such an organization can be gotten into smooth running-order within the few days of safety that remain. Indeed, April 1st, if we mistake not, is the date for the establishment of quarantine against yellow fever in the Southern ports. How would it be possible to gather together a corps of experts in epidemiology, of men who are familiar with yellow fever and are themselves protected against it, to assign them to their stations, to establish these stations and provide them with all the necessary apparatus, and to organize a central bureau at Washington, all to be effective not later, let us say, than May 1st?

It is no time to try experiments when such an emergency as this exists. Even admitting that the Marine Hospital service is not perfect, it is at least existent, and it should, in our opinion, be at once clothed with the necessary powers, if only for the present summer, to do whatever is necessary to protect our people from a pestilence more destructive and more pitiless than war.

ALMSHOUSES IN MASSACHUSETTS.

THE report of the board of lunacy and charity of Massachusetts lays bare a startling state of affairs, and one that it is difficult to credit in our advanced stage of civilization. Over two hundred towns and counties maintain almshouses, the best managed of which makes no provision for the separation of the sane from the insane. This is bad enough, but the report goes on to state that in some of the almshouses it was found that there was not only no provision for the separation of the sane from the insane, but the sexes even were not separated by day or night, and the children were allowed to mingle at will with the adults. In those almshouses where the pretence was made of separating the sexes, the pretence was so palpable as to render it immoral in itself. Various efforts have been made at different times to induce the legislature to introduce the necessary reforms, but, owing to the action of an interested opposition, have up to the present effected no satisfactory result. This report should open the eyes of the public to so scandalous a condition of things, and should tend to bring about the much-needed alterations in the rules now controlling these institutions. A State that has been one of the foremost in inaugurating reforms should surely relinquish the old-time method of classing pauperism and crime in the same category, and compelling those whose only sin is to be old or crippled to herd with the scum of the earth.

THE HABITUAL-DRUNKARD QUESTION.

THE excessive consumption of alcohol is a subject that is now greatly exercising the minds of temperate people in some of the European countries. It is felt that the time has come when steps should be taken to prevent as far as is possible the lamentable effects that the abuse of alcohol is exerting on the health of the inhabitants. It is asserted that in France in particular the drinking-habit is absolutely sapping the strength and vigor of the nation. The people of Great Britain have long had the somewhat invidious distinction of being more addicted to strong drink than those of any other country. From the latest statistics published on the matter, however, the fact is gathered that France now heads the list in regard to the consumption per capita of alcoholic beverages. The Germans have ever been and are still the largest beer drinkers. England comes next, and then this country and France.

As may be naturally conjectured, Germany, France, Italy, and Spain, the most important of the grape-growing lands, are the largest consumers of wine, while the United States and England are the smallest. Of all peoples the French, with the possible exception of the Danes, imbibe the largest quantity of spirits. It is satisfactory to note that here the consumption of both spirits and wine has shown an appreciable decrease. In his annual alcoholic budget to the *London Times*, Dr. Burns recently estimated the drink bill of the United Kingdom for the year 1897 in round numbers at $760,000,000, an increase over the preceding year of about $16,500,000. In face of this condition of things it has been decided to take vigorous measures to protect, at least to a certain extent, the habitual drunkard from himself. The inebriate-legislation committee of the British Medical Association has issued a circular strongly advocating certain reforms in the existing laws regulating the treatment of the drunkard. The points to which it is considered legislation should have particular regard are: (1) power to substitute curative and reformative treatment of criminal inebriate offenders for their existing ineffective imprisonment in jail; (2) power to seclude non-criminal habitual drunkards, with due regard to the "liberty of the subject," in special curative institutions; (3) curative seclusion at the public charge for poor habitual drunkards. A bill embodying these proposals has been introduced into the English house of commons, and was favorably received. It may be mentioned that at the back of this movement are the fifteen thousand medical men belonging to the British Medical Association. That habitual inebrity is a mental and physical disease is now generally conceded; in fact, those who have made a study of the subject confidently assert that such is the case. If this, then, be so, it appears irrational, in addition to being decidedly hard on the drunkard, that he should be punished for his misfortune. Though men are not to be made sober by act of Parliament, judicious laws may assist them to overcome their failing, and therefore it seems that the bill now before the British legislature is a step in the right direction. In France the necessity of checking the widespread inebriety is recognized by all those who have the welfare of their nation at heart. Dubisson says that, while the population of Normandy has during the present century decreased by one-third, the consumption of ardent spirits has increased enormously. The mean duration of life has been reduced by more than half. Insanity, formerly unknown, is now fearfully prevalent; crimes of violence are rife; and stillbirths, rickets, scrofula, and congenital syphilis increase year by year. The same tale is told by physicians in all parts of the country. *Public Health* says: "The information thus elicited points to a grave state of matters in France, but the efforts of the medical profession to arrive at the truth and enlighten public opinion are a hopeful augury of success in what Dr. Laborde calls 'the struggle against the true enemy.' Many remedies have been suggested as a means of bringing about a change for the better, the most sweeping of which is that the French government shall have the monopoly of the manufacture of stimulating beverages, so as to insure their purity. On the whole, notwithstanding the fact that France and England and one or two of the other European nations have retrograded, there has been a marked decline in the consumption of alcohol throughout the world. This has been especially the case in America, where the decrease since 1888 amounts to about thirty per cent. Without a doubt, the most important phase of the drinking-question, at any rate to the medical profession, is to discover the best method of treating the habitual drunkard.

DEPENDENT AND HOMELESS CHILDREN AND THE NEW YORK STATE PLACING-OUT BILL.

Opinions have considerably altered in regard to the desirability of orphan asylums and institutions as a means of saving homeless children. The great objection urged against them is the disadvantages of massing children together in large numbers under artificial conditions. The substitute for orphan asylums adopted in many States of this country is what is termed the placing-out system, that is, finding a dependent child a home in some respectable family. This system, when properly carried out, is without doubt in every respect a great improvement on the old one, but unfortunately in this and other States it has been so abused as almost to become a public scandal.

William Prior Letchworth, writing on the matter in the *Sanitarian* for January, says: "The subject of State supervision is of such importance that I think it should receive the attention of the legislature of every State, and a system should be provided regulating the manner in which homeless children shall be placed in families, and providing a method of supervision over them afterward which is not obtrusive or offensive to foster parents who have received children, as members of the family, but which is nevertheless adequate to afford ample protection to the child. The function of the orphan asylum is to prepare children whose habits, manners, speech, and morals need reforming, for the family home, with as little loss of time as possible, and to prevent the breaking up of families in bereavement or distress by caring for their children until they are in a position again to take charge of them." Different States have different methods for placing out children, but probably those in force in Michigan most nearly approach the standard of excellence advocated by Mr. Letchworth. These are in brief as follows: "For general distribution throughout the State, the board of control issues a pamphlet circular, explaining how children may be obtained from the State school, with instructions as to what is required of foster parents after they have taken children. The pamphlet contains a list with the post-office address of all the county agents. Persons selecting children, either by a visit to the school or by correspondence, are required to make an application in a prescribed printed form. This is sent by

the superintendent of the school to the county agent of the county in which the applicant resides, who visits the home of the applicant and reports upon its fitness and the truthfulness of the statement made in the application. If this report is satisfactory, the child is then delivered to the applicant upon sixty days' trial."

The placing-out bill for New York State should in its new form commend itself to all classes, and it is to be sincerely hoped that it may become law. The first bill drawn up by the State board of charities met with opposition on the part of many of the philanthropic and charitable organizations in the State, chiefly on the grounds that it delegated too great powers to the State board of charities. As a consequence of this opposition a conference between the various charitable organizations interested in the matter was held, and the present bill, in a completely new form, was drafted, and appears to be altogether satisfactory. In the first place the bill referred to defines the term "destitute child" as meaning an abandoned orphan, or a destitute minor under the age of sixteen, who is an inmate of a public or private charitable institution, or is maintained by or dependent upon public or organized charity. Placing out is defined as the placing of that child in a family other than that of a relative within the second degree, for the purpose of providing a home for such a child. No person can receive such a child, nor can a corporation other than a charitable or philanthropic one place out such a child after this act becomes law, unless a license shall have been given by the State board of charities. No child can be placed in a family outside the State by a local officer charged with the relief of the poor. To the State board of charities is given the power to issue licenses to persons or corporations whom they deem proper to take care of children—no license to be granted to any person until six months after the application has been made. Such license may be revoked by the board, subject to a right of appeal on the part of the licensee. The State board of charities in fact acts *in loco parentis* and appoints inspectors whose duty it is to visit those families or corporations holding licenses. Attention is also paid to the religion of the child, as in as many cases as possible the child is placed with persons holding the same religious views as did the child's parents.

Changes at Columbia.—At a meeting of the board of trustees of Columbia University on April 4th, the resignation of Dr. James W. McLane, professor of obstetrics, was presented, and, at his earnest request, was accepted. Dr. McLane was made emeritus professor of obstetrics, retaining his seat in the faculty of the College of Physicians and Surgeons and remaining dean of the college. The vacancy in the chair of obstetrics was filled by the appointment, with the title of lecturer in obstetrics, of Dr. Edwin B. Cragin, a graduate of the College of Physicians and Surgeons in 1886. Dr. Cragin will also have charge of the Sloane Maternity Hospital.

News of the Week.

The Library of the New York Academy of Medicine.—The library committee announces that the suggestion has been received from a number of sources that the academy library be kept open (for members only) on Sundays, from 10 A.M. to 5 P.M. To do this would involve additional labor and expense, besides necessitating a change of bylaw; and before action is taken in the matter it has been thought best to seek an expression of opinion from the members of the academy by inviting them to cast an informal ballot. If the replies received indicate that the change is desired by a considerable number of the members, the committee will then take the matter under advisement, and will probably propose that the opening take place. We presume that "Sunday opening" means also holiday opening, for it is on holidays especially that great inconvenience is experienced by many members who would gladly avail themselves then of the library facilities, if they could.

The Massachusetts Medical-Practice Bill is being violently opposed by the Christian scientists and other faddists, whom the *Boston Herald* characterizes as occupying quarters of the highest intelligence, and this comic daily adds: "There has seldom been more talent and character arrayed against a proposed measure of legislation at a committee hearing than appeared in this instance." Boston always was and is funny.

Death of Professor Stricker.—The cable reports the death of Prof. S. Stricker, professor of general and experimental pathology and therapeutics in the University of Vienna. He was born in 1834.

The Dispensary Evil in Constantinople is not yet very great, but it is growing. There are two dispensaries in that city, which treated 2,299 persons in 1896 and 6,062 in 1897.

The Woman's Medical College.—The new building of the Woman's Medical College of the New York Infirmary for Women and Children, the opening of which we noted in a recent issue, is of seven stories. In the basement are eight clinic rooms. The first floor contains reception rooms and offices. There is a well-equipped chemical laboratory on the floor above, and the histological and pathological libraries are on the third floor. The amphitheatre extends from the fourth to the fifth floor, and seats about one hundred and fifty students. The dissecting-rooms are on the sixth floor.

Hospitals Closing.—The Astoria Hospital was closed on the first of the month, the managers having failed to form a union with some other institution entitled to receive patients at the city's expense. The St. John's Hospital in Long Island City is also in difficulties on account of the loss of receipts derived from the local government. The institution is managed by the Sisters of St. Joseph, and was opened six years ago. Last year work was begun on a four-story

brick structure, which was to cost $100,000, but when the building was far advanced work had to be suspended because the building-fund was exhausted. The borough authorities have been appealed to, but they give very little encouragement that relief will be secured. The Flushing Hospital is in the same predicament.

The University of Freiburg announces that all students attending the lectures there will be insured against accidents within the precincts of the university, including those met with in the gymnasium and while duelling, or during excursions conducted by the professors. In case of death about $4,000 will be paid to their families.

The Roentgen Rays in Court.—A judge of the superior court of Connecticut recently refused to make a ruling in a damage suit to compel the application of the *x*-rays to test the question of injury to a bone. Expert testimony had been introduced to show the value of the rays in such cases.

The Worshipful Company of Skinners has voted £1,000, the cost of opening vacant wards and building new out-patient rooms, to the City Orthopædic Hospital, Hatton Garden.—*The Medical Press.*

More Army Surgeons.—A bill has been introduced into Congress increasing the number of medical officers in the army by fifteen additional assistant surgeons, and authorizing the surgeon-general of the army, in emergencies, to appoint, with the approval of the secretary of war, as many contract surgeons as may be necessary, at not exceeding $150 a month.

The British Pharmacopœia.—The last literary work which Sir Richard Quain performed was the revision of the proofs of the forthcoming British Pharmacopœia. He was chairman of the Pharmacopœia committee of the General Medical Council, and it was one of his duties to revise the proofs of each edition of the Pharmacopœia.

"The Medical Press," with its not unusual ignorance of things American, in a notice of Dr. Weir Mitchell's "Hugh Wynne," kills and buries the author beyond recall. "This stirring and exquisitely written historical romance," it remarks, "is from the pen of no less a person than the late Dr. Weir Mitchell. We learn for the first time that this author was an accomplished writer as well as a sagacious physician."

Artificial Impregnation.—The Catholic authorities at Rome have rendered a decision forbidding the practice of artificial impregnation, devised by Sims. The reasons for this prohibition are not stated in the decree.

Obituary Notes.—Dr. Oliver Albert Judson, of Philadelphia, died at his home in that city on March 30th. He was born in 1830, and was graduated from the Jefferson Medical College in 1851. He served as brigade surgeon throughout the civil war, and at its close resigned with the brevet rank of colonel of the United States volunteers.—Dr. George S. Little died in Brooklyn on March 30th, at the age of seventy-three years. He was a graduate of the University Medical College in the class of 1848, and had practised in Brooklyn for thirty-five years.

The Divine Healer on Top.—The Kansas State board of health recently applied to the attorney-general for a decision concerning the enforcing of the medical-practice law in that State. The legal luminary cogitated for a while, and then delivered the opinion that the magnetic healers and the hypnotists and all the other quacks except divine healers can be prosecuted, but adds that the divine healers claim their power to come from Jehovah and that, as he understands it, the rights and privileges of Jehovah can in no way be regulated or restricted by the statutes of Kansas.

Association of American Physicians.—The thirteenth annual meeting of this association will be held in Washington, on May 3, 4, and 5, 1898.

The Ohio State Medical Society will hold its annual meeting at Columbus on May 4, 5, and 6, 1898, under the presidency of Dr. William H. Humiston, of Cleveland. Addresses will be delivered by Drs. Senn, of Chicago, and Hare, of Philadelphia.

A New Hospital Ship.—The *Creole*, a large and handsome vessel sailing between New York and a Gulf port, has been selected by Surgeon-General Van Reypen, of the navy, for use as an ambulance ship, and has been taken in charge by the government and sent to Newport News, Va., to be fitted there for hospital purposes. Wards will be arranged and light ports cut, so that wounded sailors will have the most cheerful surroundings. The *Creole*, when converted, will hoist the flag of the Red Cross Society and proceed to Key West for service with Captain Sampson's fleet.

The New York Skin and Cancer Hospital.—At the recent opening of this institution, noticed in our issue of March 12th, Dr. L. Duncan Bulkley, the originator of the hospital and its present secretary, delivered an address devoted to the history of the undertaking. The first patient was admitted to the old building in Thirty-fourth Street on Feburary 26, 1883. During these fifteen years the hospital has received about $375,000, of which $75,000 came from the board of patients and sale of drugs in the dispensary. The land and building are now practically free from debt. Since the opening of the hospital 25,031 cases have been treated, 3,010 of which were in the cancer department. The greater number of the patients were out-patients, and the total number of visits was 118,154. The number of prescriptions filled by the hospital druggist was 132,263. In the wards of the hospital there had been 2,872 patients, and the total number of hospital days was 165,077, of which 117,658 were free. Thirty physicians have served on the house staff during the fifteen years. It is now proposed to have clinical lectures in the hospital, free to all physicians. Mr. J. Cleveland Cady, the president of the board of managers, was the architect of the new building on Second Avenue and Nineteenth Street.

Society Reports.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 9, 1898.

T. MITCHELL PRUDDEN, M.D., PRESIDENT.

(Continued from page 491.)

A Preliminary Communication on Studies on Ganglion Cells.—DR. JAMES EWING read a paper with this title (see page 513).

DR. CHARLES L. DANA said that the paper just presented was a most valuable and original contribution to the pathology of the ganglion cells, and those who had worked in that line could appreciate the amount of labor involved in its preparation. He had himself worked in this field, though not so thoroughly. He had examined the different parts of the nervous system in twenty-five or thirty cases, mostly in patients dying of alcoholism, but he had not published his results in detail, for the reason that he had not been able to find in these different brains anything significant of the poison which caused death. After various trials with Nissl's stain and different fixing-fluids, he had come to the conclusion that the simplest method was the best, *i.e.*, putting pieces of fresh brain (invariably within twenty-four hours) into absolute or ninety-five-per-cent. alcohol, staining with methylene-blue solution, and decolorizing with absolute alcohol. No aniline oil was used. His conclusions were very similar to those reached by Dr. Ewing. He had not been troubled with vacuolation at all in estimating the significance of the pathological changes. It had seemed to him that the existence of vacuolation of the cell bodies to any great extent was an indication of bad technique or of post-mortem changes. One thing which had seemed to him to indicate extreme cell degeneration or marked toxæmia was vacuolation of the nucleolus. He observed that it was noted chiefly, but not wholly, in Dr. Ewing's cases of toxæmia. One pathological picture, seen in three different cases, was an enormous pigmentation, especially of the larger cells, accompanied by chromatolysis and other signs of acute degeneration. He had seen it in two cases in which the patient died with very high temperature—as in alcoholism terminating with grave delirium and hyperpyrexia. Dr. Ewing had given beautiful pictures of the individual cell changes themselves, and they did not seem indicative of any special disease. However, one did get different pictures of cortical sections of the brain in different diseases, not so much because of any specific cell change, but because of the general peculiarities of the picture. Thus, there was a very general atrophy of the cells in old age, and in cases of morphine poisoning in which the patient had been practically starved for a considerable time. It was possible that by studying the frequency of certain kinds of cytoplasmic and nuclear changes in connection with vascular and neuroglia changes in different diseases, we might be able to find pathological pictures significant of the different types. It was along these lines that future work must be done.

DR. IRA VAN GIESON laid stress on the necessity of studying the nerve cell in the living or fresh condition in order to gain any reliable conception of its cytologic structures and interpretations of functions of these structures, for the best-fixing reagents furnished only a deficient and distorted picture of the living cell.

This had been well exemplified in certain of his studies on fresh human material and in a study in conjunction with Mr. Rolfe Floyd, of the living neuron-cell body in the ganglionated chain of the cockroach—Blatta. In this latter instance the cell body of the neuron consisted of a cyto-recticulum with rather broad meshes and a fluid of moderately thick consistence.

The anterior-horn cells of the frog, when taken from the living animal, demonstrated the same structures. This fluid element of the neuron-cell body or cytolymph, however, was very radically changed in its structure when subjected to the ordinary technical procedures for cytological investigation in sections under the microscope. Alcohol sublimate, acid fixing-media, Van Gehuchten's fluid, and the great majority of fixatives converted this cytolymph into a precipitate or colloidal deposit, as Held's important researches had shown.

These studies, the speaker continued, on the artificial condition of the cytolymph in the neuron-cell body, when viewed under the microscope after preparation by the standard and most modern fixing-reagents, should be held in mind in investigation of the parenchyma cell of the body in general. Most probably in the kidney and gland cells in general, the cytoplasmic granules with all their differential staining-properties were, in the light of these studies on the cytology of the neuron, merely precipitated or coagulated particles of the nucleo-albumin of the cytoplasm, which in the living cell did not exist in this form but were in solution and in a fluid form.

Nevertheless, although in sections with the very best methods of cytological technique this cytolymph appeared in an artificial condition, with a given fixative this artificial condition was a uniform one and was the expression of a chemical reaction between the nucleo-albumins and the fixative, which was definite and constant.

Now, the artificial condition of the cytolymph of the neuron after the employment of a given fixative being an exact and uniform factor, it was, then, a reliable and exact standard of investigating pathological conditions of the neuron, and was not such a fallacy in these investigations as might seem at first glance. Pathological changes could, therefore, be studied in the neuron by observing alterations in this precipitated or coagulated condition of the cytolymph, which, although an artifact, might be made to appear as a constant standard of comparison. Yet of course, as the auditors well recognized, there might well enough be changes of a chemical nature in this neural cytolymph, which such a plan of morphological study would fail to place in evidence. The whole question brought out the dependence of pathological anatomy upon physiological chemistry for the ultimate solution of most of its problems, and the imperative necessity of exact and conjoint investigations of the morphologist and physiological chemist in the action of fixing reagents upon the various cytologic structures, in order that we might have some notion of what we were writing about in the enormous amount of work that was being done on the cell in its hardened and artificial condition.

As to the function of these two structures—the cyto-reticulum and cytoplasm in the neuron—the speaker, from studies of the comparative cytology of the nerve cell, of its histogenesis, and of a variety of pathological conditions, felt justified in maintaining that the cyto-reticulum subserved the dynamic functions of the neuron. By means of this structure dendritic retraction and expansion took place. This structure, too, was the medium of conduction and transmission of nervous impulses. The cytolymph, on the other hand, was the seat of energy of the neuron. This energy of the neuron was used by the functioning of the cyto-reticulum. A certain amount of this energy residing in the cytolymph was drawn off, for instance, in the cycles of physiological activity of the nervous system,

and was recovered by the elaboration of the crude food supply in the lymph surrounding the cell into higher and more complex compounds in the cytolymph. (The speaker illustrated these points by blackboard drawings.)

In considering the effects of toxic agents upon the nerve cells and in examining the effects of acute and general somatic disease upon the neuron, the speaker had been forced to accept the same conclusion as expressed by Dr. Ewing, viz., that the exceedingly irregular action of the toxic factors in effecting changes in the nerve cells could not very well be ascribed to the direct action of the toxins alone. There must be some other exceedingly important intermediary or secondary factor in producing these changes, such as vascular fluctuations or localized escapes of toxins from the vessels through lesions in the vascular endothelium.

In alluding to the form of degeneration with eccentricity of the nucleus and centralized pallor of the precipitated cytolymph granules, he said that he had studied this form of degeneration, particularly in peripheral neuritis, lead paralysis, and in cortical motor cells in general paralysis, and recognized with other observers that this form of degeneration was concomitant with lesion of the axone, and he had therefore designated this degeneration as the axonal or secondary form. But he was not prepared to accept the converse of this statement, namely, that, given the appearances of this form of degeneration in the neuron cell body, the conclusion was always to be accepted that the axone was damaged.

Dr. Van Gieson in conclusion regretted the limited time for discussion and appreciation of a paper which in his estimation was the most important which had yet been written in the new epoch of the pathology of the neuron, namely, its study in the light of modern cytology.

Dr. Ewing closed the discussion, referring to the lack of specific quality in most of the changes demonstrable in ganglion cells by Nissl's method, to the significance of changes in the achromatic substance, and to the importance of Held's demonstration of the semifluid character of the chromophilic substance, which, however, he thought did not invalidate the observations previously made upon the chromophilic bodies.

A Preliminary Communication on a Method of Determining the Reaction of Post-Mortem Material, and its Application to Nerve Tissue.—Dr. S. Bookman read a paper with this title. He said that Held had shown that in half an hour after death the reaction of the nervous tissues became acid, and that this probably accounted for the precipitation of the Nissl granules. This had suggested to him the present line of investigation. The method, in brief, consisted in making an emulsion of the tissue to be examined by triturating it in a mortar with purified sand. This emulsion was then subjected to titration with centinormal soda, to determine the degree of acidity.

In the first experiment a piece of brain which had been in ninety-five-per-cent. alcohol for twenty-four hours was titrated and showed an acidity of 3 c.c. per gram. Five days later another piece of the same brain showed an acidity of the gray matter of 5.3 c.c. per gram, and of the white matter of 6.8 c.c. As, however, the alcohol seemed to exert an influence which could not be compared with changes occurring in material not in a process of hardening, a second experiment was carried out on material not so treated, and the figures here were 5.1 c.c. per gram of white matter and 2.1 c.c. per gram of gray matter, showing that the alcohol retarded the beginning of decomposition.

In another brain, three hours after death, the gray matter showed 3.1 c.c. per gram, and the white matter 2.8 c.c. Eighteen hours later, the gray matter showed 4.8 c.c. per gram, and the white matter 5.9 c.c. Forty-eight hours after the last experiment the gray matter showed 6.9 c.c. per gram and the white matter 5.7 c.c. Twelve hours later the whole mass showed 4.5 c.c. per gram. Thirty hours later the gray matter showed 5.3 c.c. The cord showed the following: twenty-four hours after death, 6.8 c.c. per gram; four days after death, 4.7 c.c. per gram, the cord substance having already gone over into the stage of decomposition, which was verified by decreasing acidity. Twenty-eight hours later it showed 4.4 c.c. per gram.

The decrease in rapidity of the approach of reduction in acidity in the two cases was explained by the fact that the brain remained exposed at a temperature of 68° F., whereas the cord was kept at a temperature twenty degrees below the same.

Dr. Bookman said that he had not completed this line of research, but he thought it not impossible that he would find that each disease had a reaction peculiar to itself, and that it would explain more fully the formation of the Nissl bodies. Held had shown that by immersion in carbonate of lithium after fixation the granular areas were dissolved, while the ground matters remained intact.

Dr. Ira Van Gieson remarked that the subject was a very promising one for study, especially in connection with the various forms of toxæmia.

The society then went into executive session.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 28, 1898.

Arthur M. Jacobus, M.D., President.

Bullet Removed from a Cervical Vertebra; Detected by the X-Rays.—Dr. A. M. Phelps presented a young man who, a year ago last November, while handling a revolver of No. 38 calibre, had accidentally discharged its contents into his neck near the thyroid cartilage. The place of lodgement of the bullet could not be determined at the time. He soon developed more or less paralysis of the left arm and experienced great pain in the shoulder, which extended down the back of the neck, and the neck was rigid and drawn toward one side. Two surgeons had made unsuccessful attempts to locate the bullet by the *x*-rays before the case came to Dr. Phelps. After making several efforts with the aid of the *x*-rays and different *x*-ray machines, he finally succeeded in locating the bullet near the body of the third cervical vertebra. An incision was then made from the mastoid process of the occipital bone along the posterior border of the sterno-cleido-mastoid muscle nearly down to the clavicle. The sterno-mastoid muscle was pulled forward and the deeper muscles were drawn backward, thus exposing the transverse processes of the cervical vertebræ. The nerves were also retracted. When the body of the third cervical vertebra was cut down upon a small discoloration was noticed, and this led into an opening. By means of the Girdner telephonic probe the bullet was easily located. A large portion of the cervical portion was cut away and the bullet removed. It had entered the canal and pushed the meninges forward, and was making pressure on the spinal cord. It had also injured the root of the third cervical nerve. The patient's recovery was uneventful. Without the aid of the skiagraph it would have been impossible to find the bullet. Lodged as it was in the body of the vertebra and invading the spinal canal, the bullet, if not removed, might have resulted sooner or later in total paraplegia.

The Local Examination and Treatment of Diseases of the upper Rectum and Sigmoid Flexure.—Dr. James P. Tuttle read a paper with this title. It was founded in the results of observations made for some time past with the proctoscope and sigmoidoscope, better known as "Kelly's tubes." These were first presented to the profession in 1895. What might be seen through the instruments, he said, could be inferred from the statement that he had by actual measurement found that the instrument embraced a field of twenty-five or thirty inches. Adhesions interfered with the examination, and so might also volvulus or intussusception. It was a most valuable addition to the armamentarium of the clinical teacher.

Neoplasms.—These were of paramount importance from a diagnostic point of view. They were frequently mistaken for functional or inflammatory disorders, and treated as such until too late to be amenable to operative procedures. This was especially true of carcinoma. It was his firm conviction that the systematic use of the Kelly tubes in all cases of irritation of the rectum, sigmoid, and lower colon would reduce the mortality from carcinoma of these patients fully fifty per cent. The appearance presented by the carcinomatous growths was typical, and not easily confounded with other diseases when the diagnosis was made by actual inspection. This was in striking contrast with the results of diagnoses found on the rational symptoms alone.

Fibrous and Adenoid Polypi. While these were common in the lower rectum they were not frequently seen in the sigmoid or upper rectum. Papillomata were rarely found in the rectum, but might be found at any point from the anus up. They were much more difficult to remove than fibrous and adenoid polypi, on account of their broad attachment to the mucous membrane. They bled freely on handling, and when they were cut or twisted off dangerous hemorrhage was likely to follow. They might be very easily mistaken for epithelioma, but might be distinguished therefrom by the healthy condition of the mucous membrane at their base, the absence of infiltration and of constriction of the calibre of the bowel, and by the fact that they occurred nearly always as multiple growths with absolutely healthy areas of mucous membrane between them. Flat, broad-based adenoid growths were comparatively frequent in the lower rectum, but were rarely seen higher than three or four inches from the anus. Submucous growths and those attached to the outer wall of the gut could not, of course, be seen through the Kelly tube, but fortunately this was not a serious drawback in actual practice. Regarding the growths situated above the portion of the rectum covered by the peritoneum, the speaker said that he believed it to be more feasible to operate through an inguinal incision than through the sacral incision. The common diseases of this portion of the bowel were, 1, simple acute catarrh; 2, hypertrophic catarrh; and, 3, atrophic catarrh.

Simple Acute Catarrh.—This was identical in its onset and course with an acute coryza. The bowels were constipated, and a sensation of heat and burning in the pelvis supervened. A watery and mucous diarrhœa occurred in the course of a few days. Normal health was rapidly restored under proper management, unless ulceration had occurred. In the first stage of the disease the mucous membrane was swollen and hot. Through the Kelly tube it appeared of a bright and shiny red, uniformly distributed, and there was an absence of varicose veins. In the second stage there was abundance of mucus present, sometimes in the form of mucous shreds. Rectal irrigation was the rational treatment for this condition.

Atrophic Catarrh.—Chronic atrophic catarrh of the rectum, sigmoid, and colon was a very common disease, representing about twenty-five per cent. of the cases seen in Dr. Tuttle's clinic. In the majority of cases it did not extend above the middle of the sigmoid flexure. Small fissures were constantly present around the muco-cutaneous junction, and were quite characteristic. They did not cause much pain, but gave rise to very intractable pruritus. The mucous membrane appeared dry and of a dark red color, with fissures through it. There was very little tenacious mucus on the surface. Attached to the wall of the gut might be seen small masses of inspissated fecal matter. There was frequently an impaction of small fecal balls in the ampulla of the rectum. Procidentia of the upper portion of the gut into the lower was a frequent associated condition. Through the tube this prolapse resembled the normal cervix uteri. It accounted for the difficulty of introducing the bougie and for the frequent mistake of diagnosticating these cases as strictures of the rectum. The treatment consisted in keeping clean this portion of the intestinal canal by irrigations with boric acid solution. When there was atrophy present the peristaltic and glandular activity of the intestine should be stimulated. Injections of half an ounce of a five-per-cent. solution of argonin were often followed by the happiest results. The diet should be of such a nature as to require but little intestinal digestion.

Hypertrophic Catarrh.—Hypertrophic catarrh occurred with a general catarrhal condition of the whole system. The mucous membrane appeared moist and sodden, and was covered with more or less purulent secretion. There were always more or less fluid and fæcal matter in the rectum except just after stool. The condition usually extended above the portion within the reach of the tube. The sphincters were relaxed, and the tubes passed in very easily. There were rarely any hemorrhoids. The symptoms were those of intestinal indigestion, and some cases were cured by proper dietetic treatment and the administration of intestinal antiseptics. Saline laxatives in the morning, especially the phosphate of sodium, would be found beneficial; but in the majority of cases local treatment was indispensable. The aqueous fluid extract of rhatany, in various strengths, acted almost as a specific in this disorder. The extract was not ordinarily kept in stock in the drug stores. It was important to make sure that a resinous precipitate was not thrown down when the extract was added to water. If it did this, the extract was more irritating than soothing, and was unfit for use. If made of a glycerin-and-water percolation and then evaporated until a grain of the extract represented a grain of the crude drug, it would be found a valuable remedy. From one to six ounces of a twenty-five-per-cent. solution were thrown up into the intestine as high as an ordinary bougie would reach. Improvement was usually noted after two or three applications.

Ulcerative Colitis. Dr. Tuttle said that both blood and pus were always present in the ulcerated intestine, but the quantity was so small that it might not be noticed unless carefully looked for. The ulcerations were covered by a thin layer of muco-pus, underneath which was a granular base, with edges sloping toward the centre. The subjective symptoms were marked lienteric diarrhœa alternating occasionally with constipation, impaired digestion, and continued loss of flesh. A positive diagnosis could be made only by inspection of the affected part of the bowel. The treatment should consist in flushings with boric-acid solution and the application to the ulceration of some healing agent, such as argonin or antinosin. The latter should be insufflated.

Follicular Inflammation. In the sigmoid flexure we might find follicular inflammation. The mucous membrane was hyperæmic and showed numerous lit-

dle nodular elevations. There were numerous minute ulcerations associated with a moderate secretion of mucus. These patients rarely had a satisfactory stool, but went to the closet several times a day. They suffered from flatulence and digestive derangements, and found very little relief from the usual remedies for constipation and indigestion.

Morning Diarrhœa.—In the opinion of the speaker the so-called morning diarrhœas were always due to some organic disease of the rectum, sigmoid, or descending colon, particularly of the first two. It might be cancer, polypus, papilloma, ulceration, or catarrhal disorder, but in every case he had been able to find some irritating condition to account for the diarrhœa.

Mucous Diarrhœa.—This was another condition due to actual disease. It was always associated with a follicular inflammation of the sigmoid flexure and colon, and was frequently seen in connection with atrophic catarrh of these parts. The colicky pains occurring after stool were due to temporary obstruction from spasm and masses of mucus. The nervous symptoms associated with this disorder seemed to be a part of the affection, and not its cause.

Technique of Rectal Examination.—Dr. Howard Kelly, of Baltimore, sent a paper on this subject, which in his absence was read by Dr. Tuttle. He said that formerly it had been the habit of rectal specialists to limit their examinations to three or four inches, or less, from the anus. In his method of examination, after the evacuation of the bladder and bowel, the patient was put in the knee-chest posture, a cylindrical speculum inserted, and the examination made by direct or reflected light. On the introduction of the speculum the entire lower bowel expanded with air, the valves stood out with remarkable distinctness, and a bright, flat surface was exposed to critical examination. His first examinations, according to this method, were made in 1884, and were suggested by the very satisfactory exposure of the vagina obtained by the aid of the Sims speculum. In his opinion the rectal specialist needs forty or fifty specula of varying sizes.

Dr. Lewis H. Adler, Jr., of Philadelphia, was invited to open the discussion. He said that he had been impressed with the necessity for more accurate work in connection with rectal diseases, and, from the fact that three cases of cancer of the valve had been recently diagnosticated as fistula and hemorrhoids, there seemed to be ample opportunity for enforcing upon the profession the necessity for digital examination of the rectum. Up to the time of the introduction of Kelly's tubes even the rectal specialist was obliged to diagnose diseases of the sigmoid almost entirely without the aid of sight. If there was a discharge of blood, mucus, or pus from the valve, it became the duty of the physician to investigate it. In the vast majority of instances this meant an exhaustive exploration, such as could be made only with the help of Kelly's tubes. When there was constipation there was apt to be more or less disease of the valve. The rectum became congested, first of all, by the pressure upon the blood-vessels by the fæcal masses, and whenever congestion existed there was liability to inflammation, and, later on, to ulceration and stricture. The liability to auto-infection in all cases of chronic constipation should be borne in mind. He had failed to find a ballooning of the rectum, as described by Dr. Kelly as occurring on the introduction of his tubes. The first obstruction commonly met with on the introduction of this instrument was the promontory of the sacrum, although sometimes a misplaced uterus might prove an obstacle. In all inflammations or ulcerations of the valve a fundamental principle of treatment should be to insist upon the patient being kept in bed. The next most important point concerned the diet. It was possible by means of a long curette and a Kelly tube to obtain scrapings of a suspected malignant growth situated high up in the bowel, and thus to determine by microscopical examination definitely regarding its nature.

Dr. Charles B. Kelsey said that every practical worker in diseases of the rectum had recognized the existence of a certain portion of the bowel which might justly be called a *terra incognita*. This portion varied between four and eight inches in length, depending upon the conformation of the sigmoid flexure. If the sigmoid flexure had a curve, it was quite possible to bring the two hands together in making conjoined manipulation, without including several inches of a portion of bowel in which a pathological state might exist. He had not found it necessary to follow the rules laid down by Dr. Kelly. For example, he had found that the examination could be made just as well with the patient lying on the right side as when in the knee-chest position. In his experience the only suitable illumination for these examinations was the direct electric light. He agreed entirely with Dr. Adler, that ballooning of the rectum did not necessarily follow the insertion of the Kelly tube, but he did not find this ballooning of any value in diagnosis.

A Modification of Kelly's Tube.—A practical difficulty experienced with the Kelly tube was that the same part of the anterior, posterior, or lateral wall of the rectum did not prolapse into the tube on successive examinations. He had accordingly modified the Kelly tube by inserting a slide and fenestra in its side. It was really an adaptation of the old Aloe speculum to the Kelly tube. He did not think he had ever been able to make a diagnosis of malignant disease of the lower bowel by the Kelly tube which he had not been able to make by palpation under a general anæsthetic: but he had been able to detect localized ulcerations and polypoid growths higher up in the intestine which had not been discoverable before. He had in this way been able to remove a polypoid growth eight inches from the anus, under the guidance of direct inspection.

The Nervous Connections of the Rectum.—Dr. William H. Thomson said that the number of remote results from persistent and serious rectal irritation was much greater than was supposed by those who have not given special attention to this branch of medicine. He did not question the wisdom of treating many cases of dyspepsia by the rectum rather than by the stomach. In cases of mucous enteritis and mucous colitis we should inspect, by means of the Kelly tubes, the lower part of the intestinal canal. There was an extensive system of reflexes extending from the rectum to the pylorus, as was well shown in every case of dysentery. He had recently had two cases of prolapse of the rectum in elderly persons, which had resulted in melancholia with delusions.

A Fallacy about High Enemata.—Dr. Andrew H. Smith said, regarding the administration of high enemata, that it seemed to him that with the flexible tubes in common use it simply amounted to bending up the tube upon itself just within the sphincter. This might happen without causing such an abrupt bend as to interfere with the flow of fluid. For this reason many supposedly high enemata were really very low enemata.

Dr. H. N. Vineberg said that he had not experienced any difficulty in examining the rectum in women by placing them in the knee-chest position, and he attributed it largely to the fact that he used a very low couch. With the patient in this position he had found that the rectum did balloon out on the insertion of the Kelly tube.

The Treatment of Mucous Colitis.—Dr. Landon Carter Gray said that he had been called upon to

treat seven cases of mucous colitis. In not one of these had the local treatment done any good; on the contrary, it had been painful and had distinctly aggravated the condition. He had cured three of these patients by the use of good and a proper management of the very marked nervous symptoms which were present. The more restricted the diet in these cases, the more did the general nutrition suffer, and improvement was noted strictly in proportion to the improvement in the nervous condition.

The Brain does Not Lie in the Gut.—He had been greatly surprised at the statement made by Dr. Thomson, that he had observed melancholia with delusions dependent upon prolapse of the bowel. He had himself seen a certain amount of mental depression in such cases, but never true melancholia. It was very hard for the neurologist to believe that the brain was located in the gut.

The Lower Bowel Exposed to Traumatism.—Dr. William Vissman said that the sigmoid flexure itself was liable to a great deal of injury. The desire to defecate arose as soon as the fæces entered the upper end of the rectum, but it was often inconvenient or impossible to respond to nature's warning, and hence hard masses of fæces and various undigested particles were compelled to remain in the sigmoid flexure. These hard masses naturally gave rise to more or less traumatism. More than this, the retention of the fæcal masses exposed the gut to the manifold irritating products of decomposition.

Dr. Tuttle, in closing, said that the brain was often potently influenced by diseased conditions in the lower bowel. The cases of mucous colitis that were cured by medical treatment were examples of hypertrophic catarrh, but the other types of mucous colitis were never cured until the local condition had been cured.

A Setback for Rectal Irrigation.—He heartily indorsed the statement made by Dr. Smith regarding the common fallacy about high enemata given with the flexible tube. He had recently introduced a long Kelly tube as high as possible into the rectum, and through this had inserted a thermometer to the height of twenty-five or thirty inches. The thermometer was left at this point, with a string attached, and then an enema of hot water (110° to 115° F.) was administered through a rectal irrigator. Nearly one quart of solution was introduced in this way. Immediately after it was allowed to escape the thermometer was withdrawn. It was found that it registered a maximum of only 99.5° F. From this experiment he was inclined to believe that irrigations with these short rectal tubes did not reach so high as had been claimed.

Knee-Chest Position Not Essential.—Dr. Tuttle indorsed what had been said against the necessity of resorting to that very uncomfortable and undignified position for a woman—the knee-chest position. The rectum was occasionally ballooned on the introduction of the Kelly tube, but not often. There was no air-tight vault here, as there was in the case of the vagina, and hence ballooning rarely occurred.

An Objection to Kelsey's Tube.—The objection to Dr. Kelsey's modification of the Kelly tube was that a pathological growth might easily be caught in the fenestra and be subjected to undue traumatism. Another objection was that such a side view of a pathological state was more apt to mislead than a direct view, such as was obtained at the end of the tube.

The Castor-Oil Plant.—There is no plant, says an English weekly, which animals so detest as the castor-oil plant. A goat will starve rather than eat it, and those destroyers of everything green, the locust and army worm, will not touch it.

Clinical Department.

ANTITUBERCLE SERUM IN TUBERCULOSIS.

By LANDON B. EDWARDS, M.D.,

PROFESSOR OF PRACTICE OF MEDICINE, UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

In the cases submitted no auxiliary treatment has been neglected (especially emphasizing the value of beechwood creosote by almost continuous inhalation and internal administration), but serum has proven to be an invaluable help. My records stand in round figures as follows: Total number of cases of tuberculosis of the lungs treated with antitubercle serum (Paquin) since January 1, 1896, thirty-five. Total deaths, five. Each of these cases came into my hands in a practically hopeless condition, apparent to the most casual observer. Total recoveries, eleven. By this I mean that bacilli have disappeared from sputa; healthy respiratory murmur has been restored; chest expansion increased from about one inch to two and one-half inches or more; flesh increased to about normal, according to height; appetite for meats restored, not despising pieces of fat, etc. The patients look well, and, according to physical signs and symptoms, are well. Two other patients, who came under my care after grounds for hope were gone, will die shortly. As to results in two other cases, well advanced in consumption, I am doubtful—to-day apparently improving; to-morrow worse, fluctuating in condition. Three or four other patients are holding their own, inclining to improvement, thus encouraging hope. The other patients are improving, and some, I believe, will recover.

In this estimate I have referred to some patients who are not now under personal observation, living at distant points, but from most of whom I hear occasionally. They are under the care of their home physicians, who, I believe, follow out the general line of treatment advised.

This record is greatly better than I ever had by any other agents than serum. I have used no other serum than Paquin's, being pleased with the results, except in several instances of apnœic attacks alarming the patient, nurse, and doctor, but without any fatality. The rectal method would probably avoid this unpleasant feature in sensitive patients.

106 West Grace Street.

SIMULATION OF DEAFNESS IN A CHILD OF NINE YEARS.

By E. L. MEIERHOF, M.D.,

NEW YORK.

Simulation in various forms in children, especially in girls, is occasionally met with, and is usually intended for the purpose of exciting pity or sympathy, or else to shirk some unpleasant duty.

A few days ago a boy of nine years was brought to me at the throat and ear department of the Mount Sinai Hospital Dispensary, for the treatment of deafness, which seemed confined principally to the left ear. An examination of the ears really showed some changes in the membrana tympani due to catarrhal disease, but upon subjective tests the boy denied hearing the sound of a loud-ticking watch upon contact with the deaf ear; the entire series of Hartmann's tuning-forks were used with the same negative results; speech both loud and whispered was answered in like manner; and finally Galton's whistle was brought into use, but the boy still denied hearing with this ear, whereas hearing on the right was very good. The right ear during the examination was sealed with the tip of the forefinger, passed into the external auditory canal.

There being no history of any previous injury or severe illness—such as meningitis, scarlet fever, or diphtheria—I became nonplussed, until one of my assistants thought he observed the boy giving an answer which appeared to indicate that he heard me when I spoke to him. I attributed this to the interpretation he obtained from the movements of my lips, and when I spoke to him with his eyes closed he still acted as though he did not hear, until I asked him in a low voice whether he wanted ice cream, and other questions of a like character, when he suddenly gave himself away. In a short time he collected himself when he found he was detected, until finally I threatened to operate on his ear, and this proved to be the straw that broke the camel's back. After this I had no trouble in obtaining correct answers, and I thereupon satisfied myself that the boy had good hearing in the left as well as the right ear. His mother, who was present during the examination, could not explain the cause of her child's actions.

57 East Sixty-Fourth Street.

DISEASE OF THE EYE DEPENDENT UPON DISEASE OF THE NOSE.

By TALBOT R. CHAMBERS, M.D.,

JERSEY CITY,

OPHTHALMIC SURGEON TO THE CITY AND TO CHRIST HOSPITALS.

It is well-known history that the removal of a diseased tooth has been followed by relief of various neuralgias; that with the cure of ovarian disease has disappeared a train of symptoms in distant regions of the body; that when an error of refraction has been corrected many unexplainable symptoms have subsided. These conditions have been termed reflex.

With regard to the nose; its near proximity to the eye and its very intimate relationship, by reason of the nerve and arterial and venous connections, remove many, perhaps most, concomitant diseases of these organs from the reflex class. They are, and should be, called direct sequences, the one of the other. The only wonder is that this fact has been for so long a time time unrecognized. Of course there may be disease of the one organ, the other remaining normal. There is no doubt that very often the disease of the one was dependent upon the non-diagnosed disease of the other, and all treatment has proven unsuccessful or at best only palliative.

The nasal branch of the ophthalmic division of the trifacial, after passing through the sphenoidal fissure to the inner wall of the orbit, gives off the infratrochlear nerve and leaves the orbit by the anterior ethmoidal foramen. In the orbit it contributes the long root to the ciliary ganglion and also the long ciliary nerves which go to the iris. The infratrochlear supplies the lacrymal sac and the skin over the inner corner of the eyelids and the adjacent side of the nose. The root of the ciliary ganglion, which is derived from the nasal nerve, is its sensory root. The short ciliary nerves from the ganglion are distributed to the ciliary muscle and iris. The ophthalmic artery supplies both organs.

Is it any wonder, then, that an operation upon the interior of the nose causes weeping from the eye of the same side? Is it any wonder that disease of one side of the nose will unbalance the normal condition of the neighboring eye? If a temporary interference causes immediate disturbance, how much more is it to be expected a chronic nasal disease will be the source of chronic and serious eye trouble.

It is on this account that the ophthalmologist who recognizes this close relation will more nearly and more often succeed in affording relief to his patients than one who never seeks elsewhere for the cause than in the complaining member alone.

"That's the very pain I used to have," said a patient (Dr. V.) to me, just as I was excising a partial deviation and exostosis of the septum. "That is the pain for which Dr. X., of New York, cut the muscles of my eyes a number of times. Dr. Y. said I should be compelled to endure as best I could, for it could not be relieved." Both of the gentlemen referred to are men of the very highest professional standing—men whose ultimatum is considered final. In this case the relief of the undue pressure of the deflected septum against the inferior turbinated bone caused a disappearance of all the eye symptoms, and the patient is free from a martyrdom which was a continual source of annoyance and an interference with his work. It prohibited any prolonged near use of his eyes and rendered him apprehensive and nervous.

A second case is that of C. C—— suffering with chronic glaucoma. When he came under my care he had declined having one eye removed. This proposition had been advanced when the disease was limited to the single eye. Now both eyes were in a state of plus tension. The removal of a cartilaginous spur of the septum, which had been pressing continuously and increasingly upon and into the inferior turbinated, immediately relieved the pain and unrest of the eye of the same side, and the eye shortly came to a state of rest. Of course the results of the damage already done remained. But the improved condition of both eyes may, in my humble opinion, be ascribed to the relief of the abnormal nasal condition.

A third case is one in which possibly choroiditis was a direct result of compression within the nares. It may not be asserted positively, but the inference is very strong. A young man (C. L——) with necrosis of the right palatal bone and of two pieces of bone of the superior maxillary at the floor of the antrum and nostril had choroiditis on the same side. For several years his right antrum and nostril had within them a chaotic condition of affairs. A large quantity of secretions was locked up, and though there was but little pain the eye of that same side was constantly in a state of unrest. After the parts were cleared out and the three bones were removed, and by the aid of a cleansing douche the large chamber was put in a healthy condition, the eye came to rest. The vision was not recovered, but the inflammatory state was aborted and stopped.

Again (A. S——), with polypus of the left middle turbinated causing obstructive symptoms. The eye was markedly in trouble, though no pathological changes were apparent with the ophthalmoscope. Yet externally it showed irritation, and the patient sought professional help for his eye and not for his nose trouble. After the polypus was snared off no treatment was necessary for the eye.

Other cases could be cited, but these show conclusively the direct relationship between an abnormal condition of the interior of the nose and antrum and serious eye disease. In none of the cases cited could the patient use the eyes an hour continuously for near work without fatigue, and they were all incapacitated for continuous work of that nature. Relief of the nasal pathological abnormalities produced relief of the eye symptoms in each case.

Pressure of a septal spur, of a deflected septum, or of a hypertrophied turbinate, an ethmoiditis, or even an advanced condition of catarrhal rhinitis is accompanied by eye symptoms, or rather is the cause of disease of the eye. The symptoms vary in degree. The eye symptoms treated alone will always be but partially relieved. Some cases of fascicular keratitis will never be cured while the rhinitis accompanying remains unattacked. Besides eye fatigue and eye

pain on continuous use of the eyes, such serious diseases as fascicular keratitis, glaucoma, and choroiditis are so frequently seen with nasal complications that it does seem pertinent to claim—that no eye patient should be prescribed for until nasal and antrum complications have been corrected. Then only will ideal results be accomplished.

UNUSUAL ANATOMICAL CONDITIONS DISCLOSED BY ABDOMINAL SECTION—A REPORT OF THREE CASES.

By HOWARD LILIENTHAL, M.D.,

ADJUNCT ATTENDING SURGEON TO MOUNT SINAI HOSPITAL, NEW YORK.

The cases here reported are of interest principally because of their complication by anatomical conditions, the existence of which could hardly have been guessed before their disclosure by means of the knife.

Case I.—H. G——, a man, forty-six years old, came under my observation the 21st of last May, in Mt. Sinai Hospital. The diagnosis of his physician had been appendicitis, arrived at, rationally enough, from a history of constipation followed by sudden and severe pain in the right iliac region, accompanied by fever, nausea, rapid pulse, and the appearance later of icterus, together with general abdominal tenderness and distention. When I first saw the patient he had been sick for two days, and he had the appearance of one suffering from general peritonitis. The whole belly was sensitive and there was especial tenderness at a point just within the right anterior superior iliac spine. The temperature was 101° F., and the pulse 100 and of good quality. The extremities were cold and the man's facial expression was anxious. Dr. G. E. Brewer, who saw the patient with me, called my attention to the fact that one could feel, on rectal examination, a rather tense bulging at the right side. Further questioning brought out the information that there had been no stool for two days in spite of the internal administration of cathartics.

As we concurred in the working diagnosis of appendicitis and recognized the desperate state of affairs, the man was at once chloroformed and a five-inch incision was made in the right side, as if to expose the appendix. An enormous, tense, black, tympanitic mass was disclosed, which only on careful and minute inspection was recognized by faint longitudinal striation as large intestine. The incision was now lengthened in such a direction as to form a crescent, nine or ten inches long, with the umbilicus just within its horns. Through this large wound it was now possible to examine and raise up the huge coil of gut. Behind it were seen, quite empty and pushed well backward, the normal cæcum, appendix, ascending and transverse colon. The small intestine was distended, but not to an alarming degree. There was no peritonitis.

The great coil of large intestine, now recognized as an abnormal sigmoid flexure, was lifted out of the abdomen and was seen to be a volvulus, the twist being one of one hundred and eighty degrees. The seat of the twist, where the ends of the loop came together, was in the left iliac region, where there had been little if any tenderness, the most sensitive point, as already remarked, having been on the right side. The gut was easily put back into its normal relations, completely reducing the twist, but the intestinal wall seemed quite paralyzed and gave no sign of peristalsis. The involved portion was truly gigantic; it was hypertrophied as well as distended. It was as large as a man's thigh, Dr. Brewer and I estimating it as at least eighteen inches in circumference. The coil, too, was very heavy, being half filled with liquid fæces. I punctured the wall, evacuating considerable gas, and still the intestine was too large to be safely replaced into the abdomen. Considering the case a hopeless one, I cut a hole in the sigmoid, about an inch long, allowing the escape of several quarts of fæcal matter. The coil was then easily placed within the belly, and the openings were sewn up. The abdominal wound was closed at the ends and left open in the middle, the sigmoid having been stitched to the belly wall at this point, so that those parts of the gut which had been opened remained in the wound to be in a safe place in the event of leakage.

To my surprise the man made an almost uneventful recovery. A pinhole fæcal fistula occurred four or five days after the operation, but soon closed spontaneously. Secondary suture was performed to hasten the closure of the abdominal wound, and the patient was discharged from the hospital, well, about seven weeks after admission. He was presented by me at a meeting of the section on surgery of the New York Academy of Medicine on October 11, 1897.

This case was probably one of chronic volvulus, the twist having become completely obstructing at the time the acute symptoms came on. This is the only way to account for the great hypertrophy of the sigmoid flexure. The abnormal length of this part of the gut, too, is well known as a predisposing cause for volvulus. After reduction of such a twist, suture of a portion of the involved intestine to the belly wall is said to guard against recurrence of the trouble.

My experience with the man whose history has just been related was of value in the management of the following case:

Case II.—On September 9, 1897, Mrs. P. S——, twenty-six years old, the patient of Dr. J. F. Lyon, was stricken with appendicitis. The symptoms were at first mild, but by the morning of the 11th, two days after the onset, a sudden rise in temperature to 103° F., with corresponding cause for alarm in the patient's general condition, decided Dr. Lyon to regard the case as one for operation. I saw Mrs. S—— the same morning, and, agreeing as to the advisability of operating, we determined upon immediate action. The operation was performed a few hours later.

On making the incision, under chloroform, through the very fat abdominal wall, a gush of turbid serum justified our haste. A coil of large intestine, easily recognized by its size and its anatomical markings, came into view. Following the lower portion of the coil, I found that it was very long and extended to the left. The upper portion could be followed to the liver and then to the left. It was not attached to the liver and came out of the abdomen more easily than is usual with the normal ascending colon. It was then that the condition of things in Case I. came to my mind, and I suspected that the coil of intestine with which I was dealing might be the sigmoid flexure. Accordingly, it was held aside and, sure enough, far in the posterior part of the flank was the ascending colon. The cæcum and appendix were held by dense adhesions upward, inward, and backward, almost under the umbilicus, a state of things for which a vague history of a former attack may suggest an explanation. It was not possible to shell out the appendix, so I ligated its base and removed the gangrenous organ piecemeal. The entire neighborhood of the appendix was thoroughly flushed with peroxide of hydrogen, which I believe to be a powerful local stimulant by reason of its oxygenating power, and the wound was closed except at one point, through which a thin slip of gauze was led out from the bed where the appendix had been. Silkworm-gut sutures were used through peritoneum, muscle, and fascia, the skin with its very thick panniculus adiposus being left unsutured to close by granulation.

The patient made a most satisfactory recovery, the entire wound except the drainage hole being closed in a little more than four weeks. None of the silkworm-gut sutures came away and the sinus is now also entirely healed.

The third and last case to be reported here is of interest on account of an anatomical curiosity. It would have been impossible to diagnose the condition before operation.

Case III.—L. R——, thirty-four years old, entered Mt. Sinai Hospital on April 27, 1897. Four days earlier his sickness began with severe abdominal pain, at first referred to the epigastrium and later spreading to the entire belly. Soon after the onset persistent vomiting began. A small inguinal hernia was noted first during the four days mentioned, but it was reducible and not tender. In spite of cathartics there had been no evacuation of the bowels during the entire time, and when I saw the patient his abdomen was distended and tympanitic, his pulse was 96, his temperature was 100.2° F., and his respirations were 29. Vomiting was still unchecked and he was becoming exhausted. No mass or tumor could be felt on palpation.

There being evidently intestinal obstruction to deal with, operation was at once decided upon. Even under the chloroform nothing could be ascertained which might give a hint as to the best place for the incision, so I first cut down on the hernia, reducible though it was. No sign of strangulation being found here, I closed the wound and made a second incision in the right semilunar line, with its centre at the level of the navel. The intestines were deeply injected and through the wound I felt what I took to be an adhesion. Enlarging the wound, I found that what I had taken for an adhesion was the thick edge of an enormous slit in the mesentery of the ileum. Through this opening about two feet of ileum and a large knuckle of ascending colon had slipped, causing strangulation and complete intestinal obstruction. The strangulation was not of a severe grade, however, no gangrene being present. This internal hernia was easily reduced and I sewed up the mesenteric slit with a continuous catgut suture. The anæsthesia was a long one, nearly two hours, and the patient's condition such as to require free stimulation.

The vomiting practically ceased after the operation, but the patient died of exhaustion twenty-four hours later, his bowels not having moved.

The post-mortem examination revealed no other points of strangulation or obstruction.

679 Madison Avenue, New York.

INFANTILE SCURVY.

By G. S. DeGroute, M.D.,

Mendham, N. J.

Pending the report of a collective investigation of infantile scurvy in North America, by the American Pediatric Society, I desire to report a case which is instructive by reason of the absence of most of the symptoms as stated in the text-books.

A female child, nine and one-half months of age, never previously ill and a picture of health, of good family history, living amid perfect hygienic surroundings, was taken with pain in the right knee and hip, noticed only when certain movements were made, as when the nurse changed the napkin or made extension of the leg. Pain was not caused by pressure on either of the joints. Within twelve hours the pain was manifest also in the left shoulder and ribs, and soon after in the other limbs and the pelvis, although it was worse in the left arm and leg. There was only a slight swelling of the knee-joints; there were no fusiform swelling of the lower extremities, no heat in the parts, no rise of temperature, no ecchymoses until late in the course of the disease, no spongy or bleeding gums—in short, none of the symptoms of infantile scorbutus, except the pain on motion.

In a conversation with my friend, Dr. A. E. M. Purdy, of New York, I related the case to him, and he said he thought it a case of infantile scurvy. I objected on the ground of lack of symptoms. He replied that he had met just such a case in his own practice. I asked him to see the child with me, which he kindly did, and the treatment proved his diagnosis correct.

The details of the child's feeding from birth are as follows: Was fed at the breast for ten days after birth; then given modified milk until four and one-half months old; but as the child did not gain in weight as it should, it was put on the following mixture: milk, barley water, water, of each two ounces; lime water, one teaspoonful; sweetened to taste with milk sugar and pasteurized. This mixture was made stronger by increasing the quantity of milk and decreasing the water, until it was half milk and half barley water; then the barley water was made thicker, until it was like jelly. For a month before the scurvy appeared the child was taking at a feeding six ounces of milk and barley jelly, equal parts. As soon as a diagnosis was made I stopped the pasteurizing, but continued the milk the same strength as before, and gave the juice of half an orange the first day, then of a whole one afterward. I also ordered beef juice, but it was not digested, so I did not continue it. In forty-eight hours after the orange juice was commenced there was marked improvement, and in four days the child was well.

HEALTHY OFFSPRING OF SYPHILITIC PARENTS.

By JOHN H. BILLINGS, M.D.,

New York.

It is interesting to notice at times the remarkable immunity the unborn child enjoys from syphilis, even when both father and mother have the disease in its active form during the entire term of pregnancy. The case in point, a good illustration of the foregoing statement, presented the following:

A. B——, about one year after marriage, contracted syphilis from an outside source. On his presenting himself to me, I found a large indurated chancre on the dorsum of the glans penis, a well-marked roseola, mucous patches on the tongue and inner wall of the cheek, besides several small condylomata at the margin of the anus. It was a well-marked, active case of syphilis. He was put at once on appropriate treatment and soon commenced to show a decline in the symptoms.

A month elapsed, when one day he brought his wife, who, entirely innocent, had contracted an indurated chancre on the left labium majus. She presented a syphilide (papular) on the chest and back, mucous patches on the tongue and soft palate. Under treatment these symptoms soon commenced to decline. She became pregnant about this time, and vigorous treatment was pushed up to the point of mild mercurialization. The pregnancy went on to full term, the child, a fine boy weighing nine pounds, not presenting the slightest symptom. He is now in his fourth year, physically and mentally perfect in every way.

The desire of the husband to keep his infidelities a profound secret made the task of treating the wife an extremely difficult one. Her condition could not be explained to her in a very satisfactory way, and when all symptoms disappeared and her health was seemingly restored, my efforts to have her take treatment

for the period of two years caused no little anxiety on my part, and various excuses were thought of to bring about this end. However, everything went well. Within a year another child was born to this interesting couple, a healthy girl.

125 East Thirty-Ninth Street.

UTERINE FIBROIDS SIMULATING PREGNANCY.

By JOHN S. PYLE, M.D., LL.B.,

CANTON, OHIO.

On two occasions in my surgical practice I have met with cases in which uterine fibroids gave rise to symptoms simulating pregnancy. In the case that I shall particularly refer to in this article, the symptoms and signs of pregnancy were so marked that it was impossible to state positively that pregnancy did not coexist.

The patient, at the time of her marriage, was thirty-six years old, and presented a pair of undeveloped breasts and a body thin in flesh, with almost an absence of adipose. She gave a history of menstruating freely and regularly from the period of her fourteenth year, the menstrual flow lasting from eight to ten days. At the time of her marriage nothing unusual was noticed about the size of her abdomen, but soon after an enlargement was discoverable in the region of the hypogastrium, which kept increasing in size, and, as the breasts showed signs of development, with a marked increase of bodily weight, the family physician felt justified in assuring the patient that she was pregnant. The monthly discharges kept up regularly and became more profuse, amounting at times to serious flooding and loss of blood, but this was interpreted to signify an abortive tendency, and the patient was instructed to observe quietude and remain in bed. Each succeeding month brought the usual alarming hemorrhage; the breasts kept on enlarging, the areolar rings widening and becoming deeply pigmented; the bodily weight correspondingly increased, the adipose showing a selective tendency for those regions so characteristic of pregnancy; and, lastly, the breasts filled with a milky fluid which was thought to prove beyond a doubt that the woman was pregnant. Two physicians were committed in expressing the opinion of pregnancy, and, while they agreed upon the finding, they disputed with each other on the exact time when the birth should take place. This caused the patient to delay from month to month any further consultation, and it was twelve months from the first notice of the enlargement until I was called in the case.

Upon examination and interrogation I found her condition and history as detailed above. The abdominal enlargement, instead of presenting a regular contour, was very irregular; the growth extended markedly to the left side and was nodulated; some of the protuberances had grown to the size of a fist, and were easy of detection. The upward extension reached a point above the level of the umbilicus, and, owing to the inherent weight of the growth, it tipped forward, making the abdomen appear very prominent. Its unyielding character, with the history of profuse and prolonged menstrual discharges, rendered the diagnosis of fibroids comparatively easy; but it was impossible to be so certain that pregnancy was not a concomitant, thereby accounting for the history of rapid development and the other changes of pregnancy narrated above. Indeed, one would, with such a history, be inclined to believe in the coexistence of pregnancy. A digital examination, however, revealed a hard mass in the pelvis continuous with that found in the abdominal region. Nothing was found, by palpation, to indicate a pregnant tumor. Under such circumstances, with the history of a growth of short duration, it was impossible to exclude to a certainty the existence of a non-viable pregnant mass surrounded by a fibroid development. In this mental attitude I was content to rest until I satisfied myself through a surgical operation of the true condition. Three days from the first examination I completely and successfully removed the growth, which was as large as an ordinary-sized man's head, and consisted of the uterus, with numerous centres of fibroid development throughout its entire walls and a large developmental hypertrophy of the muscular substance of the organ.

Now the question arises, Is the history of this rapid enlargement to be entirely discredited, or are we to give full credit to this history and account for it on the ground of a rapid muscular hypertrophy causing the attendant symptoms and signs of pregnancy? This latter would seem to be a rational explanation. Upon this point and of similar cases I should like to hear from the experience of others.

Let me add that the patient made an uninterrupted recovery and still retains her adipose and large mammary development. There seems to be no alteration in her nutrition, and her weight remains about the same.

505 South Market Street,
December 2, 1897.

FOREIGN BODY IN THE RECTUM.[1]

By ANTONIO MATIENZO, M.D.,

TAMPICO, MEX.,

CHIEF SURGEON TO THE CIVIL HOSPITAL.

It is well known that foreign bodies in the rectum are classified into three categories: 1st, those formed in the intestine; 2d, those that, having entered by the mouth, remain at the extremity of the intestine; and 3d, those that have been directly introduced through the anus. To this last category belongs the present case. It would be superfluous to specify the great number of objects that have been found in the rectum. It is sufficient to name, among the more notable cases, the red-hot iron bar which the tormentors of Edward II. of England introduced into his intestine; the case of Nélaton, who observed a man who in drunken revelry introduced into himself a big drinking-glass; that of Desormaux, who reported the extraction from the rectum of a bottle, nineteen centimetres long by five and one-half centimetres in diameter; and many others of pieces of wood, stones, etc. The case which I am about to report is also interesting because of the extreme length of the foreign body, the time it remained in the intestine, and the fact that it did not cause any rupture of the gut.

Vreneo Ram, thirty-six years old, a laborer, came to the Civil Hospital, October 1, 1896, complaining of severe pains in the stomach, a frequent desire to go to stool, and intolerable tenesmus, with nearly complete retention of fæcal matter and continual passage of blood. He stated that he had been sick since the 16th of September last, and did not know what could be the possible cause of this sickness, remembering only that on that date he was intoxicated to the extent of being unconscious.

On examination of the patient and simple inspection of his abdomen, a tumor as large as a nut appeared, located at the left and very near the umbilicus. It was hard to the touch, easily displaced by pressure, and returned to the same place upon discontinuance of the pressure.

On rectal examination, about three or four centimetres from the anus, the finger touched a hard and irregular body, which moved upward and seemed to be the lower extremity of the tumor felt above, judging from

[1] Paper read before the Mexican National Medical Academy.

the movement given and transmitted to it by conjoined manipulation. Displaced to the right and pushed upon at the higher extremity, it showed at the anus and was easily extracted.

As the patient could not remember anything throwing a light upon how the accident happened, I believe that, while he was dead drunk, some person—a friend (?) perhaps—with ill intentions or as a joke, introduced the foreign body. It was a piece of wood of uniform diameter and polished; the extremity that went in first was semispherical and polished; the lower extremity, irregular with edges and sharp points, was resting on the rectum. The stick was twenty-six centimetres long by six centimetres in diameter, round, and, as I said before, was in the intestine from the 16th of September till the 1st of October, causing an incomplete intestinal obstruction and proctitis of slight intensity.

A CASE OF RHINOPLASTY.

By PATRICK CASSIDY, M.D.,

VISITING SURGEON TO THE W. W. BACKUS HOSPITAL, NORWICH, CONN.

RHINOPLASTY is probably the oldest of skin-grafting or plastic operations, so another article on the subject seems superfluous. Yet I venture to report this case

FIG. 1.

on account of the method of preserving the shape of the nose. The clinical history of the case is as follows:

Mrs. P——, aged seventy, had, four years ago, a pimple on her nose. She was in the habit of picking and in other ways irritating it. At first there was not much increase in size, but it did not heal. She then applied various washes and ointments. In January of last year there began a rapid increase in the size of the ulceration, until at the time of her entrance to the hospital the ulceration had extended over the anterior superior surface and sides of the nose, exposing the cartilage and also the ends of the nasal bones. The ulcerated area was one inch in diameter. No glandular enlargements were made out. A diagnosis of malignant disease was made and an operation decided upon. This was performed on May 28, 1897. An incision was made around the ulcer, about two centimetres from its margin and including all the indurated tissue. Portions of the cartilages were removed. On the right side the disease was found to have eroded into the vault of the nasal cavity. This was thoroughly curetted. Silver-wire sutures were passed through the remnants of the alæ and through the septum of the nose. A horseshoe flap was taken from the infra-orbital space of the right side and from the fore-

FIG. 2.

head, twisted, and laid on the nose. This flap received its nutriment through a pedicle attached to the cheek. Now the silver-wire sutures, mentioned above, which were to act as retention sutures to hold the nose in shape and close the opening in the right nostril, were secured by shot impinged on the wire. Cork washers were interposed between the shots and the nose. The flap was then securely sutured by interrupted sutures of silk. After three days the retention wires were removed. On the tenth day the slight eminence caused by the half-twist in the flap was trimmed off. The healing was uninterrupted, save for a slight development of pus. Upon the observance of this, the Labarraque wet dressing was applied, and after two days the pus had disappeared. Twenty-two days after the operation the patient was discharged, the wound having healed. Since then she has been seen several times. She looks many years younger and is now able to read, a thing she was unable to do before

FIG. 3.

the operation, because she could not make her glasses stay on.

The accompanying cuts show her change in appear-

ance. Fig. 1 shows the appearance of the patient on entrance to the hospital; Fig. 2, the appearance two days after the operation. The shots can be seen near the edges of the wound. Fig. 3 shows the patient after discharge.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LATE SIR RICHARD QUAIN, M.D., LL.D., F.R.S.—GASTRIC ULCER—MALFORMATIONS AND DISPLACEMENT OF KIDNEYS—WOUNDS OF THE KNEE-JOINT—COLLEGE OF SURGEONS—EPIDEMICS—INTRACRANIAL DRAINAGE FROM CHRONIC HYDROCEPHALUS—PROGRESS OF GYNÆCOLOGY IN THE LAST TWENTY-FIVE YEARS—URIC ACID IN THE BLOOD—THE LATE DR. WEST, HON. PHYSICIAN TO THE QUEEN.

LONDON, March 18, 1898.

SIR RICHARD QUAIN died on Sunday and was buried on Wednesday. Your readers will have been prepared for this news by what I have previously stated as to his health. They will perhaps know him best as the editor of "A Dictionary of Medicine," which is a veritable cyclopedia in one volume of more than eighteen hundred pages in double columns. This was issued in 1883, and several thousands were sold. A second edition was published in 1894. Sir Richard gathered round him a very able staff for this work, and, though each contributor enjoyed a tolerably free hand, he by no means took his editorial work lightly. He read carefully every article, and of course the work was a long time on the anvil. He said to me on its publication that it was a great relief to have it finished, for he reckoned he had given ten years of his life to its production.

On this side we know him more as the genial, successful consultant, president of the Medical Council, and chairman of the pharmacopœia committee. His interest in the pharmacopœia never flagged, and it is almost pathetic that at the last meeting of the executive committee the final proofs were produced and the order was given to go to press. Sir Richard Quain was elected a fellow of the Royal Society in 1871. Last year he read before that society a paper on the mechanism of the first sound of the heart—a disputed subject which I do not think his paper tends to settle. He had always felt great interest in diseases of this organ. As early as 1845 he contributed a paper on injury to its valves to the *Edinburgh Medical Journal*, and his Lumleian lectures (1872) were devoted to diseases of its muscular walls. He had in the mean time contributed papers on this organ to the societies. Naturally in his dictionary some of the articles dealing with cardiac disease were from his own pen.

Sir Richard Quain was vice-president of the College of Physicians in 1889, before which he had received all the minor honors of the college and several honorary degrees and other compliments. He was appointed by the Crown a member of the Medical Council in 1863, and has been reappointed after each period of service. He was for many years treasurer, and in 1891 was elected president. He became physician extraordinary to the Queen in 1890, and received a baronetcy in 1891.

The name of Quain is an honorable one in medicine. Jones Quain, the anatomist, and Richard Quain, the surgeon, were cousins of the late physician, and some amusing confusion occasionally occurred on the part of the public between the two Richards. The surgeon died in 1887, and some of the newspapers announced the death of the physician. Even now some papers have produced portraits of the surgeon to illustrate their obituaries of the physician.

On Monday Dr. Seymour Taylor at the Medical Society meeting maintained the view that acute and chronic gastric ulcers are essentially different conditions and not, as many still hold, different stages of the same disease. In this view he can certainly claim the support of many clinical observers. He looks upon the acute or perforating ulcer as due to a neurotic lesion. He urged that even after perforation occurred there was hope of success from surgery, and that patients should not be left to die for want of a laparotomy.

Dr. T. Williams held that gastric ulcer and chlorosis were both due to a low condition of the general health, and questioned the common opinion as to the relation between these diseases—one being very common and the other rare. So with regard to anæmia and chlorosis so often attributed to constipation: they are less frequent in France, where constipation is almost the rule.

Dr. Maguire remarked that in chlorosis there was a rapid bodily development with which the blood-forming function failed to keep pace. In this state iron was useless unless in combination with arsenic. The latter was known to exercise an important influence on other anæmic states. He thought the stomach was in those cases rendered susceptible by the lowered vitality of the system.

Dr. Bowles remarked on the association of rheumatism as well as anæmia with gastric ulcer, and thought that chlorosis arose from overwork during a critical period of development. This being so, the indication for treatment was complete rest under proper hygienic conditions.

Mr. Wallis remarked that in chlorosis superficial slight injuries were slow to heal and perhaps the same was the case in the stomach. He supported the author's advice not to delay calling in the surgeon.

Dr. Sansom said it was difficult to understand why a general condition should produce a lesion in one organ and limited to one tissue of that organ, even to a limited part of that tissue. He suggested as a cause some tropho-neurosis producing a vascular contraction and so necrosis.

Dr. Taylor in reply admitted that rest of body, mind, and stomach was the best treatment. When vomiting was prominent he resorted to nutrient enemata. He was favorably disposed to the oxygen treatment. He thought mechanical injury did not produce an ulcer, and remarked that those who swallowed knives and other substances did not have gastric ulcer because they were men and not young girls.

At the Clinical Society's meeting Dr. David Newman, of Glasgow, read a paper on malformations of the kidney and displacements without mobility. Of the latter some were congenital and might be with or without deformity. The others were acquired. Under malformations he placed variations in number, size, and form. He further referred to anomalies in the pelvis, ureters, and blood-vessels. Cases were cited of each variety of malformation and displacement.

Mr. Howard Marsh mentioned a case of tuberculous disease of the kidney, found in an exploratory operation. The tuberculous granulation tissue was scraped away and the patient recovered and is now well, four years after the operation.

Dr. Cheyne said that in January he cut down on a swelling in front of the bladder and found a third kidney; the other two he satisfied himself were present in the usual places.

Mr. Wallis then related three cases in which the knee-joint had been perforated, to show that only those cases running an aseptic course recovered which were treated immediately, and that on the whole it was bet-

ter to dispense with drainage. Even prolonged suppuration did not necessarily mean ankylosis if treatment was carefully carried out.

Mr. Marsh said that in these days we saw how closely synovial membrane resembled peritoneum in tolerating aseptic operations. He had opened a knee-joint four times in one case of sarcoma; in another case four times for tubercle, scraping out the granulation tissue. He mentioned other cases, showing how active interference in joints had developed of late.

Mr. Barker, too, thought drainage had often been overdone and in recent cases he had not used it, though in septic cases some drainage might be advisable.

Mr. Cheyne protested against washing out cavities with antiseptics. If a joint was wounded he incised it freely, sponged the soft parts around the wound with pure carbolic acid, and drained for from twenty-four to forty-eight hours. Then if all was going on well he removed the tube.

At a meeting of the council of the College of Surgeons a petition of certain fellows and members was read, claiming the right of electing the representative of the college in the general Medical Council, and asking that arrangements should be made for holding such an election. The secretary was instructed to inform the petitioners that the questions raised by them were under consideration.

This is really wonderful, but it is a long way yet before the council gives up its usurpation of the right to appoint the representative.

Middlesborough is still afflicted with small-pox. From eight to twenty-one cases have been notified on the different days of the week.

London has an epidemic of measles.

London, March 25, 1898.

Intracranial drainage for chronic hydrocephalus has been brought before the Clinical Society by Dr. Sutherland and Mr. Watson Cheyne. They showed a patient operated on three weeks previously in whom extraordinary diminution of the skull had followed, though they scarcely ventured on a favorable prognosis as to the child's life. But Mr. Cheyne said if they could operate early enough, before the brain had been injured by pressure, the removal of that pressure might permit development.

They related another case which had steadily improved for three months and then terminated fatally. It was that of a child of six months. The bones of the skull were widely separated and the vertex was occupied by a membrane, nine inches across at the widest point. The operation consisted in making a small opening in the dura mater, opposite the left lower angle of the anterior fontanelle, and introducing a catgut drain, one extremity of which was passed between the dura mater and the brain, for a distance of one inch, and the other pushed through the substance of the brain into the expanded lateral ventricle. A very small quantity of fluid escaped, the wound in the dura mater was closed with catgut sutures, and the scalp wound sewed up and dressed in the ordinary way. Steady improvement followed, but three months later basilar meningitis supervened. At the post-mortem the membranes at the base were thick and adherent and a considerable quantity of fluid was present in the subdural space. The treatment was founded on Dr. Leonard Hill's experiments, and it was hoped that whatever fluid was secreted would pass to the subarachnoid space and be absorbed, thus relieving the brain from pressure.

Mr. Boyd raised the question whether intracranial drainage was likely to be permanent, and noticed that in the account of the post mortem it was said the strands of catgut adhered to the dura, so if the catgut was absorbed the communication might be closed by adhesion of the brain and dura. Dr. Sutherland replied that when some obstruction took place the pressure of the fluid would rise and force a passage. To such a circumstance he attributed a rise of temperature in another patient operated on three weeks ago and who was now brought for the inspection of the society.

Dr. Playfair gave a farewell lecture at King's College. He retires after twenty-five years of service at the college and hospital. He discoursed on the progress of obstetrics and gynæcology during that period. Of course antiseptics loomed largely in this review, but room was found for condemnation of certain views, such as those of Henry Bennett, Graily Hewitt, and others, which have now for some time been abandoned. Coming nearer our times, he entered a caveat against Professor Sinclair's address at Montreal. This, however, he announced would be fully dealt with in the new edition of his book on midwifery. Another topic he took up was the right, I might almost say the necessity, of gynæcologists being surgeons. There has always been in the surgical branch a little jealousy of the obstetricians, but it has been useless, and, although Dr. Playfair talked of a little cloud no bigger than a man's hand being now visible on the horizon, I do not anticipate a storm. Dr. Playfair also referred to the position of his specialty in the Royal College of Physicians.

On Tuesday Dr. Haig gave a demonstration of the chloride-of-ammonium process for the microscopic detection of uric acid in the blood. Dr. Luff objected that no proof whatever was given that the granules found consisted of uric acid or urates. He held that we should not state uric acid to be present unless proved by the only infallible test known—the murexide test. Many had shown that the blood of oxen, sheep, pigs, turkeys, geese, and fowls, as well as of normal human beings, was free from uric acid. Dr. Haig replied that he had not asserted that the granules were either uric acid or urates and he did not know what they were, but thought some of them might be xanthin. Whatever they were, he found their presence in the blood varied with the uric acid in the urine. Their amount was reduced by salicylates. He believed uric acid was present in the blood.

Charles West died on Saturday, at the good old age of eighty-one years. As the founder of the Children's Hospital he has left a standing monument to his memory. He had been physician accoucheur and lecturer on midwifery at St. Bartholomew's Hospital, president of the Obstetrical Society, examiner at the university, and the recipient of many other expressions of the confidence of the profession. As a gynæcologist he long held a leading position, but I think that his work in pædiatrics will be longest remembered. It was no small thing to establish the first children's hospital and to carry it on to the great success it has attained. He was, further, the leading clinical teacher of the subject. His "Lectures on the Diseases of Infancy and Childhood" were first published in 1848, and has been a favorite text-book ever since. It reached a seventh edition in 1884, and each issue was kept abreast of the author's experience by careful revision. Of his other writings I may mention the Croonian lectures for 1854, which were entitled "An Inquiry into the Pathological Importance of Ulceration of the Os Uteri," and his Lumleian lectures for 1871, which he devoted to "Some Disorders of the Nervous System in Childhood." He delivered the Harveian oration in 1874. These lectureships show that he was appreciated at the College of Physicians, of which he became a fellow in 1848 and was censor from 1863 to 1870. He took M.D. at Berlin, 1837. Dr. West also published a volume of "Lectures on the Diseases of Women," which reached a fourth edition in 1879.

The title of honorary physician to the Queen has been conferred on Surgeon-Major-General C. A. McVettie, I.M.S., and Brigade-Surgeon-Lieutenant-Colonel Benjamin Franklin, C.I.E. Both have done good work in India. Their official designations illustrate the absurdity of the so-called compound titles.

TOXINS OF ERYSIPELAS AND CANCER.

To the Editor of the Medical Record.

Sir: My attention has been called to a circular recently issued by the Pasteur Vaccine Company, of Chicago, in which my name is used in connection with a preparation of the toxins of erysipelas and prodigiosus, which the above company has placed upon the market. The preparation is spoken of as a remedy for cancer; and it is furthermore stated that it is "especially adapted for use in the early stages of the disease."

I beg to say that my name has been used without my knowledge or consent, and for the benefit of those who are not familiar with my writings upon this subject I will add that I have never recommended the toxins of erysipelas except in inoperable cases, and practically only in inoperable sarcoma.

William B. Coley, M.D.

5 Park Avenue, New York, March 29, 1898.

THE VALUE OF THE CYSTOSCOPE IN THE DIAGNOSIS OF HYPERTROPHY OF THE PROSTATE GLAND—A FINAL WORD TO DR. E. FULLER.

To the Editor of the Medical Record.

Sir: Dr. Fuller, in his final word to me in your issue of April 2d, crystallizes his remarks around the definition of the word "configuration." He gives to understand that he had taken it merely in a plastic sense, whereas I have stated that I wanted to express with the same the condition of the prostate as we need to know it for our clinical purposes. This Nitze's cystoscope, No. 1, certainly can do. More I have never claimed for it, neither in my article wherein I first mentioned Dr. Fuller's name in connection with this subject, nor "elsewhere" in my answer to him.

It certainly is incorrect to make extravagant claims in behalf of the capabilities of the cystoscope. There are limitations to its usefulness, as every cystoscopist knows. They have been laid down in medical literature by many authors; five years ago by myself. On the other hand it is wrong, and the instrument is not helped with the profession by underestimating its value. For it has literally carried a bright light into the hitherto dark field of urinary surgery.

In his letter of March 6, 1898, Dr. Fuller says: "I do not in the least doubt that I or any one used to the cystoscope could see a median lobe of the prostate, provided it projected into the bladder almost as long as the third phalanx of the little finger." He continues: "In his case Dr. Meyer also states that there was besides general hypertrophy of the gland. He is, however, careful not to mention that he found that out by the aid of the cystoscope." Shortly before, we find in the same letter the statement: "In many cases of prostatic hypertrophy the obstruction is caused by growths about the prostatic urethra and about the vesical neck, regarding the presence of which the cystoscope does not give us the least information." These obstructing growths are the lateral lobes, the body of the prostate. They represent general hypertrophy of the gland. On March 26th, after quoting my words—"I meant, of course, that we can diagnose with the cystoscope whether the prostate is hypertrophied or not; if so, whether this hypertrophy is a pronounced or a slight one; whether there is a third lobe or not"—Dr. Fuller exclaims: "If that is all he means by configuration, then I am sure that I can see as much as he can."

It was of much interest to me, indeed, to see in how brief a space of time Dr. Fuller has come to recognize the value of the cystoscope in the diagnosis of prostatic hypertrophy, with reference not only to its median lobe but to the presence of obstructing growths about the prostatic urethra and about the vesical neck.

Willy Meyer, M.D.

New York, April 2, 1898.

THE MODIFIED O'DWYER TUBE.

To the Editor of the Medical Record.

Sir: In the Medical Record of March 12th, in the eulogy of the late lamented and talented O'Dwyer, by W. P. Northrup, M.D., the author unconsciously committed an error, the correction of which I suppose will always be in order. Speaking of the life work of O'Dwyer in intubation the author says: "The perfect intubation tube of to-day is made of hard rubber, and this latest improvement is from the hands of its inventor, Dr. O'Dwyer." This is certainly an error; for I have in my operating-bag a set of such tubes, and they are the invention of Dr. Louis Fischer, of your city. These tubes were presented in Philadelphia by the inventor during the meeting of the American Medical Association, June, 1897, before the section on diseases of children, and a description of them, with the cuts, etc., was presented in the Medical Record, June 19, 1897. In justice to the living as well as the dead, I thought this correction was in order. O'Dwyer's name and reputation are lasting and his life work will endure without the addition of the work of others; for the unselfish character of O'Dwyer is one of the proudest recollection of his friends and admirers.

Edwin Rosenthal, M.D.

Philadelphia, March 29, 1898.

PARACENTESIS OF THE DRUM MEMBRANE IN MIDDLE-EAR DISEASE.

To the Editor of the Medical Record.

Sir: The leading article in your journal of April 2d, "On the Treatment of Middle-Ear Disease," in which you dwell upon the plea of Dr. Woods, of Dublin, for the abandonment of paracentesis of the drum membrane as a routine practice, has interested me very much. I infer from your statements that it is a generally accepted belief among otologists, that paracentesis of the membrana tympani is actually such a proper procedure in acute otitis media, that its early performance has become a matter of routine with all good aural surgeons. This is certainly not true of the school of otologists to which I belong. I was very early in my warnings, in my text-book and in other places, that paracentesis in acute middle-ear disease was properly and safely undertaken only when there was a bulging membrane, and when the use of leeches and hot water had failed to give relief. The traumatism of a free paracentesis in an acute case is a very serious one, not to be lightly undertaken; as I have often said, an unnecessary paracentesis of an acutely inflamed membrane is a more serious procedure than the simple opening into the mastoid cells. By this statement and my other remarks upon this subject I still abide. I have never considered a paracentesis as a proper routine practice in acute disease of the middle ear. Now, if we add to the argument of the severity of the traumatism in this procedure in acute cases that of Dr. Woods, quoted in your editorial, as to the conversion of the tympanum into a

septic cavity by opening it, we may hope that the too frequent performance of what is mistakenly supposed in some quarters to be always a harmless procedure will cease. I have seen many instances where in my judgment an unnecessary paracentesis has greatly aggravated and prolonged the case, and one case in which I fear that death resulted as a direct sequence of the unwise procedure. Dr. Woods' opinion will not be so freely challenged, by Amerian otologists at least, as he has been led to suppose, although in his reasoning he in some respects differs from those of us who have long since deprecated paracentesis of the membrana tympani, as a routine practice in acute disease of the middle ear.

D. B. St. John Roosa, M.D.

April 2, 1898.

RED CROSS WORK IN CUBA.

[The following interesting letter to Dr. T. A. McNicholl, acting executive surgeon, Red Cross Hospital, New York, is published by the kind permission of the receiver.—Ed.]

Dear Doctor:—With all the work, I am absolutely unable to sit down and write. I have therefore requested one of the staff to write as I dictate. Red Cross work here is by the wholesale, so to speak, rather than by retail. The physicians who came from America—Dr. Hubbell and Dr. E. W. Egan, of Boston, and myself—have each their particular work, and are directed by Miss Barton

Dr. Hubbell goes into the field, investigates what food, medicines, and other things may be needed, then sends his report to the president of the Red Cross, who directs Dr. Egan to respond with such medicines and materials as the field agent may require. My own work is surgical and medical only. Together with other members of the medical profession of this city and county, I attend to almost everything of this kind, except diseases of the eye, ear, nose, and throat. Dr Egan, being a well-known specialist, has charge of that department, and performs his duty not only in a most capable manner but also with great alacrity. Knowledge gained in previous expeditions of this kind enables him to attend to a large number of patients in a very short time. You can imagine what his work is when between the hours of seven and eight he thoroughly examines, attends, and prescribes for from twenty to thirty patients.

My work here has been of a somewhat more difficult character than it would be under ordinary circumstances. Disease is far more serious during famine than at other times.

You can hardly realize nor is it possible for me to describe the misery existing in this country. Men, women, and children lie about the streets suffering from diseases of microbic origin or from starvation.

The hospitals are literally filled with the sick. On our arrival here we found a building of 108 x 40 feet, with two stories, each ten feet high, filled with patients lying on the floor one next to the other, each occupying just as much space as would barely permit him to turn around, while dirt and vermin covered the floors. So horrible was the picture presented that the president of the Red Cross, who has witnessed some of the greatest calamities of this century, shuddered at the sight. She immediately ordered us to have cots brought in and the patients placed on them, and the floors to be scrubbed and cleaned, so that the house to-day makes a fairly presentable hospital.

The people here have the idea that washing is injurious and permits a ready inoculation of disease, and I assure you it is often very difficult to convince them of the contrary. So far does this belief go that an argument has been made to the effect that wild animals have no means of washing themselves with soap. However, those in our charge are thoroughly cleaned and are doing very well.

Other hospitals here have not the same disadvantages, as they are well cared for by the Sisters of Charity, who, while not attending to the work of orderlies, do take charge of the nursing.

The sick of this island have one great advantage in this, that the medical profession is composed of highly educated physicians and surgeons, who need no physiological or pathological demonstrations for the purpose of explaining a certain disease or system of therapeutics. The brotherhood is far more closely united than in many other countries.

The diseases from which most people suffer now are malarial fever and gastro-entero-colitis. The former seems to be more severe than at any time previous. The latter is due entirely to famine; perhaps not so much to starvation as to improper food. No special bacillus has been found, although it appears that the disease has a regular course. No doubt malarial diseases complicate these conditions to such an extent that one hardly knows at what moment a new symptom may not develop. The symptoms or conditions have no regular term of duration, but usually succeed each other as follows: first a chill, during which the temperature goes up to 103° and 104° F. (39° to 40° C.); then come headache, nausea, sometimes vomiting; then diarrhœa sets in; then very marked tympanites resembling a typhoid condition. Usually there is no pain, except on pressure. If malarial fever accompanies the disease—that is, if the plasmodium is found in the blood—these conditions usually come in paroxysms either every morning or every evening. The tongue seems clean, in fact destitute of epithelium, but the complaint of a burning feeling in the œsophagus and through the alimentary tract is usually made by the patient.

Apparently with regular diet and very little medicine, if malarial complications are absent, the disease diminishes in severity until the patient recovers from all symptoms except marked tympanites. The anæmia which develops during this difficulty is so profound that not only is the number of corpuscles diminished, but the specific gravity of the blood is far lower than can be accounted for by the absence of the globular elements. The liver enlarges, although other symptoms have improved and although no plasmodium is found. Suddenly the patient begins to suffer from general anasarca. The hydrops is so extensive that one is reminded of the condition which is exhibited when a bag is inflated; again, the bowel difficulty sets in and the patient dies of intestinal hemorrhage.

The autopsies have shown nothing but what usually would be found in septic diseases. It would require too much space for me to mention the conditions in which the various organs are found.

Malarial fever may complicate, as stated, or may affect the patient without the intestinal symptoms—simply a chill, fever, and sweating-stage—and frequently it does not yield to the use of quinine, although the plasmodium is found.

I have introduced a new system of treating malarial fever with sulphur and camphor; I sometimes add a little capsicum when no intestinal disease is present.

The proportions are:

R Sulphur	1 gm.	(gr. 15).
Camphor	0.1 gm.	(gr. 1½).
Capsicum	0.01 gm.	(gr. ⅙).

This dose is given three times a day. The success has been so marked that last Sunday a report of this treatment was made at the academy, for which purpose I was officially invited. Next Sunday the

clinical associations have a meeting, to which also I have been invited.

The treatment seems to give universal satisfaction and, as proven here, is productive of far better results than quinine.

The facilities of the laboratories and universities are placed at my disposal. My invitations to the various hospitals, together with the work at the Red Cross Clinic and Orphanage, which latter now has on the average one hundred inmates, keep me very busy.

My investigations into the diseases consequent upon famine I hope will be pretty complete, owing to many advantages offered me by the medical profession in this city.

It would be improper for me to say more, at this time, except that alcohol in every form has been discarded here during the progress of fevers.

A. Monae Lesser, M.D.,
Executive Surgeon, Red Cross Hospital, New York.

Havana, March 19, 1898.

Surgical Suggestions.

New Antiseptics.—According to the experience and experiments of Le Dentu (Paris) formol and parachlorphenol should be added to the list of classical antiseptics (carbolic acid, bichloride, chloride of zinc, iodoform, salol). The sterilizing power of formol is twice that of bichloride, while its deodorizing power is very marked. In a 5 to 1,000 solution formol sterilizes instruments without any injurious effects. Parachlorphenol is five times as strong as carbolic, and attacks instruments but slightly. Its absorption gives rise to dark urine (surgical section at the Moscow Congress).

Technique of Subcutaneous Symphyseotomy.—Secure full dilatation of the cervix, if possible without risk to the child. Have the urethra and bladder held to one side with a sound. Make the initial incision a little above the subpubic arch and under the elevated clitoris. Introduce the left index finger within the vagina against the posterior groove or ridge of the joint, up to the top. Pass a narrow tenotomy knife with the point close to the joint, up to within a half-inch of the top and under the overlying soft tissues. Substitute a probe-pointed bistoury and meet the left index finger with the probe over the top of the joint and work the blade through the joint downward, until separation is felt by the posterior finger. Have an assistant press the mouth of the wound and the tissues lying over the joint with a small piece of gauze. Deliver with forceps, if possible, and refrain from suprapubic pressure, aiming to deliver the head through the cervix without drawing the latter down below the symphysis. Hold the bladder well to one side while pressing the pubic bones together. Pass a small strip of gauze into the prepubic wound and another against the cervix after irrigating, leaving both pieces exposed for easy removal, having refrained from stitching cervix or perineum. Introduce a soft-rubber retention catheter into the bladder, and leave it until sure the patient can voluntarily micturate. Dress the vulva with gauze and strap the joint with adhesive strips. Remove all the gauze in thirty-six hours and irrigate vulva and vagina twice a day, keeping the vulva carefully dressed between times.—Ayers.

Serum Therapeutics in Tetanus.—When tetanus has once declared itself, the antitoxic serum has no action; it is powerless to arrest the fatal termination of the disease, and this without reference to dosage or strength of serum; those alone are cured who would have recovered in any case. The serum treatment is, however, useful even in actual tetanus, for although the number of cures is not increased, yet those who do recover do so more quickly. The antitoxic serum, even in weak dosage, if employed at the moment of the reception of the suspicious injury, or even some time afterward, will prevent the onset of the disease. The dose must be both larger and stronger according to the length of time intervening between the reception of the wound and the employment of the serum; intravenous injections are more potent than hypodermic; the attack of tetanus is not always warded off, but, as a rule, if the disease occurs it is of a mild type, and the animal recovers, even though injected with a dose of toxin invariably fatal to a control animal.—Edward Nocard.

Vasectomy, or Division of the Vasa Deferentia, for Some Forms of Vesical Fistulæ Associated with a Large Prostate.—The simplest method for resecting the vas appears to consist in exposing the spermatic cord as it joins the scrotum, by a linear incision over it about an inch in length. The vas is readily made out and protruded toward the incision by pressure from behind, between the finger and thumb. It can then be easily seized with a pair of Spencer Wells' clamp forceps and brought to the surface, where it is cleaned by a little dissection, and a blunt hook or aneurism needle passed beneath it. A loop is included by a silk ligature and the free portion removed by scissors. To ligate the duct is insufficient, it being necessary to resect a portion of it. After the loop has thus been removed the stump is returned with the ligature cut short, and the little wound is then closed with a suture or two. Union usually takes place in the course of a few days. In this way the operation can be performed quickly and almost bloodlessly.—Reginald Harrison.

Treatment of Fractures.—Reclus says: "Immobilize the fragments, but mobilize the muscles, tendons, and joints. Massage will improve the circulation, lessen the pain, tend to prevent adhesion of the tendons to their sheaths, promote the absorption of inflammatory material, and prevent contraction or atrophy of the muscles. Passive motion judiciously employed tends to prevent the limitation of the motion of joints by the formation of strong fibrous bands, and likewise to replace any displaced fragments of bone and keep the part in its normal shape. The importance of union and avoidance of deformity is so great that it is, as a rule, unwise to resort to massage or any marked movements until the fragments become to a certain degree fixed in the proper position, usually from the sixth to the tenth day, and in the lower extremity frequently much longer. Afterward, the more frequent the movement and massage, if effected gently and without disturbance of the bones, the quicker the recovery. Daily massage will not be too often."—*Annals of Surgery*, December, 1896, p. 691.

Dressing after Circumcision.—Lead water and laudanum are a better dressing for the first two days after circumcision than all the antiseptics combined. They not only prevent swelling and œdema of the penis, but the opium prevents erection, which so frequently occurs in these cases.—Horwitz.

Treatment of Rupture of the Posterior Urethra.—1. With moderate hemorrhage from the urethra, little or no perineal swelling, and without any trouble in passing urine, very little treatment is necessary. 2. If there be difficulty in micturition, and the other above symptoms are mild, then a temporary catheter should be introduced. 3. If catheterization fails, or if the symptoms are grave at the outset, then an im-

mediate operation is necessary and the torn urethral ends ought to be brought together by suture.—K. S. Lɪᴀᴍᴀɴᴅʀᴇ, *Archiv fur klinische Chirurgie*, xliv., S. 479.

Examination of the Shoulder for Injury.—In examining the shoulder for injuries, the following method of procedure should be employed: Stand behind the patient and examine the two shoulders consecutively—one with each hand. Starting at the interclavicular notch, pass the fingers out along the clavicle to the acromial process, and then draw the hands backward along the spine of the scapula. Now have the patient put his hands high against his back, and follow down the inner edge of the scapula and around its angle, which will be prominent. Next grasp the shoulder, placing the thumb on the acromial process and the finger on the coracoid. The head of the humerus should be between them. Place the finger in the axilla with the thumb on the acromion and have the arm moved in different directions.—Bʀɪɴᴛᴏɴ, *Dunglison's College and Clinical Record.*

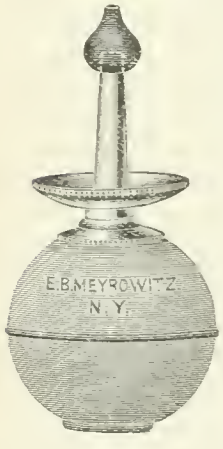
New Instruments.

A NEW ASEPTIC EAR SYRINGE.

By FRANK ALLPORT, M.D.,

CHICAGO, ILL.

A piston syringe of whatever variety is invariably septic, and therefore unfit for use. Let any aurist take apart his nickel-plated ear syringe and smell of and observe the piston and its packing, and bacteriological examinations will be unnecessary to convince him as to its unfitness for use in aural or any other work. I have therefore made use of the old bulb idea in devising a new ear syringe, as seen in the accompanying illustration. The bulb is as large as can be conveniently used by the hand, and contains between two and three ounces of fluid. It is firmly connected with a projecting nickel-plated tube, and does not leak. A shield is attached to the tube, near the bulb, as a protection to the operator and clothes of the patient. This can be unscrewed and removed if desired. The projecting tube tapers down to a rounded and smoothed end, which is of the proper size for an ordinary meatus. An olive-pointed tip accompanies the syringe, which can be slipped (not screwed) on the end of the tube, if desired. The force of water with this syringe is as strong as should ever be used in an ear.



As only antiseptic or aseptic solutions should be used in an ear syringe, and as the foul piston is eliminated from this one, there is no reason why the interior of this instrument should not always be pure: if not, it can easily be purified by allowing a strong antiseptic solution to pass into and remain in the bulb, and in fact it could always be left soaking in such a solution if desired. The bulbs can be easily replaced when worn out, if desired. I believe this syringe will be a safe and useful one to place in the hands of patients, when for any reason we desire them to use one at home.

The syringe has been manufactured for me by E. B. Meyrowitz, of New York.

92 State Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending April 2, 1898:

	Cases.	Deaths.
Tuberculosis	222	120
Typhoid fever	16	5
Scarlet fever	151	25
Measles	451	2
Diphtheria	176	25
Laryngeal diphtheria (croup)	9	6
Chicken pox	30	0
Cerebro-spinal meningitis	1	0
Pertussis	5	0
Erysipelas	1	0
Parotiditis	3	0

The Tsarina has Small-Pox.—The Tsarina is down with small-pox. Many another has been, too. The Saracens found the disease in Africa, and introduced it into Europe. That was twelve hundred years ago. Until Jenner came it was fashionable among all classes. Said Louis XIV. of France: "I have the small-pox." A courtier answered: "Sire, so has every one." He was not sympathetic merely; he was exact. It heightened Queen Elizabeth's absence of beauty. William III. gave it to one of his pages, and that the honor might be becomingly remembered gave him the duchy of Portland also. Maria Theresa had it. So did Queen Mary. It was endemic in palaces, but it was not confined to thrones. When it reached this part of the world, it singularly aided the civilizing influence of Spain. Out of Mexico alone it took nearly four million people. In South America its helpfulness was relatively as great. Then, returning to Europe, it depopulated the Northland. A century ago Jenner got to work at it; thereafter its efficiency waned. The Tsarina is the first modern sovereign whom it has attacked.—*Collier's Weekly.*

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended April 2, 1898:

Small-Pox—United States.

		Cases.	Deaths.
Arkansas, Little Rock	March 31st	2	
Florida, Jacksonville	March 10th to 26th	1	
South Carolina, Arkwright	March 25th	9	
Dyson	March 25th	3	
Pelham	March 25th	20	
Ridge Springs	March 25th	1	
West Virginia, Bluefield	February 28th	5	

Small-Pox—Foreign.

Bohemia, Prague	February 26th to March 5th	8	
Brazil, Rio de Janeiro	January 8th to February 18th	11	1
Cuba, Cardenas	March 5th to 12th	..	1
Cienfuegos	March 13th to 20th	..	3
Havana	March 10th to 24th	24	15
Regla	March 10th to 24th	..	24
Sagua la Grande	March 5th to 19th	137	3
Germany, Hamburg	March 5th to 12th	2	
India, Bombay	February 15th to 22d	..	1
Calcutta	February 5th to 19th	..	6
Madras	February 12th to 28th	..	7
Russia, St. Petersburg	February 26th to March 5th	10	4
Odessa	February 26th to March 12th	13	2
Warsaw	February 14th to March 5th	..	13

Cholera—Foreign.

India, Bombay	February 15th to 22d	..	4
Calcutta	February 5th to 19th	..	51
Madras	February 12th to 25th	..	10

Yellow Fever—Foreign.

Brazil, Rio de Janeiro	January 8th to February 18th	59	56
Sao Carlos de Pinhal	February 28th— Epidemic yellow fever reported.		
Cuba, Havana	March 10th to 24th	..	2
Regla	March 10th to 24th	..	1

Plague Foreign.

Arabia, Jeddah	March 25th	..	3
China, Hong Kong	February 5th to 12th	4	5
India, Bombay	February 15th to 22d	..	1,682
Japan, Formosa	February 24th to March 3d	10	

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Original Articles.

ON THE OPERATION OF GASTRO-ENTEROSTOMY CONJOINED WITH ENTERO-ANASTOMOSIS.[1]

By ROBERT F. WEIR, M.D.,

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Not long since, in alluding to the operation of gastro-enterostomy as applicable to certain forms of ulceration of the stomach and of spasm of the pylorus, I felt justified in stating[2] that this operation was yet, in its technique, in an unsatisfactory condition. I venture, therefore, in presenting this evening a specimen illustrating this operation, performed by the method known as that of Jaboulay and Braun—in which not only is gastro-enterostomy done, but also an entero-enterostomy—to ask a few moments' attention to the various points that have of late years attracted surgical notice. The history of the case is as follows:

Cancer of the Pylorus; Gastro-Enterostomy, Entero-Anastomosis with Murphy Buttons; Death on the Third Day from Bronchitis and Pulmonary Œdema.—Arthur E——, aged thirty-five years, was referred to me by Dr. Kortright, of Brooklyn. For more than a year previous the patient began to feel that he was losing his health, and for nearly a year he had been troubled with severe indigestion without vomiting, but accompanied by eructations of gas and occasionally of sour fluid. Loss of weight (one hundred and thirty pounds instead of one hundred and sixty) and strength had been more noticeable in the last six months, and his color had become bad. The appetite continued good and there was little pain, but there was obstinate constipation and the feebleness progressed. At the time I first saw the patient, February 23, 1898, there was a well-marked tumor in the epigastric region, the size of an egg, hard, and freely movable. This had first been made out some eight months previous. With this history and by physical examination the diagnosis of carcinoma of the pylorus was not difficult to establish, and it was advised that an attempt be made to build the patient's strength up a little before subjecting him to the strain of an anastomosis. After two weeks' delay with systematic and repeated feeding, by which his condition somewhat improved, an operation was performed as follows: A short median incision was made. The stomach and intestines were found nearly empty and the pylorus was examined; it was, as expected, carcinomatous but without adhesions. The omentum and transverse colon were now lifted out through the wound and an opening was torn through the mesentery of the latter with the fingers. The posterior wall of the stomach was then drawn through this opening far enough to permit an anastomosis being easily made by means of a Murphy button, medium size, between it and a loop of the jejunum some twenty inches from the duodenum. The half of the button which was placed in the jejunum had a special flange, projecting one-eighth of an inch from two sides and well rounded off, to prevent its falling back into the stomach: and instead of the usual puckering-string being used the ends of the very short incision, made to allow the forced insertion of the button into the gut, were brought together by a couple of stitches. This allowed the two halves of the button to be brought closer together, with the walls of stomach and intestine smoothed out between them. Four Lembert stitches of black silk were inserted around the closed button as an extra precaution. The ascending and descending limbs of the loop of jejunum were then anastomosed with the next smaller-sized button in the same way, except that no Lembert stitches were used. The operation, from the opening to the closing of the peritoneum, occupied but twenty-two minutes, and almost no blood was lost. The patient took a minimal amount of ether, less than three ounces, and left the table in good condition. At the end of the second day he developed a bronchitis which interfered with his breathing and weakened him by spells of coughing. This continuing on the fourth day, œdema of the lungs developed and death ensued. Up to that time the patient had had no abdominal symptom, and he had taken nourishment from the twentieth hour after the operation and retained later two ounces of fluid, beef broth, or peptonized milk every hour, without vomiting or any gastric disturbance. He also had rectal feeding. How well the stomach was acting was shown by the fact that not a drop of fluid was found in it when it was opened at the autopsy. There was nowhere any adhesion, or redness, or any distention of any portion of stomach or intestine. The whole posterior portion of both lungs was much congested and filled with fluid, and the usual signs of bronchitis were present. The specimen is presented for inspection.

The establishment of a new route between the stomach and the jejunum is not only, as is well known, employed for the relief of benign and malignant obstructions at the pylorus, but also for the relief and cure of other and often more obscure gastric affections, such as painful or hemorrhagic ulcerations and their sequelæ of adhesions, etc.; as well as for those troubles, likewise painful and often spasmodic, which are supposed to be due either to hyperacidity *per se* or to unduly augmented gastric secretions, the so-called disease of Reichmann. These latter affections, rarer here than in Europe, have only lately been subjected to surgical treatment, but so far with a very brilliant success.

The first employment of a gastro-enterostomy opening was made by Wolfler, in 1881, for inoperable pyloric carcinoma, and consisted in the attachment (Fig. 1) of the jejunum, as near as convenient to the duodenum, to the anterior wall of the stomach. This necessitated that the omentum, often quite large, should be drawn up behind the loop of the small intestine, which not only compressed the colon somewhat, but, what was of more importance, dragged thus directly or indirectly upon the small intestine, now fastened to the stomach. This traction was apt to cause the intestine on

[1] Read at a meeting of the surgical section of the New York Academy of Medicine, March 14, 1898.

[2] "The Surgical Treatment of Round Ulcer of the Stomach and its Sequelæ," by Weir and Foote, Medical News, April 25, 1896.

one or both sides of the opening to make so sharp a bend that three things frequently occurred: either the contents of the stomach would not pass out freely enough, or, what was more important, the bile entering the duodenum would not flow along the free edge of the intestine beyond the gastro-enteric attachment, but it would enter the stomach, remain there, and produce exhausting vomiting; or, a complication which was but a variety of the second one would take place—that is to say, the bile would not either enter the stomach or pass by the projecting spur formed opposite the gastro-enteric opening (see Fig. 2).

To obviate these difficulties, which became at once apparent—for the operation was widely practised, particularly at first for inoperable carcinoma and subsequently for the other lesions already noted above—Wölfler, to confine the description for the time to this one surgeon's efforts to improve the technique, tried, in order to overcome this faulty egress from the stomach, the manœuvre suggested by Lücke, so to arrange the intestine that the stomach should discharge if possible into the efferent or descending branch of the jejunum, and hence to accomplish this the intestine was

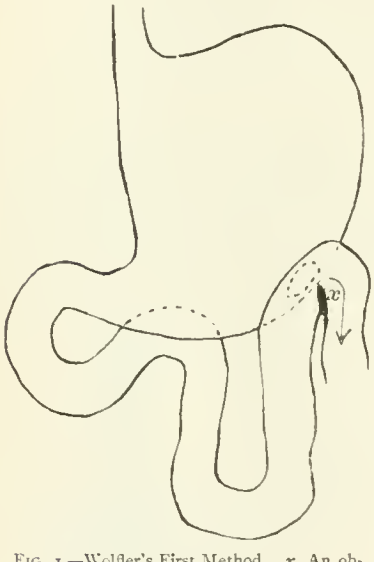


Fig. 1.—Wölfler's First Method. *x*, An obstructive spur.

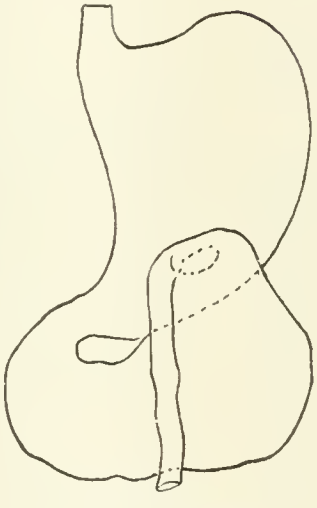


Fig. 2.—Obstructive Bile Dilatation of Duodenum and Jejunum.

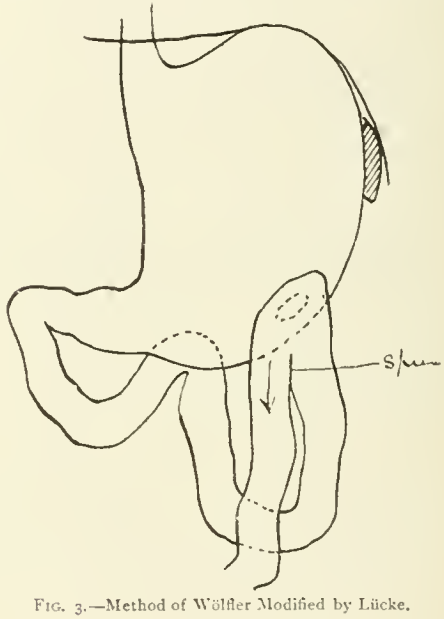


Fig. 3.—Method of Wölfler Modified by Lücke.

distentions of the stomach, etc., are so many that a constant good position cannot be counted on.

This fixation of the small intestine for a considerable distance on each side of the gastro-enterostomy opening has been followed by operators in most of the recently performed anterior operations, and with some diminution of the obstructive risks. Some, like Doyen (Fig. 6), consider it important that such suturing should run in a specific direction, that is to say, from above downward and to the right, in order to facilitate the passing onward of the bile and stomach secretions. Others have endeavored to make directing flaps, either in the intestinal wall itself, in forming the gastro-enterostomy opening, like Kocher[1] (Fig. 7) and Chaput[2] (Fig. 8), or by dimpling the jejunum just before it reaches this opening, so as to divert the stream of bile away from the stomach and along the free wall of the intestine. This, again, is a suggestion of the prolific French surgeon, Doyen (see Fig. 9), who does even more than all this to perfect this operation; for, in addition to suturing the jejunum widely to the stomach and making a directing flap, he also fixes to this same viscus the colon (Fig. 10), and for the reason given a reversed loop on itself and attached to the stomach, and thus the contents of the viscus could now flow onward in the correct or normal direction (Fig. 3). Kocher subsequently insisted that this turn or twist of the intestine should run from behind forward rather than from left to right, which latter Lücke had proposed, and which has been until recently generally adopted. Wölfler and also Roux have finally proposed, in order to obviate the foregoing complications, to cut across the jejunum and to fix (Fig. 4) its distal end into the stomach and its proximal divided end into the distal jejunum a short distance below its gastric attachment. Others as well as Wölfler have endeavored to avoid these spurs and kinkings by suturing considerable portions of the jejunum on one or both sides of the gastro-enteric opening. It is true that by this manœuvre the stomach was dragged from its vertical position, but it was hoped that dependent gut might hang advantageously at the angle, so neatly shown in Fig. 5. But, the fatal but, is that no one can count on what position a coil or portion of intestine will remain in after its replacement in the abdominal cavity, even when sutured to the stomach over a considerable length. The changes from peristalsis and from gravity action, from adhesions, and from varying already alluded to, that when the loop of intestine is drawn up to the stomach it of necessity pulls up and has to bear the weight, first, of the crumpled-up omentum and also of the then crowded-down or loaded transverse colon. Hence Doyen, to do away with the first difficulty, with much ingenuity tears a hole through the gastro-colic fold and pokes through this into the cavity of the lesser omentum (that is to say, behind the stomach) the omentum majus, and then, as just stated, stitches the colon to the stomach. What future influence this dislocated and possibly increasing mass of fat may subsequently have on the adjacent viscera time must show, but the method is yet too new to do other than speculate about it. Doyen's success in this operation, in spite of its duration (forty or sixty minutes) has been far beyond that of his compeers. He gives eighteen operations without a single death, but of these in fifteen cases gastro-enterostomy was performed for supposed ulcers and gastralgias from hyperacidity or gastric succorrhœa (Reichmann's disease), conditions certainly not so serious even as the ordinary benign pyloric stenosis, of which he had three cases, also all successful, though with eight cases of

[1] Kocher: "Chirurg. Operationslehre," 1897, p. 172.
[2] Chaput: La Presse Médicale, July 14, 1894.

malignant pyloric disease his mortality reached 37.5 per cent.

It is perhaps advisable to interrupt here this quasi-chronological *résumé* of the endeavors to secure a proper delivery of the bile and stomach contents to the intestine below the artificial stomach opening, in order to speak more definitely concerning the frequency of these obstructive difficulties; for enough has been shown, I think, to prove that the dragging from the stomach of the fastened intestine is likely in any case to occur, whether this attachment be limited to its minimum, as it is when a Murphy button is used, or whether it be extended widely by additional suturing. At its free portions above or below, or at both points, there can occur in all these methods where the opening is made in the anterior gastric wall, such sharp kinking from extrinsic and intrinsic causes that spurs and obstruction may and are likely to take place. The possible exception to this statement may, however, be the long and complicated operation of Doyen, but it requires the confirmation of other surgeons.

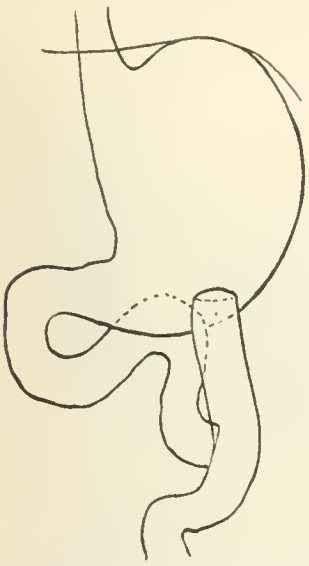


FIG. 4.—A Modification by Roux and by Wölfler of a Gastro-enterostomy with Entero-anastomosis. (Compare this with Fig. 12.)

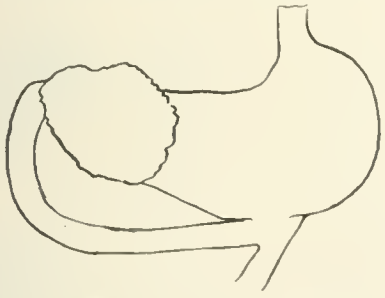


FIG. 5.—Wölfler's Method, 1896 (Schematic).

From Chlumskij's[1] and from Carle and Fantino's[2] recent excellent articles (from both of which many of the statistics and illustrations have been obtained) I find that Carle had in twenty cases of anterior gastro-enterostomy five deaths, and in every one of these at the autopsy it was seen that the afferent or ascending loop of the intestine was distended with bile and that a large quantity of the same fluid had collected in the stomach, while the efferent or descending intestine was empty. Chaput[3] also reports four deaths in seven cases from bile obstruction, with uncontrollable vomiting. Mikulicz in seventy-four cases had with his extended experience eight cases of this obstruction, six of which were due to a kinking of the anastomosing loop, one to the formation of a spur, and one to the compression exercised by the colon. My own cases are limited to seven—four[4] benign, three malignant. Three out of the four benign cases were operated on anteriorly by Abbe's plates; in the fourth I used Kocher's flap method. Two of these patients recovered, two died: one of hemorrhage from the gastric wound (my own fault) and the second operated on by Kocher's method of bile obstruction and vomiting. Of the three malignant cases, in two I made the gastro-enterostomy anteriorly by triple silk suturing.

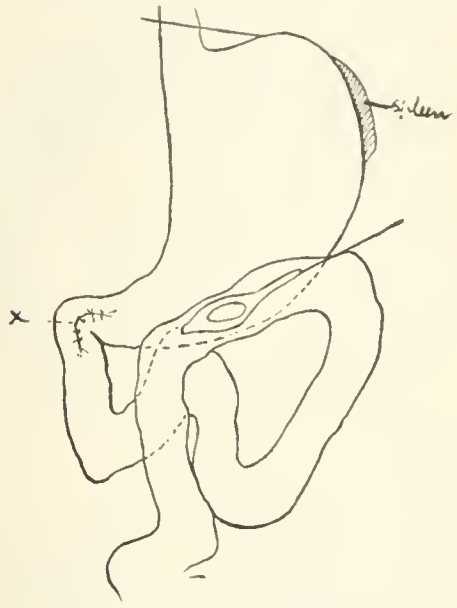


FIG. 6.—Doyen's Method of Anterior Gastro-enterostomy. *x*, Coincident narrowing of pylorus in certain cases.

One of these patients recovered; the second died of bile obstruction; in the third case, the history of which I present to-night, death came from an ether bronchitis, which is not uncommon in weak patients, but the operative field was undisturbed by any mishap whatever. And this I consider sustains the point that I have been thus slowly leading up to, for here, besides resorting to the creation of an opening between the stomach and the intestine, I also employed the suggestion first made, though in an imperfect shape, by Lauenstein in 1890 and improved by Jaboulay and Braun[1] (Figs. 11 and 12), of making a separate opening between the afferent and efferent

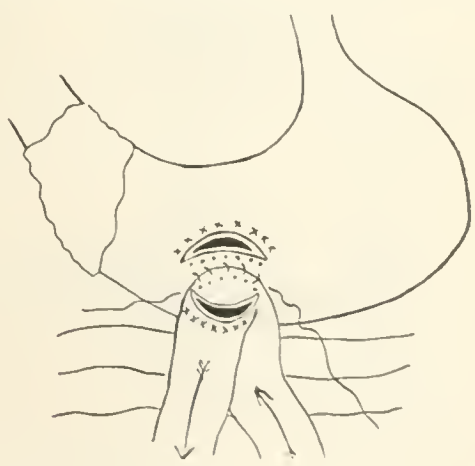


FIG. 7.—Kocher's Flap Method of Gastro-enterostomy with postero-anterior attachment of jejunum.

loops of the attached jejunum. In this case of mine, however, Murphy buttons were used, the medium size for the stomach opening and the smallest size for the entero-enterostomy. This latter was intended as a

[1] Chlumskij: "Ueber die Gastroenterostomie," Beiträge zur klinischen Chirurgie, Bd. xx., H. 1, 1898.

[2] Carle and Fantino: "Beiträge zur Pathologie und Therapie des Magens," Archiv für klinische Chirurgie, Bd. 56, H. 1, 1898.

[3] Société de Chirurgie de Paris, January 12, 1898.

[4] Since this was written I can report another successful case of my own, done with a medium-sized modified Murphy button—inserted in the posterior wall of the stomach by v. Hacker's method. Safety sutures used—no entero-enterostomy.

[1] Braun (1892) and Jaboulay (1892): Centralblatt für Chirurgie, 1892, S. 102; Archives Provinciales de Chirurgie, pp. 1–19.

safety valve should obstruction occur, but in the present case not the slightest evidence of obstruction was met with. The patient's condition was not very good, but under the exhaustion developed by his bronchitis it was advisable to give nourishment, etc., as early as twenty hours after the operation rather than further to rely on rectal alimentation only. As the diagram shows, Lauenstein originally proposed tapping an adjacent loop of small intestine, but Jaboulay and Braun nearly at the same time used the two legs of the intestinal loop for the second anastomosis. This method has been long enough before the public to have had its merits fairly tested. Mikulicz in eight cases in which bilious vomiting was marked, thus showing outgoing

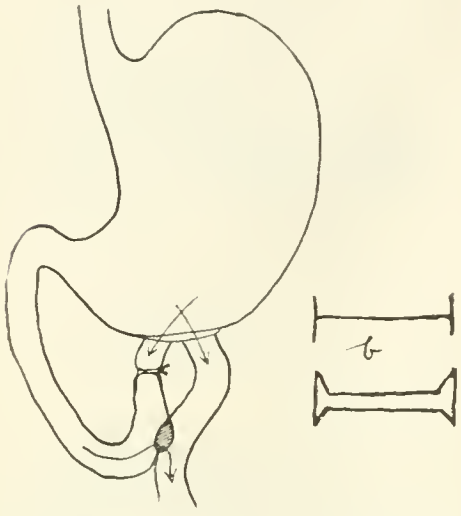


Fig. 8.—Chaput's Method with Entero-anastomosis and ligation of afferent loop of jejunum. *b*, Shows his valvular flap incision into stomach. It is similarly made in the intestine and the edges of each opening are duly sutured together.

obstruction, reopened the wound and did an entero-anastomosis, saving four of his patients. He advises its use when gastric atony exists or is suspected. In one of my own cases I also did a subsequent entero-anastomosis, but failed to obtain relief. Chaput, already quoted, says of this procedure that it is in-

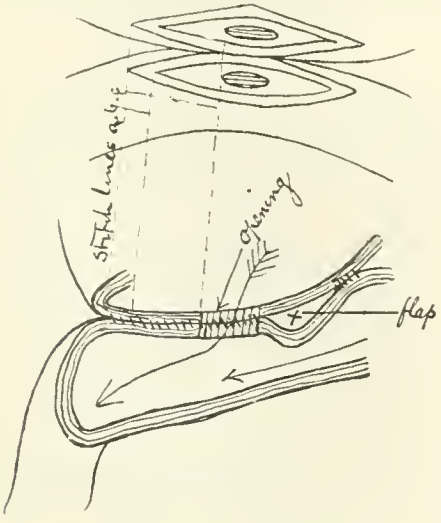


Fig. 9.—Doyen's Method, Showing Lines of Sutures, and also formation of directing flap by dimpling at *x* the afferent jejunum.

dispensable, according to his judgment, to practise systematically this additional entero-anastomosis to ward off the mishaps of spurs and kinks. He also had used the method successfully to relieve a progressing obstruction after an ordinary gastro-enterostomy. Other

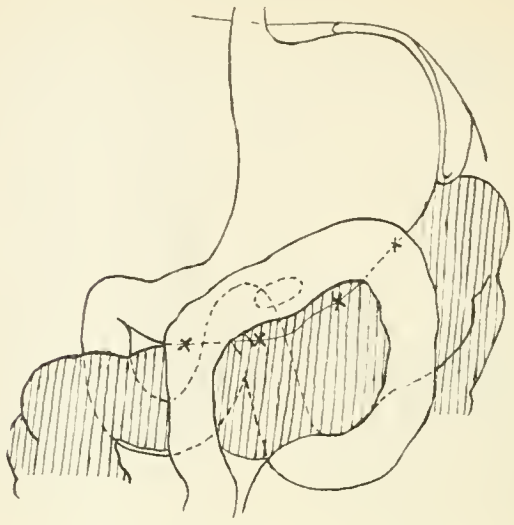


Fig. 10.—Doyen's Method Completed. *x* = Final suturing of colon to stomach.

suggestions have been added to this one. Chaput (Fig. 8) stenoses by a ligature the afferent jejunum to force the bile flow through the entero-anastomosis—a proceeding unnecessary in my judgment, and a similar criticism applies to Doyen's plan (Fig. 6) of narrowing the pylorus to prevent regurgitation by the opening into the stomach. To do away with many of the risks of the anterior gastric opening, v. Häcker in 1886 suggested that the jejunum should be attached to the posterior wall of the stomach, and claimed for this posterior gastro-enterostomy in 1892 that experience showed that it did away with the causes that produced bilious and pancreatic obstruction, but Doyen, who advocates the anterior operation with his modifications, while admitting this, says that the increased risk of the posterior opening sets off its freedom from obstruction. Chlumpskij has also found that the posterior gastro-enterostomy in one hundred and fifty-two cases was followed fourteen times by bilious vomiting which resulted fatally in eight of these instances.

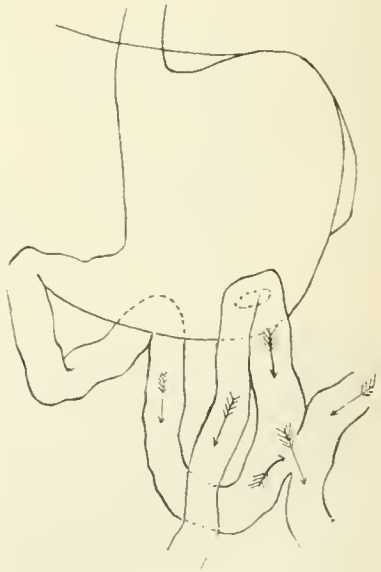


Fig. 11.—Method of Lauenstein.

As to the difficulty of the v. Häcker operation it is only encountered in the comparatively few cases in which it is impossible to draw the stomach through the opening in the mesentery, and as to the comparative risk of the two operations of Wölfler (anterior) and v. Häcker (posterior) the statistics which I shall later present show but little difference. All this indicates that although posterior gastro-enterostomy is more exempt from obstructive incidents, it is not yet an ideal operation.

The time that you allot me is too short and my descriptions are already too long to permit me to dwell much on other interesting points concerning this operation, but the few moments left me can be spent in a brief consideration of the utility of Murphy buttons, either in a simple gastro-enterostomy or with it an associated entero-anastomosis. This mechanical device has steadily advanced in surgical esteem, and time and experience have dissipated many of the objections urged against it. It has, for instance, not brought about, as far as I know, except in one doubtful case,[1] any obstruction in its eliminative passage downwards into the lower bowel. It has not been at all superseded by any of the potato, bone, or other temporary contrivances of Dawbarn, Robson, and others. It has only encountered the objection that, owing to the greater thickness and therefore the slower separation of the stomach slough, the button frequently passes into and remains lodged in the stomach.[2] It apparently does little harm there, and I have seen it *in situ* by means of an *x*-ray photograph. This is a reliable means of recognizing the final destination of a lost button, and I doubt not that before long some enterprising surgeon will give us views of the button *in situ*, *en route*, and on arrival in the rectum. Twice I have endeavored to guard against such an accident—once by attaching to the lower end of the Murphy button a string some five or six inches long, at the end of which I fastened a shoe button. This was done with the idea that the peristaltic action of the intestine below would sufficiently pull on my string and its improvised sinker to coax the button downward along the intestine. My second endeavor was used in the present case. It consisted in having the intestinal portion of the Murphy button elongated one-eighth of an inch on two sides, so that it presented an oval appearance (Fig. 13), the oval parts being formed by the projecting ledge. As both cases terminated fatally, nothing was proved for my devices.

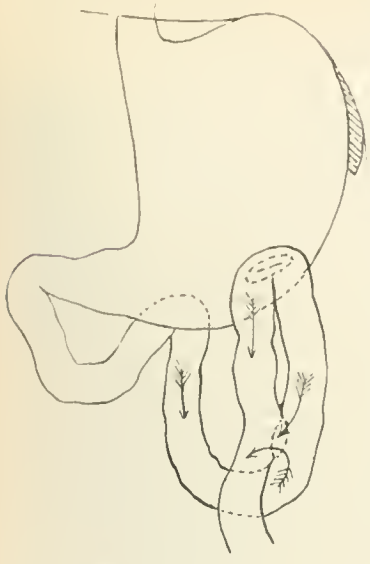
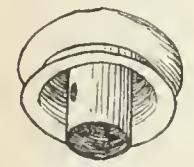


Fig. 12.—Method of Jaboulay and Braun.



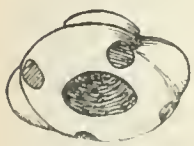


Fig. 13.—A Murphy Button modified by oval elongation of its intestinal half to prevent its slipping into the stomach.

The buttons, both in the stomach and in the intestinal loop below, were in the present case inserted after Carle's method, which is a variation from Murphy's original procedure. It requires, I think, less time, and brings the intervening portion of the intestine or stomach more smoothly about the central cylinders or standards of the buttons. Carle uses no "purse-string" suture, as advised by Murhpy, since this often throws up unwieldy folds, particularly of the stomach wall, and demands extra safety sutures; but he makes at once a quite small opening, first into the intestine, and forces the half of the button through it into the bowel, and immediately closes any part not fitting closely to the cylinder with one or two silk sutures. This leaves the peritoneal surface smooth and uninjured at the peripheral point of contact of the other portion of the button. The stomach is similarly treated and the two halves of the buttons are confronted and pressed together, as is customary. Nevertheless, in spite of Murphy's reiteration that safety sutures are unnecessary, he, like many others, prefers to employ an additional row of sutures about the button for safety, and Chaput has collected eight cases of gastrostomy and sixteen of enterostomy in which separation of the button occurred before good peritoneal union had taken place. Therefore in only those cases in which extra haste is demanded is it considered advisable to rely on the button apposition alone. Czerny, however, whose experience is large, advises with others against using safety sutures.

Fig. 14. Posterior Gastro-enterostomy by v. Hacker's Method, showing the opening made through the mesentery.

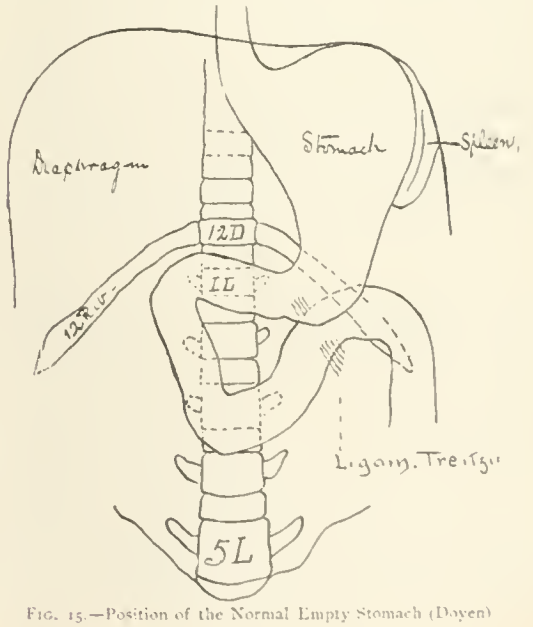


Fig. 15.—Position of the Normal Empty Stomach (Doyen)

[1] Dagros quoted by Chaput, Semaine Médicale, p. 534, 1894, who says that in the dead body a Murphy button twenty-seven millimetres in diameter will not pass along the small intestine, but he does not allow for the elasticity of the intestine in the living subject.

[2] Carle states that in thirty-two instances when the button was used it was found in the fæces only nine times and in four cases it was found in the stomach. Czerny, in thirty-five gastro-enterostomies, however, reports that in his cases the button in no instance passed into the stomach.

The better results that come from the use of the Murphy button are not only from the diminished time required (twenty to twenty-five minutes and often less, and in my own case only twenty-two minutes were required for the insertion of both the buttons from the opening to the closing of the peritoneum), but also from the broader support given by the button to the pendent intestine, for I feel sure that during the brief use of the plates and rings of Senn, Abbe, and others, there was less of the complication of bile obstruction encountered than was afterward noticed—a difficulty that, as previously stated, has been only partially done away with by the extended suturing of the bowel to the stomach. It is encouraging, too, to note how seldom are reported, though they do occur, the contraction and obliteration of the round opening made by the button. With the linear incision into the stomach of even two or two and one-half inches long, recontraction to a dangerous degree, or even to completeness, took place not infrequently.

A few sentences to touch on the points as to the location of the opening into the stomach and the method of most quickly finding the jejunum will, with a *résumé* as to the results obtained by experts in this operation, close my remarks. The anterior operation (Wölfler's), while easier, is as previously shown, yet associated with the dragging effects of the omentum and colon, unless the complicated measures of Doyen are adopted, and also has the disadvantage that may come from any distention of the stomach whereby not only is the opening raised to a higher level and unduly twisted, but more tension is likewise thus made on the attached intestine.

Hence more frequently is the posterior opening (v. Häcker's) advised by surgeons.[1] Here by a median cut the stomach is exposed and examined if necessary; the omentum and transverse colon are then drawn out from the wounds. The mesocolon is now torn or cut through to reach the posterior wall of the stomach over an area some two inches in diameter (Fig. 14); through this the stomach is drawn out beyond the wound. One can now, if it is wished, shut off the cavity of the lesser peritoneum which has thus been opened into, by stitching the torn edge of the mesentery to the stomach (Brenner), or this can be disregarded. The jejunum is now sought for; the stomach, omentum, and colon being duly covered with warm, dry (preferred) or moist sterile gauze are gently held by an assistant. To reach this intestine quickly the plan of Socin I have found the most satisfactory. It is this—to pull moderately on the colon after this with the omentum has been drawn out of the wound; this stretches its mesentery a little, and near its base you will find, either over the vertebra or to its left, the intestine. Traction upon this will show its duodenal fixation, and then some thirty to sixty centimetres of this bowel is brought out to be attached, as above directed by Lücke, to the posterior wall of the stomach, eight or ten centimetres from the pylorus. The reason for the choice of this locality in the stomach will be evident on glancing at Fig. 15, which Doyen,[2] and before him Glénard, has given as the proper position of the stomach when one is in the erect position. This, however, I am inclined to doubt a little, as the line in stomach exploration by distention with gas and fluid is in a similar position more oblique; but the gastro-enterostomy opening should be fairly low down, and tolerably near the pylorus if practicable. This permits ready egress of fluids from the stomach in both the erect and the recumbent positions. The posterior operation is not materially a more difficult one than the anterior, and it eliminates at once to a decided degree the evils belonging to the anterior operation. There only remains the traction, slight in itself, of the caught-up intestinal loop. It is even possible here, however, to suture the bowel along the stomach, if it is desired.

Concerning the results—that is to say, the mortality following a gastro-enterostomy—the following figures taken from Chlumskij will be of interest:

From 1881 to 1885, 35 operations were collected, with a mortality in the 7 benign cases of 28.6 per cent., and in the 28 malignant cases of 75 per cent.

From 1886 to 1890, 114 cases were collected, of which the mortality in the 14 benign cases was 35.7 per cent., and in the 95 malignant cases 48.4 per cent.

From 1891 to 1896, 401 cases were collected, of which the mortality in the 146 benign cases was 10.9 per cent., and in the 254 malignant cases 36.6 per cent.

Or, putting it differently for operative methods:

Wölfler's operation, 1881–96, 231 cases, of which the mortality in 26 benign cases was 19.2 per cent., and in 173 malignant cases 42 per cent.

v. Hacker, 1881–96, 152 cases, of which the mortality in 26 benign cases was 26.9 per cent., and in 115 malign cases 38.3 per cent.

If, however, individual experience is sought for as a guide or rather as an incentive, one may turn to Mikulicz's cases, 74 in number. Of these, 61 operations were for malignant growths, with 21 deaths, or 34.4 per cent. mortality; and 13 benign cases, with 3 deaths, or 23 per cent. mortality. Or Doyen's 40 benign cases may be looked at, with 8 deaths, or 20 per cent. mortality; and 8 malignant cases, with 3 deaths, or 37.5 per cent. mortality. These, with the miscellaneous collection above, give a summary like this: in malignant cases the mortality ranges, according to expertness mainly, from 34 to 37 per cent., and in the benign forms of gastric disease the mortality ranges between 10 and 20 per cent. But even better than this can be anticipated in the benign affections, for Carle and Doyen, who employ this operation, as before stated, in gastric lesions due to hyperacidity, etc., as well as in the conditions usually demanding it, have shown that in such cases the death rate is startlingly diminished—Doyen, the advocate of the complicated anterior operation, having had 18 gastrostomies for such troubles, without a single death; and Carle, employing a Murphy button with a posterior opening, having published 23 similar operations, with an equally brilliant result.

Without pursuing this interesting and by no means exhausted subject further, the following conclusions may, I think, be stated as being correct:

1. That gastro-enterostomy, as usually performed, is yet an unsatisfactory operation.

2. That its principal relievable danger is from bile or stomach retention due to operative defects either primary or secondary, *e.g.*, spurs, kinks, twisted or distorted openings, and possibly stomach atony.

3. That a posterior stomach opening favors gravity action by the evacuation of the organ particularly if it is atonied and diminishes the risk of pressure or of pulling on the attached intestine.

4. That the operation is best conducted by means of a Murphy button.

5. That a gastro-enterostomy associated with an entero-anastomosis in the afferent and efferent portions of the jejunum probably gives the best assurance against obstruction. Experience in this method, while so far gratifying, should, however, be enlarged to ascertain if the increased risk of the additional button overtops the danger of the bile and pancreatic obstruction.

[1] "Zur Technik der Gastroenterostomie," Wiener klinische Wochenschrift, No. 26, 1892.

[2] Doyen: "Traitement Chirurgicale des Affections de l'Estomac et Duodenum," 1895, from which work most of Chlumskij's illustrations and mine have been derived.

SOME SUGGESTIONS FOR THE ORGANIZATION AND INTERIOR ECONOMY OF A STATE MEDICAL-MILITARY SUBDEPOT IN WAR TIME.[1]

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"History is philosophy teaching by example." We have but to review it, and then glance about us at the current happenings, to be convinced that in spite of our boasted civilization man is instinctively a fighting animal, and war is always a probability.

While civilization has not eradicated and never will eradicate this instinct, it has so advanced our knowledge of things that war is no longer a mere question of the man—though this is the largest factor—but of the material, of the organization, indeed, of the numberless *inanimata* which make a part of the art of war.

These are not the creation of a moment, but follow careful preparation and accumulation, the results of experience, study, and opportunity.

We of the sanitary department have no small share in this work; indeed, it is an ever-increasing share—for civilization, while unable to subdue the fighting instinct, demands that the fallen shall be more and more carefully conserved; therefore it is important that our preparations *ab initio* be duly weighed and our plans determined upon before the event of hostilities.

In this connection we may well consider what will fall to the military authorities of the States, and our historical examples will be drawn from the war of secession.

During the years 1861–65 the total strength of the armies of the United States was 2,143,855,[2] recruited by the States as follows, viz.:

Maine	49,035	Michigan	76,218
New Hampshire	29,150	Wisconsin	73,865
Vermont	26,355	New Mexico	4,432
Massachusetts	98,803	Missouri	78,035
Rhode Island	13,688	Kansas	16,624
Connecticut	45,181	Nebraska	2,175
New York	334,784	Iowa	68,118
New Jersey	44,398	Minnesota	18,554
Pennsylvania	214,427	California	15,725
Delaware	7,888	Oregon	1,773
Maryland	24,954	District of Columbia	6,546
West Virginia	27,518	Colorado	3,697
Ohio	225,669	Nevada	1,080
Kentucky	43,550	Dakota	206
Indiana	150,177	Washington	964
Illinois	210,043	Tennessee[3]	20,394

Of this number at least six per cent.[4] was engaged in the sanitary work of the armies.

In other words, 128,631 medical and other officers and enlisted soldiers were on duty in the medical department between the fighting-line and the hospitals at the base of operations. This number is exclusive of the *personnel* of the various military general hospitals scattered throughout the country far away from the theatre of operations, and differing very little from general hospitals in civil life. These hospitals contained, in 1864, 318,000 beds, and their *personnel* numbered 31,860 officers and men.

For the purposes of this paper we have to consider only so much of the sanitary *personnel* as may be called "military," viz.: that part which is in immediate contact with the combatant forces in actual service—the part which, during the war of 1861–65, was mostly detailed from the combatant ranks in numbers which will never be known, and which probably represented a considerable portion of the forty per cent. difference between the paper and fighting strengths of our armies.

In any future war we may have, it is hardly to be presumed or desired that the requirements in men of the medical department will be met by depleting the fighting-line; so it is reasonable to assume that this department will be called upon to recruit and train its own *personnel*, and this of course will be done in large measure through the medical departments of the respective States.

If this is to be the case, and if the requirements of our last war be an index of future wars as to the number of sanitary recruits to be organized and instructed, it goes without saying that there must be some place where such preliminary organization can be made and such instruction given. This place may be called the State medical-military subdepot.

To meet the requirements of active service, each State will necessarily have a place of arms where recruits can be rendezvoused, outfitted, and drilled; where the required material can be gotten together; where companies and regiments can be organized; and where, finally, the State recruit, after being duly "mustered in," will become a soldier of the United States.

It need hardly be said that this place of arms should be located conveniently near the State's centre of population, and that it should be sufficiently extensive, both in area and plant, to meet all of the very important physical requirements of such a place under such conditions.

Cogent arguments might be advanced in support of the proposition that such an establishment should even now be in the possession of every State, instead of the comparatively few which thus far have been able to appreciate its advantages. Nor would it be useless to-day, when as yet war is only in the air, or even in times of profoundest peace, for it would serve admirably for the location of the annual camps of instruction now so generally established among our State troops.

This place of arms would in war time become the State general recruiting-depot, with a thorough military organization, and it is here the medical subdepot should be established. The organization of the general recruiting-depot cuts no figure in this paper, except so far as it touches the organization of the medical subdepot, which latter should be as nearly as possible independent. The subdepot should have a distinct and separate organization, the *personnel* of which, of course, would be under the orders of the depot commander (probably a general officer), though for administrative purposes only. The interior economy of the subdepot, the instruction of the men—in fact, everything pertaining to the sole object of the organization, the making of the sanitary soldier, should be in the hands of the subdepot commander—a medical officer—under the direction of the surgeon-general of the State.

Since we so emphatically claim the direction of the medical subdepot, we are under obligations to suggest some practicable plan for its organization and some scheme for its management. A very general consideration of these points is the *raison d'être* of this paper.

As the medical department must of necessity provide for the care of the actual sick—an ever-present entity—of the entire command, the first thought must be given to them, and temporary hospital accommodations supplied at the earliest practicable moment for at least two per cent. of the probable garrison. This so-called field hospital, of canvas, should be followed as soon as possible by a more permanent structure. *Pari passu* with the permanent hospital, there will be erected quarters for officers, barracks for men, storehouses, stables, bakery, mess hall, etc.—the various buildings pertaining to any community, be it civil or military.

[1] To be presented at the next meeting of the Association of Military Surgeons, United States.

[2] Fox says that reduced to a basis of a three-year term the total strength of our army was 2,327,917.

[3] Small numbers from other States make up the total.

[4] See articles on sanitary organization by the writer, published in the various proceedings of the Association of Military Surgeons, United States.

Happy the State which, even though it has not these buildings, has officers so far-seeing that plans and specifications for them have already been prepared and filed away for instant use when the emergency arises which requires it. If all these matters have been fully anticipated and prearranged so far as possible, it is not to be doubted that the necessary plant could be established on a comfortable working-basis in thirty days. In the mean time the permanent *personnel* could be assembled under canvas.

The work of the medical subdepot for which this more or less permanent *personnel* must be provided is to be considered under two heads, viz.: 1. The care of the sick of the garrison. 2. The instruction of recruits for the hospital corps.

The duties will necessarily be both administrative and executive. A word as to the meaning of these terms. In military parlance, administration means the direction or management of a body of troops. The administration formulates the regulations and orders to govern the command, which the troops execute.

The administration of the subdepot will require, beside the commanding medical officer, several other officers, non-commissioned officers, and private soldiers of the hospital corps, all of whom will be essential to its successful working.

The hospital department capable of permanently housing two hundred patients, with canvas for an additional two hundred, will require a numerous *personnel* hereafter to be considered.

The department of instruction will require approximately one officer to every fifteen men and one non-commissioned officer to every five men.

The details of the foregoing outline of our proposed subdepot may best be illustrated by assuming conditions quite likely to occur in any future war.

The latest available authority gives the population of the State of New York as 7,152,834, of which number one million men, more or less, may be assumed to be of the fighting-age (eighteen to forty-five).

During the war of 1861–65 this State furnished fifty-eight per cent. of its fighting population, and undoubtedly would do quite as well in any future war of equal magnitude. But to remain well within the bounds of probability, we will assume that New York's contribution to the next war will be 500,000 soldiers. We have already seen[2] that of this number six per cent., 30,000 men, will be required by the medical department. Should the war continue three years, we may safely estimate that the proposed medical subdepot of that State will have a probable average monthly strength of about one thousand men, exclusive of the sick of the station. Upon this estimate the organization of the medical subdivisions would, *mutatis mutandum*, closely approximate those of a regiment of the line.

War having been declared and requisition made upon the authorities of New York for that State's proportion of the number of soldiers deemed necessary by the President of the United States, among a thousand and one other orders, presumably even to-day carefully prearranged, one issues from State headquarters directing Colonel ——, assistant surgeon-general, New York, to proceed without delay to the general recruiting-depot, and there establish the medical subdepot. The objects of this special establishment are, as heretofore stated and as doubtless he will have been informed, the care of the actual sick of the entire depot and the preliminary organization and training of the sanitary *personnel* of the State's recruits.

Colonel ——'s special instructions, which doubtless he has received from the surgeon-general of his State, inform him that he is expected to select his own subdepot staff from among the officers ordered for duty there, to organize a station hospital, and the necessary number of companies of instruction. If the State has anticipated the moment of necessity therefor and established an adequate plant, or even if it has a detailed paper organization for the proposed subdepot, the responsible officer on the ground will be saved endless trouble. If, however, nothing has been done, he will of necessity have to start *ab initio*.

It is quite apparent that the first step out of chaos a commander can make is in the organization of his staff and the distribution of its duties, thereby leaving him free from the numberless details which would divert his attention from more important matters. Hence Colonel ——'s first duty will be to organize and locate the administration.

It may be assumed that the State military authorities will have so far anticipated the personal requirements of the proposed organization as to have directed the following, or as many of them as practicable, to report at the earliest moment, viz.:

Administration—1 lieutenant-colonel, medical department, executive officer; 1 captain, medical department, adjutant and medical supply officer; 1 captain, quartermaster's department, quartermaster, subsistence, and ordnance officer; 8 non-commissioned officers (3 hospital stewards, 3 acting hospital stewards, 1 quartermaster's sergeant, 1 commissary sergeant); and the necessary number of private soldiers as clerks, artificers, orderlies, drivers, conservancy, cooks, bakers, waiters, etc., probably about fifty—to be determined as the organization develops.

Upon their arrival at the station the officers are at once assigned to the indicated duty, and as many non-commissioned officers and men as deemed necessary are detailed to the respective departments.

In the mean time, the State authorities having determined the probable average strength of the garrison and notified the medical authorities, the first consideration of this department *in loco* is to provide hospital accommodation for the estimated sick of the command, which, as we know, will certainly not be less than two per cent. of its total strength.

Assuming that the average garrison will be ten thousand, the medical officer commanding the subdepot directs his quartermaster to require at once for tentage and other quartermaster's supplies to accommodate two hundred patients, say: hospital tents, complete, 54; wall tents, complete, 9; common tents, complete, 20; together with the necessary cooking and heating material, fuel, lighting, forage, horses, harness, ambulance and other wagon, clothing, equipage—in fact, everything except medical supplies, ordnance, and subsistence. Each tent should be floored with tongued and grooved flooring, and properly heated and lighted.

No department is more important than the quartermaster's; it is the *omnium gatherum*, from which one seeks everything that cannot be obtained from the very special supplies furnished by the other departments.

At the same time the officer in charge of medical supplies is directed to require for furniture, bedding, and other interior fittings; for medicines, dressings, surgical instruments and appliances, special-diet stores, etc.

The commissary officer arranges for the subsistence of the soldiers actually on the ground, and makes all preparations to meet the ever-increasing demands upon his department, which least of all can be ignored.

With the temporary station hospital thus prepared,

[1] On July 8, 1894, the plans and location of the great Japanese base hospital at Hiroshima were approved; on the 30th of that month the hospital, consisting of ninety-six separate buildings, capable of accommodating 2,555 patients, was completed.

[2] "Outline of a Scheme of Military Sanitary Organizations," Proceedings of the Association of Military Surgeons, United States, 1897.

the subdepot will be in admirable position to meet the requirements of the sick of the station, so soon as the *personnel* of the hospital can be assembled, viz.:

Nine medical officers (1 major-surgeon commanding, 2 major-surgeons, 3 captain assistant surgeons, 3 lieutenant assistant surgeons); 64 non-commissioned officers, men, H.C. (2 hospital stewards, 5 acting hospital stewards, 35 nurses, 4 cooks, 9 attendants, 9 medical officers' orderlies).

Pari passu with the temporary arrangements above outlined, plans and estimates will be prepared and contracts let for the construction of a more or less permanent hospital building of two hundred beds' capacity. This with the temporary canvas hospital in reserve will meet all demands that the sick of the station are likely to make upon it.

The probable needs of the sick having been fully anticipated and so far as possible provided for, attention may now be turned to the other important feature of the subdepot—the department of instruction.

We have heretofore seen that, in addition to the sick of the entire general recruiting-depot, the medical subdepot would have an average strength of about one thousand officers and men of the sanitary corps, the object of their assembly being their organization into and training for the various sanitary units required by an active army.

These units are: 1st, the station hospital; 2d, the ambulance companies of the hospital corps; 3d, the field hospitals.

Assuming that any man well trained in the work of the above organizations will be able to do his part in the regimental detachments or in the base or other military hospitals, such will need no further representation at the training-school.

The *personnel* of the administration and the station hospital having been assigned, there are left of the estimated strength of the subdepot about nine hundred officers and men to be organized into ambulance companies and field hospital detachments.

We have heretofore shown[1] that each ambulance company requires eighty-eight officers and men, and each field hospital sixty, including in both cases the transport *personnel*. Based upon this there could be organized six ambulance companies and six field hospitals.

These organizations must, of course, be properly quartered. Tents will meet the early requirements very well, but would prove expensive for prolonged use. In addition to those for the station hospital, more or less permanent structures must be provided, as follows:

One administration building, containing offices for the commanding officer and staff; 1 storehouse for medical, quartermaster's, ordnance, and subsistence supplies; 1 stable and wagon shed; 6 barracks for ambulance companies; 6 barracks for field hospital detachments; 1 mess hall, kitchen, and bakery; 1 soldiers' exchange building; 1 building for officers' quarters.

It will be observed that no provision is made for separate quarters for individual officers, nor is it believed that under the conditions such will be necessary.

Having so far as possible provided for the material wants of our proposed corps, let us now briefly consider what means shall be adopted to lay broad the foundation of discipline, training, and instruction which is to convert the crude recruit into the finished sanitary soldier. Much depends upon a proper beginning. If officers and men can be given a comprehensive idea of what they are expected to do, even though ignorant of the nice details, they will be by so much more efficient; add to this practice tinctured by zeal, and perfection will ultimately be attained.

Any one who reads even only what is here written must be convinced that there is something more to be done by the civil practitioner of to-day, who to-morrow may follow the drum, than pack his valise and join the procession. His knowledge as a physician is, of course, a *sine qua non*: but not so very far behind this is that knowledge which will enable him to supplement his own hands by those of others, and thus and thus only will he be able properly to care for the numberless sufferers thrust upon him within a day or even an hour. Nor is this all, for the conditions under which these sufferers must be treated are so different from those which obtain in civil life that his practice must be modified accordingly.

Revenons à nos moutons. Besides the general administration necessary to an aggregation of military units, each unit has within itself an administration which regulates the interior relations of its individual members. In a company this administration is represented by the officers and non-commissioned officers. The immediate commander of a unit is held responsible for the efficiency of his command, and to promote this efficiency he is given a certain number of assistants, who in military parlance are known as officers—commissioned and non-commissioned—whose duties within certain limitations he prescribes. Wagner says: "The most efficient armies are those in which the captains are given the greatest latitude in the methods of instructing and providing for their companies, and held to the most rigid accountability for their good condition and military efficiency."

Our proposed sanitary units must be organized on military models as above outlined, and the commanders thereof must be held to the same accountability. Unfortunately we have as yet no sanitary model and no standard other than that of the line.

Since such is the condition of affairs, how would a medical officer proceed who had received orders to organize and command an ambulance company? A military body is to be hewn out of some eighty or more intelligent citizens, most of whom will have no knowledge of what is expected of them. His first step would be to make his *cadre* or framework. Doubtless two or three physicians who had been appointed officers, and who will make up in zeal what they lack in knowledge of the work in hand, have already reported to the company commander: these, with the senior non-commissioned officer—whom the commander selects from among the men and who is practically the company adjutant—form the foundation of the frame, the superstructure of which is the remaining non-commissioned officers. Considering the work and equipment of this company, there is room in it for a non-medical officer—who might be called the quartermaster—who would rank as a first lieutenant and have charge of the property and transportation.

The frame having been completed, no matter how temporarily, the details are to be fitted therein. The company should be divided into two platoons, each under a medical officer, and a transport detachment, the latter to consist of 3 non-commissioned officers, 2 artificers (1 blacksmith, 1 saddler), 1 bugler, and 17 privates (14 drivers, 1 cook, 2 supernumeraries), under command of the quartermaster.

It may be that the details will not at first fit the frame with accuracy, but they will do so at least ap-

[1] The *personnel* should be distributed as follows: For each ambulance company, 3 medical officers (1 major surgeon commanding, 1 captain assistant surgeon, 1 first lieutenant assistant surgeon); 1 quartermaster (first lieutenant); 16 non-commissioned officers, 2 buglers, 2 artificers, and 64 privates, H.C. For each field hospital, 3 medical officers (1 major sugeon commanding, 1 captain assistant surgeon, 1 first lieutenant assistant surgeon); 8 non commissioned officers, 1 artificer, and 42 privates, H.C. See Proceedings of the Association of Military Surgeons, U. S., 1897, p. 437 *et seq.*

proximately, and in due time, with judicious trimming, perfectly.

As new men join the company, they can at once be assigned to one or another of the subdivisions and fall into their proper places.

The field hospital detachments will, *mutatis mutandum*, be arranged on the same lines—the sixty or more individuals constituting such being so subdivided as best to accomplish their work. The transport detachment with this organization will consist of 4 non-commissioned officers, 1 artificer (blacksmith), 12 privates (10 drivers, 2 supernumeraries).

Thus far we have provided a place of rendezvous and a habitation. We have anticipated the material requirements of the men of the proposed sanitary corps as to food, clothing, and equipment, and we have assigned them to organizations. It now remains for us to consider the best method of discipline, training, and instruction we can adopt to fit them for their work.

It may be safely assumed that, for the most part, the recruits assigned to the hospital corps will have had some training in civil life as druggists, clerks, nurses, mechanics, hostlers, cooks, etc., which would cause their selection for this special corps and more or less prepare them for its peculiar duties. This, added to the fact that "with intelligent and zealous volunteers discipline becomes mainly a matter of instruction and guidance," will make a well-considered scheme of training comparatively easy of execution.

In the beginning of hostilities it is not probable that any State will be able to hold its men for more than one month's training, when it will be called upon to send complete organizations into the field. Later, when a sufficient number of sanitary units have been supplied, it will only be necessary to keep up their strength, and the units of instruction will become more or less permanent, the officers and men attached being detached when required.

The training of the sanitary soldier must be military as well as technical, for it goes without saying that he must be a soldier, thoroughly disciplined and especially loyal to his duty. His work is most frequently done upon his own responsibility and away from the watchful eyes of his superiors; moreover, it is often done under circumstances of extreme danger, without the support of "touch of elbow" and the comforting thought which the fighting soldier has that, come what may, he can "give as good as he gets."

Any one who thinks that a man without a gun cannot be a soldier, even though he does and dares all that any man can, is hardly in accord with the public sentiment which responded so warmly to the story of Piper Findlater at the charge on Dargai Ridge.

True discipline being the object sought, certainly no method of its attainment can be equal to the military method, since this is the concrete result of experience in discipline from the earliest times even until to-day. Therefore, our recruit must be trained as is any other; he should be carefully "set up" and thoroughly drilled in the school of the soldier and the company, so that he will understand and be able accurately to execute all the movements therein described. He should be taught the manual of arms and the use of the rifle, "for, though he will ordinarily neither carry nor use firearms, it is held that no man can be a soldier who is unfamiliar with them;" moreover, it is universally recognized that nothing so quickly teaches unquestioning and ready obedience to orders as frequent exercise in the manual of arms. There is something seriously suggestive about a rifle that does not attach to apparatus for light gymnastics.

Another exceedingly important part of the military training is to teach the recruit how to care for himself under the peculiar and varying conditions of his new life. This comes to him through the company housekeeping, for in the field each organization takes care of itself, cooks its own food, makes its own beds, does its own policing (cleaning up); in fact, a military company may be considered as a family, the head of which is the commander, who is the director, instructor, provider, and dispenser. The commander should regard his men as does a father his children; and they in turn should render him the respect and implicit obedience due from a son to his father.

Certain modifications of the company housekeeping while it is at the subdepot would probably be found desirable; there a general mess for the entire command (except the hospital) would be more convenient. This mess should be so conducted as to serve as a school of cookery, in which the largest possible number of non-commissioned officers and men of each organization should be given an opportunity to gain a practical knowledge of the management and cooking of the ration.

The technical training of the sanitary soldier will be imparted through lectures, recitations, demonstrations, and practical work. He must be thoroughly taught first aid and nursing, which include a sufficient knowledge of simple anatomy, physiology, pharmacy, diet cooking, bandaging, etc.; he must know the appliances of the medical department, particularly those pertaining to the field. His instruction in field work becomes of the utmost importance, since his duties will be performed under active service conditions. Pitching and striking tents, loading and unloading wagons, the particular work of the various sanitary units, the care and driving of animals, etc. Bearer drill, the purpose of which is to teach the best method of transporting the ill and injured, is a very important part of this training.

Of course, all this can only be outlined here, but certainly enough has been written to show that the men we must have are no more or less born than any other soldiers; they must be made, and can be made only by the most careful selection and training.

If only for purposes of instruction, it would be desirable that the equipment for at least one ambulance company and one field hospital, complete in the minutest detail, be supplied the subdepot, so that all could learn the material and its uses.

The routine of a day's work would be somewhat as follows: 5 A.M., reveille; 5:15 to 5:30, "setting-up" exercises; 5:30 to 6, breakfast; 6 to 7, fatigue; 7 to 8, study hour; 8 to 9 infantry drill; 9 to 10, recitation in nursing; 10 to 11, study hour; 11 to 12 M., recitation in first aid; 12 M. to 1 P.M., dinner; 1 to 2:30, bearer drill, litter, ambulance, travois, etc., as soon as possible combined with first aid; 3 to 4, formation of ambulance and dressing stations, alternating with the pitching of the field hospital; 4 to 4:30, practical bandaging and splinting; 5 to 5:30, supper.

As soon as the men become sufficiently informed, a certain number of them would be detailed each day in the station hospital for practical instruction with the actual sick, and in the interior economy of military hospitals. Certain others would be detailed in the mess hall and kitchen, and yet others in the other departments of the subdepot, until a fairly comprehensive knowledge of the required work would be gained. With such preliminary training, the sanitary recruit would join his permanent command with an intelligent appreciation of what would be required of him—certainly an immense advantage to him and to the service he will form part of.

The chief object of the foregoing remarks is not to offer the best plan for organizing a State medical subdepot, but rather to call attention to the fact that some such organization will be necessary.

Our country cannot again afford the time, the blood,

and the treasure spent during the first two years of our last war to learn how to care for the wounded of the next; neither can we begin where that war left our sanitary organization, admirable as it then seemed. A generation has passed since then, and military sanitation has no more "marked time" than have other arts. The ambulance corps of that day, taken from the fighting effective; hospital attendants detailed from the line regiments as the situation demanded, or improvised from convalescents—excellent as was that improvisation, by comparison it was but a step in the evolution of a sanitary corps, and will no more be permitted in our next war than will the surgical procedure used in the last. Our sanitary corps must be distinct and separate from all other branches of the service; its organization and training must begin with the State medical departments, and its recruitment must be continued by them. Ambulance company No. 50, New York, will be just as distinctive in that State as the fiftieth regiment of volunteers, New York; and field hospital No. 35, New York, as light battery B, New York artillery.

By some such organization, and only such, can our sanitary corps reach the highest efficiency.

Vancouver Barracks, Washington,
March 17, 1898.

REMARKS ON RHUS TOXICODENDRON.

By LOUIS F. FRANK, M.D.,
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About two months ago my attention was drawn to an article written by Mr. Bernhard Ziehn, the well-known musician of Chicago, likewise an authority on botany, in which the earnest consideration of the city authorities was called to the fact of the existence and flourishing of the Rhus toxicodendron in the various parks of Chicago, advocating radical measures against the alarming condition.

In Lincoln Park, in the neighborhood of populated streets, Mr. Ziehn localized seven wild ivy plants, one of them with at least twenty roots encircling an oak tree, thirty feet in height, sending its shoots to the very top of the tree. In Washington Park, near its northern entrance, he found a tree, twelve feet in height, loaded with the poisonous fruit, and a shrub with a trunk the size of an arm. A similar condition of affairs was discovered in the Jefferson, Union, Garfield, and Douglass parks of Chicago, and in all places north of Chicago toward Evanston. The agricultural department at Washington, learning of the efforts of Mr. Ziehn, requested him to continue the same and keep it informed as to the progress made. Moreover, as Mr. Ziehn during a visit to Milwaukee discovered the plant in "The Ravine" and other places in Lake Park, he asked my co-operation in the matter, which I, convinced of the importance of the subject, decided to bring before the profession. Not a year has passed but I have been called upon to treat a number of cases of dermatitis caused by one or other variety of the Rhus species, and no doubt it has been not an unfrequent occurrence in the experience of the general practitioner.

Dr. White, of Boston, in a review of three hundred and sixty cases of dermatitis treated in his clinic during the past two years, has found thirty, or nearly ten per cent. of them, to have been caused by the so-called wild ivy.

It is well known that the vegetable kingdom furnishes many substances which, when in contact with the skin, occasion irritation and more or less severe inflammation. According to the virulence or concentration of the poison and the susceptibility of the skin, the lesion will be erythematous, vesicular, pustular, or bullous in character. Among these plants may be mentioned nettle, mezereon, arnica, common parsnip, witch-hazel, hop, hornbeam, and, above all, the species Rhus toxicodendron and Rhus venenata, a genus of the common sumach. The former, Rhus toxicodendron, by earlier botanists and more properly called Rhus radicans (Fig. 1), is a vine of very common oc-

Fig. 1.—Poison Ivy (Rhus radicans).

currence, running over stone fences and along the borders of woods, in ravines or climbing on to trees to a considerable height and attaching itself to these surfaces by lateral rootlets. It is popularly known as poison ivy, poison vine, poison oak, mercury, and is found abundantly throughout the United States east of the Great Plains, and in the arid regions of the West, with the exception of California. It is generally a

Fig. 2.—Poison Sumac (Rhus vernix).

climbing vine, but if no support is at hand it either trails along the ground or sends up short vertical shoots. With the exception of one near Western relative, which is almost as poisonous, there are no other plants which resemble it closely, excepting the non-

poisonous box-elder, and this only in its seedling stage. The Virginia creeper, also non-poisonous, is sometimes mistaken for the poison ivy, but is easily distinguished by its having five instead of three leaflets.

The second variety, Rhus vernix, or poison sumach (Fig. 2), also commonly known as poison dogwood, poison ash, and poison elder, is found growing in swamps from Florida to Canada and westward to the Mississippi Valley. It is a shrub or small tree, six to eighteen feet in height, with long pinnate leaves, having from seven to thirteen smoothly polished leaflets.

The third variety, of near resemblance to the first-named Rhus radicans, is known as Rhus diversiloba, or poison oak (Fig. 3), and is found only throughout

Fig. 3.—Poison Oak (Rhus diversiloba).

the Pacific coast from Lower California to Canada and northward. The leaves differ in size as well as in shape from those of the poison ivy.

The first and second varieties, therefore, Rhus radicans or toxicodendron and Rhus vernix, are of special interest to us, as the same are indigenous to Wisconsin.

It has generally been accepted up to to-day that the poisonous irritant in the various species of the Rhus family was due to an active principle, consisting in a volatile acid, called toxicodendric acid. This was found in 1865 by John M. Maisch, of Philadelphia, and is to-day regarded in the United States Dispensatory as the active principle of Rhus. During the last three years, however, Dr. Franz Pfaff, of the pharmacological laboratory of the Harvard Medical School, has made a series of very interesting analyses and experiments, which not only criticise the imperfect manner and non-scientific results of Maisch's investigations, but also seem to prove that the principle is not a volatile acid, as thus far recognized, but consists of an oil, for which Pfaff proposes the name toxicodendrol. This poisonous oil has been found in all parts of the plant—in the stems, branches, roots, leaves, and fruit—its amount, however, varying, the fruits containing 3.6 per cent., the leaves 3.3 per cent., and the stems and branches only 1.6 per cent. The oil is easily soluble in alcohol, ether, benzol, chloroform, etc., but is insoluble in water. The effect of the isolated oil upon the human skin is described in the second number, 1897, of the *Journal of Experimental Medicine*, the experiments producing a clear, clinical picture of a dermatitis venenata.

I communicated with Dr. Pfaff, and he kindly forwarded to me a specimen of the toxicodendrol in its crude state, which was extracted from a fresh lot of Rhus venenata and had not yet been tested. He informs me that the pure oil is of a pale yellow color, exceedingly poisonous—to such an extent that the smallest quantity of the oil, unable to be detected by the unaided eye, would cause all the characteristic lesions of wild-ivy poisoning. It seems to me that the specimen sent to me is incapable of producing a dermatitis, as I have applied it thoroughly on my arm on two different occasions, likewise on the forearm of my druggist, without inflammatory result. Possibly neither of us is susceptible to the poison, and further experiments are necessary to prove its efficiency. However, the free purified toxicodendrol has in Dr. Pfaff's hands never failed to produce an irritant action.

The active principle, according to Dr. Pfaff, being a non-volatile substance, the question arises as to the commonly accepted idea that poisoning may occur without actual contact with the poisonous plants. Pfaff disputes this view, believing that actual contact with the poisonous oil is essential to produce the skin lesions, rendered extremely easy by the great activity of the poison and the latent period of development. None of the hundreds of persons that passed through his laboratory during the time that these plants were handled were poisoned unless they came into actual contact with the plant or the free oil. Nevertheless, the popular opinion prevails that the actual touching of the plant is not necessary to produce the eruptions; that the emanations at night time are particularly dangerous; and it has been maintained that persons may be poisoned by the exhalations into the room while the wood is burning in the fire.

I have read of several reports of cases in which the poisoning was produced by a peculiar Japanese lacquer, made from the Rhus vernicifera, not only in those actually engaged in lacquer work, but in those who live or sleep in rooms in which fresh-lacquered goods are drying. Especially children, after a night's rest in a room in which a newly purchased chest of drawers has been placed, exhibit symptoms of poisoning the next morning.

The question is still an open one, and scientific experiments must be resorted to in order to decide it satisfactorily. Personally, I am inclined to believe that a great many of the above-cited cases are of the "hearsay" order and cannot be accepted as undoubted evidence. The poison of Rhus toxicodendron may be communicated by direct contact with parts of the plant, or indirectly from one person affected to the other. The former method includes the great majority of all cases. The following two cases may illustrate the manner in which one person may communicate the poison to another.

The first is described in an article written by Dr. White,[1] reporting a fatal result in consequence of the poison. "A servant boy, being insusceptible to ivy poisoning, had been employed in pulling up all the vines of that plant found growing in the grounds about the house. When his task was finished, he was made to wash his hands thoroughly with hot water and soap and afterward with vinegar. In the afternoon he was allowed to take the six-year-old child of the family to a pond for a bath. Having stripped the child, he immersed him, holding him with his hands under the armpits, and afterward rubbed his back with his open palm. After three days deep ulcers formed under the armpits and every part touched by the hands showed the characteristic marks of wild-ivy poisoning."

Another case, reported by Dr. Cantrell,[2] shows how the poison was conveyed to the umbilical region of a

[1] New York Medical Journal, 1873.
[2] Medical News, 1891.

female patient of the Philadelphia Hospital, a vesicular and bullous eruption having a radius of five inches, œedmatous and covered with a yellowish-brown discharge, appearing three days after confinement. Upon inquiry it was learned that on the day of birth the attending nurse, taking a stroll through an adjacent cemetery, had gathered some leaves, bringing a number back with her. The ivy poison was in all probability conveyed to the patient during the time of dressing, although the hands of the nurse had been previously washed several times with soap and water. Her hands, at that time showing no signs of infection, became affected two days later, at about the same time the eruption appeared on the abdomen of the patient.

A third case is mentoned by Dr. Busey,[1] in which a family, consisting of both parents and an infant, was affected at the same time, the mother having a severe attack quite general over the whole body, the husband a similar eruption on both hands, and the infant a slight one about the mouth and chin. A week previous to the appearance of the eruption, the husband and wife had passed an afternoon at a picnic and he had fastened his horse to a bush covered with a vine, the character of which he had not observed. The wife did not approach the plant and the child had been left at home.

Dr. J. B. Walker[2] reports the fourth case I have found in the literature of poisoning by indirect contact. "A lady spent the night with her sister, whose husband was obliged to be absent on business. The husband had been poisoned about the head and neck with ivy, a few days before leaving home. The pillow case on which he slept was not changed, and his sister-in-law, using it, became poisoned about the face and neck in consequence thereof."

The disease usually begins on the hands, the inner surfaces of the digits being first affected, whence it spreads on the dorsal and later on the palmar surfaces. From the hands it is usually communicated to the face and the genitalia, and may from there come in contact with the entire body. The eruption generally appears in an erythematous form, accompanied by vesicles, pustules, and even abscesses, and it is attended with more or less œdema, swelling, heat, and itching. The serous infiltration may be so great as to occasion great disfigurement, especially of the hands, arms, and genitalia. The vesicles are usually small and often develop into pustules, which may rupture, the discharge drying into yellowish crusts.

The remedies that have been recommended for the treatment of Rhus poisoning are almost as numerous as those for eczema. Among the domestic remedies vinegar and solutions of saleratus and carbonate of sodium are widely and highly esteemed. I noticed a glowing account of the efficiency and virtue of buttermilk and pounded crabs in Japan as a remedial agent. Among the medicinal remedies the following have been advocated: astringent lotion of acetate of lead, sulphate of zinc, alkaline solution of lime water, ammonia, and hyposulphite of sodium, decoctions of white and black oak bark, Virginia snake-root, chestnut leaves, solutions of the fluid extract of grindelia robusta, calomel (black wash) and sublimate, emulsion of bromine, dusting-powders, and an array of ointments.

The use of dusting-powders, oxide of zinc, starch, magnesia, talcum, etc., I cannot recommend as practicable. Certainly they produce a rapid cessation of the serous discharge and a drying up of the same, but, mingled with the pathological and normal secretions of the skin, a layer of putrefying, decomposing crusts is formed, which tends to increase the inflammation. The same may be said of applications of ointment or plasters, as fats in the acute stages of a dermatitis are often not well borne: ointments of lead are especially bad, whereas Lassar's salicylic paste rarely is found to irritate the lesion. The treatment of any toxic dermatitis must be carried out on the same basis as that of eczema in its acute or subacute state, and the essential principle which ought to guide us in its successful treatment is antisepsis and asepsis. We know that a local infection has taken place: the poison has been absorbed by the skin, causing a pathological lesion, which is attended by inflammation and its sequelæ—exudations, crusts, and scales. These disease products are usually still more contaminated by external irritants, as salves, oils, and infected dressings. Plainly there seems but one thing to do: to follow out the principles of modern surgery, viz., to remove all products of infection and render the diseased part aseptic, and naturally the first indication is a cleansing bath with soap and water. And, strange as it may seem, what has been imperative in surgery has hitherto been but reluctantly followed in dermatology, the statement of Pindar, "Water is truly the best," being ignored. It is a popular notion, for instance, that infants affected with intertrigo and its sequelæ, dermatitis and eczema, must be prohibited from bathing, and strangely enough this view is shared and supported by many physicians. It is hard to believe that any one can sanction the presence of effete material consisting of the products of the perspiratory and sudoriparous glands, in the process of decomposition, to remain and act as inflammatory irritants. Basing on this simple and rational theoretical view, I have treated in the above manner all cases of dermatitis incited by external irritants, with far better success than by my former methods following the routine treatment. The bath is followed by applications of soothing antiseptic emulsions containing calamine, glycerin, and lime water, and so forth.

Having concluded the clinical aspect of the subject, it remains for me to speak of the importance of the prophylactic and legal measures to be taken in order to counteract and eradicate the harmful disease-producing plant. Although the name wild ivy is familiar to almost every one, the plant is so little recognized, as a rule, that contagion takes place when it might be easily avoided if the plant was better known. In this connection also I wish to mention the necessity of knowing and recognizing all poisonous plants indigenous to our soil, such as the datura stramonium, hyoscyamus, digitalis, lobelia, solanum nigrum, conium, aconite, hellebore, ricinus, clematis, colchicum, the buttercup, water hemlock, daffodil, narcissus, and varieties of fungi.

This important knowledge should be imparted in our schools, and I well remember seeing during my stay in Germany charts in the schoolroom, illustrating in color the various poisonous plants of that section of the country, in order to familiarize the children with their characteristic appearances. Furthermore, the teachers would accompany their classes into the woods and meadows, calling their attention to the species and properties of plants by intuitive instruction.

The number of deaths which occur every year from incautious eating of poisonous plants, as described in a report of the agricultural department, is very large. The victims are usually children, who pluck and eat all sorts of attractive-looking berries and other parts of plants. A special commission was appointed about three years ago by the bureau of agriculture to investigate poisonous plants and enlighten the public as to their danger.

According to a government report on health, 1884, a peculiar disease in children, characterized by extreme weakness, vomiting, fall in bodily temperature,

[1] American Journal of the Medical Sciences, vol. xvii.
[2] Medical News, 1891.

dry tongue, and constipation, is said to be prevalent in some Western States, which is supposed to be produced by cows affected with the "trembles" caused by feeding on wild ivy.

In my efforts of investigating this subject as to its legal aspect I was very kindly assisted by Dr. U. O. B. Wingate, secretary of the Wisconsin State board of health, and I take this occasion to thank him for the interest he has shown. There exists at present in this State a law amended at the last session of the legislature, known as chapter 82, 1897, pertaining to noxious weeds, not, however, naming the Rhus plant in particular. Dr. Wingate, in order to ascertain whether such law would include the plant in question, kindly furnished me with the opinion of the attorney-general as to the law on this point, viz.:

"Relative to the destruction of noxious weeds, it is my judgment that any person has the right to destroy the weeds designated as noxious, when found in public parks and other public places.

"The law provides that the persons in control of lands shall be given notice of the presence thereon of noxious weeds, and they must be destroyed within a certain specified time thereafter, or the persons so notified shall be subject to penalty.

"Notwithstanding this provision, it seems to me that the poisonous weeds which may be found and whose presence may be a menace to public health, as indicated by your letter, may be destroyed by any person, for the reason that they would be deemed by law to be public nuisances, and as such subject to immediate abatement by any person knowing their character. The reason for the destruction of these by persons having knowledge of their character is to prevent the destruction of vegetation which is not noxious in its character, and those who destroy noxious weeds must be careful and not injure surrounding vegetation, for by so doing they would render themselves liable.

"It certainly is within the province of a board of health forthwith to destroy, or order destroyed, such weeds as may be dangerous to the public health, and this right it has in its general right to take such measures and use such precautions as may be necessary to protect the health of the people."

The information above given makes any commentary unnecessary and clearly places all right of jurisdiction in the hands of the authorities on health. Active measures taken in this respect and a publication of such facts cannot fail to be of invaluable service to the many thousand persons who are brought into almost daily contact with the plants, and cannot be too highly recommended and demanded.

2300 Grand Avenue.

Longevity of Germs in Dust.—In a recent number of the *Annales de Micrographie*, Dr. Miguel gives the results of some interesting observations made by him in respect to the vitality of disease germs. In May, 1881, he took some earth from the Montsouris Park, at a depth of ten inches below the turf. This he dried for two days at a temperature of 30° C., and then he placed the dust in hermetically sealed tubes which he put aside in a dark corner of the laboratory. When taken, the soil contained an average of six and one-half million bacteria per gram. After desiccation the number had fallen to rather less than four million. Sixteen years later—that is to say, last year—he still found three and one-half million per gram, and he was enabled to isolate the specific microbe of tetanus. The inoculation of this soil in guinea-pigs determined death from tetanus after an incubation period of two days, showing the remarkable vitality of pathogenic microbes under favorable conditions.—*Medical Press.*

ON THE VALUE AND LIMITATIONS OF THE ELECTROLYTIC METHOD OF TREATMENT, WITH SPECIAL REFERENCE TO SUBCUTANEOUS NÆVI AND URETHRAL STRICTURE.

By A. D. ROCKWELL, M.D.,
NEW YORK.

The electrolytic method of treatment gave promise in its early surgical history of a rather brilliant career. It was claimed that many surgical diseases which the knife failed permanently to relieve would yield radically to this new and fascinating process. The pains of scirrhus cancer are sometimes greatly ameliorated by proper methods, and not infrequently absorptive processes are excited that result in an appreciable diminution in the size of tumors, both malignant and benign.

When electricity came into prominence twenty and more years ago, it is a matter of record that the writer experimented largely in the treatment of malignant growths of almost every description, and, while it was demonstrated that most gratifying alleviation of symptoms often followed, it was as clearly demonstrated that electrolysis was incapable of favorably influencing to any extent the prognosis of the graver forms of malignant growths. More recently it has been asserted that sudden voltaic alternatives, flashed with inconceivable rapidity through a cancerous growth, under a pressure as high as six hundred milliamperes, would extinguish the low vitality of the cancer cells. Repeated efforts have, however, failed to show that more has been accomplished by this method than by the older one.

But while the limitations of electrolysis are distinct and positive, it has yet a field of its own, which, by intelligent cultivation, yields results both valuable and unique. More specifically, the electrolytic treatment of uterine fibroids is generally followed by a certain amount of reduction. Unlike an external fibroid tumor, an internal tumor is treated, not because it is unsightly but because of its associated and sometimes distressing symptoms. The most electrolysis can do for fibroid growths is to reduce them somewhat in size, and there is therefore but little occasion for such interference when the growth is external.

A fibroid tumor of the uterus, however, even though it be small, often gives rise to a great variety of distressing and disturbing symptoms. It is quite remarkable how many of these symptoms—pain in micturition due to pressure, rectal difficulty also due to pressure, dysmenorrhœa, menorrhagia, and even impaired locomotion—disappear even after a very slight reduction. If, therefore, for any reason a radical operation is impracticable or is not permitted, we have in electrolysis a method of considerable value. Still the results are too often only palliative, and it is more than doubtful whether either electrolysis, or what is termed galvanochemical cauterization, ever entirely dissipates a uterine fibroid.

The one surgical condition, and perhaps the only one aside from certain facial blemishes, moles, superfluous hairs, etc., in which electrolytic treatment approaches the dignity of a specific, is the familiar nævus maternus—the erectile or vascular tumor of infancy. Reference is not here made to the superficial or cutaneous forms of nævi. These wine-mark stains, consisting of widespread dilatation of cutaneous vessels and attended by little swelling, have indeed been often treated by the electrolytic method, and in many cases with decided benefit. The measure of benefit is, however, varying, and, if the stain is large, is obtained only after long and tedious treatment, and with considerable resultant scar. The form of nævus to which allusion is here made is of

the subcutaneous variety, to which has been given the name of aneurism by anastomosis. These subcutaneous nævi, filled with blood and intensely hemorrhagic, are generally much dreaded in operative surgery, and are therefore often allowed to remain and develop, notwithstanding the fact that we have at our command a procedure comparatively simple and entirely bloodless, sure in its results, and leaving no disfiguring scar. The importance of this, when the patient is a girl and the site of the tumor the face, is apparent.

The writer has during the past twenty years treated quite a large number of these erectile tumors by the electrolytic method, and with almost uniformly satisfactory results.

The object is to induce firm coagulation, which, when left to nature, is gradually absorbed. A point of some interest relates to the time consumed in this absorptive process. As a rule, the tumor rapidly decreases in size during the first few weeks, but subsequently absorption takes place more slowly, and in some cases it is many months before the enlargement entirely disappears. In other cases the results are far more rapid. To illustrate this simple electrolytic method as well as the extreme rapidity with which in favorable instances the coagulated mass disappears, I offer the following recent case:

Case I.—Mary G——, aged eleven years, was brought to me by her parents, October 6, 1896. She had two bloody tumors, one located on the left cheek just above the angle of the lower jaw and the other on the upper lip. The one upon the jaw was quite large, measuring in diameter at its base some three centimetres and in depth about two centimetres. Speaking by comparison, its size was about that of an English walnut. The second tumor was much smaller, but involved the interior of the nostril as well as the external tissues. Both tumors were soft and readily compressible, and were unmistakably increasing in size. The patient having been anæsthetized, three platinum needles, insulated to within about one-third of an inch of their points and connected by means of a serres-fines conductor with the positive pole, were thrust at equidistances from each other into the body of the tumor.

The negative electrode, three inches in diameter, consisting of moist sculptor's clay, was applied to the upper part of the arm near the shoulder. The current was then gradually increased until the milliameter registered sixty. In a few moments the surface redness assumed a dull color, and as the blood coagulated the tumor hardened and increased slightly in size. At the end of ten minutes firm coagulation had taken place, and the needles were withdrawn without loss of blood. The same process was then applied to the other and smaller nævus, one needle only being introduced, and with a similar prompt and efficient result. No inflammation and no pain followed, and on January 2, 1897, less than three months after the operation, when the patient was seen for the last time, hardly a trace of either tumor remained. This seems a very simple and easy process, and so it is; but, like all operations that are simple and easy when one knows how, it demands a certain amount of knowledge, care, and judgment. Two principal causes of non-success consist in doing either too little or too much. If the current is of insufficient strength, or its action not sufficiently prolonged, complete coagulation fails to take place; the circulation may become reestablished and the work has to be done over again. The results of an overdose or a too prolonged action may be disagreeable in the extreme. Irritation and suppuration may occur, with possible degeneration into an ulcerative process, and while the ultimate result may be a cure an unsightly and unnecessary scar remains.

It should be distinctly understood that the operation ought not to be attempted on a child whose health and strength are for any reason very much impaired. My earliest experience in the treatment of this condition was among hospital and dispensary cases, and in two of these cases the operations, although conducted with great care, resulted in considerable ulceration, which gave not a little trouble and left behind considerable scars. In cases of impaired or perverted nutrition, improve the condition of the child by tonics, proper feeding, air, and exercise before resorting to electrolysis.

The differential chemic and cataphoric action of the anode and cathode has been so often pointed out and ought to be so thoroughly understood that it seems at first thought hardly necessary to reiterate. But he who does much in this line not infrequently encounters the evil results due to ignorance of polar action. A young lady came to me recently with her chin quite thickly dotted with minute dark blue spots, of which she did not know the meaning, only that they appeared after several electrolytic treatments for the removal of superfluous hairs. The operator had connected his needle with the positive pole in utter and unjustifiable ignorance that oxygen accumulated at this pole, and that the staining of the tissues was due to the oxidation of the steel, of which the needle was made. Again, while I have little confidence in the use of electricity for the cure of urethral stricture, yet so many are led to use it because of the enthusiastic reports as to its efficacy that a correct appreciation of the differential action of the poles is absolutely necessary in order that the patient may be preserved from harm, even if no good is accomplished. I am cognizant of several cases in which the positive pole has been used instead of the negative for urethral stricture, resulting in prolonged and painful irritation. The galvanic or direct current, as it is variously called, is a current of chemic action. At the positive pole or anode where it comes in contact with living tissue are deposited or evolved acids with oxygen and chlorine, while at the negative pole or cathode alkalies and hydrogen are set free. At the anode, therefore, are developed phenomena very different from those occurring at the cathode. At the former we get coagulation and a shrinking of tissue that continues for some time after the cessation of all electrolytic action, while at the latter there is a tendency to liquefaction and softening with acceleration of absorption. In both cataphoresis and interstitial electrolysis we necessarily develop the peculiar chemic and physical action of the anode, which in the one case simply causes medicated solutions to penetrate the skin so as to produce absorption and local anæsthesia, while in the other it first oxidizes the metal selected, whether zinc or copper, and then forces the resultant particles into the surrounding tissue.

In the treatment of most facial blemishes—moles, warts, hairs, etc.—the negative pole is alone admissible. In the treatment, however, of erectile tumors and in all hemorrhagic conditions the positive pole is to be used, because of its power to induce firm and complete coagulation.

If any one is credulous enough to believe that he can accomplish much by the electrolysis of urethral stricture, he must use the negative pole with a current strength not exceeding five or six milliamperes and a short *seance*, the shorter the better, so that no harm may come to the patient at his hands. Small cystic tumors have been successfully treated electrolytically through the caustic action of the negative pole upon the secreting membrane. It is probable, however, that the positive pole would prove equally efficacious, were the operation rendered harmless by the use of a non-oxidizable electrode.

Without in any way reflecting upon the honesty of those who believe that electricity when properly applied is equal to the cure of urethral stricture, I desire most emphatically to express a contrary opinion. I do not deny that benefit may sometimes follow such treatment, but it follows because of a gradual dilatation through the exercise of force, and sometimes I doubt not a spasmodic stricture has been mistaken for a cicatricial contraction. My disbelief in the curability of urethral stricture by electrolysis is based, first, upon the fact that it is irrational and contrary to such laws of electro-physics as are applicable in this condition; and, secondly, upon the results of a considerable personal experience. It would not, I admit, be so irrational were we able to concentrate upon the stricture itself without damage to the normal tissue a sufficiently strong current. This, however, we cannot do, and therefore three to five milliamperes, a strength of current which if used judiciously may do no harm, is now advised as the limit.

In reading the reports of the hundreds of cases of urethral stricture that just seem to melt away upon the application of three or four milliamperes of electricity, I am reminded of some of the extravagant reports in regard to the quick and complete disappearance of uterine fibroids under electrolytic action. Now, every one knows that a fibroid tumor situated on the outside of the body cannot be dissipated by electrolysis. It may decrease a little in size, and that is all; unless the treatment is so violent as to excite an active suppurative process, when the decrease is somewhat greater through an actual loss of substance. Why should an internal fibroid act so radically different under the treatment? As a matter of fact it usually does not, and the main reason why electrolysis is a method of some value in uterine fibroids, as before stated, is because of the great relief that often follows a very slight reduction in size. The tumor is still there, but the patient becomes symptomatically much improved. Similarly, a cicatricial contraction or a scar on the surface of the body is not influenced in an appreciable degree by any such insignificant current strength as three to five milliamperes, and so it is one of the mysteries why the definite chemic action of electrolysis should be so different when substantially the same condition is transferred to the dark and hidden recesses of the urethra.

Is a Violent Death Painful?—Severe injuries to the body are seldom very painful at first. The severity of the nervous shock seems to paralyze the nerve centre where consciousness of pain is situated, and in fatal cases there is often no sense of pain, even when death is delayed a day or two. In such cases it may be supposed that the shock not only paralyzes but even destroys the nerve centre. It may be compared to a lightning flash along the telegraph wires, which, although of the same nature as the electric telegraph current, yet is so intense as to destroy the receiving instruments, so that no subsequent messages can be received. In some fatal injuries the nerve that would carry the pain to the brain is destroyed, and such accidents are almost painless. Our sense of pain is greatest in the skin, and deep wounds are therefore not more painful than shallow ones. In surgical operations the skin incision is often the most painful part, and those who have been run through the body say they were conscious only of something cold passing through them, with just a prick at the points of entry and exit of the weapon. On the other hand, some fatal injuries are very painful, especially those that interfere with breathing, such as injuries to the chest and throat.—*New York Advertiser.*

Progress of Medical Science.

Tuberculosis of the Uterine Adnexa. — A. Hegar discusses the diagnosis and treatment of female genital tuberculosis ("Tuberculosis of the Fallopian Tubes and of the Pelvic Peritoneum," *Deutsche medicinische Wochenschrift*, 1897, No. 45). He distinguishes both an ascending and a descending form of tubal and pelvic peritoneal tuberculosis. In the former the bacilli are derived and introduced from the fæces of those suffering from intestinal tuberculosis, from the fingers and instruments of the doctor or midwife, or from the seminal fluid of men having tuberculous orchitis (though this last method of introduction of bacilli is very improbable). In the descending form the bacilli come from the intestines or from degenerated mesenteric glands, and thus the peritoneum is invaded: and perhaps from the now diseased peritoneum the bacilli gain access to the ostium tubæ through its fimbriated extremity. The gross changes in form and position of the tube are similar in its different inflammatory conditions. The diagnostic points for tuberculosis of the tube are nodular swelling of the isthmus tubæ and perhaps also a similar condition of the interstitial portion of the tube. If in rectal or vaginal examination one feels small nodules of the size of a pea or a bean, or even larger, on the posterior uterine surface, in Douglas' pouch, on the posterior leaf of the ligamentum latum, on the posterior portion of the lateral pelvic wall, along the sacro-iliac joint, in the paravaginal tissue, then the diagnosis of pelvic-peritoneal tuberculosis may be made; yet the physician must think of the possibility of sarcomatous and carcinomatous metastases, metastases of tubal cystomata, small fibroids, and isolated inflammatory thickenings of the serosa. In only one case could Hegar establish the diagnosis of tubal tuberculosis by microscopical examination of uterine scrapings. Of importance, as pointing to a tuberculous infection of the uterine adnexa and peritoneum, are tuberculous disease in other organs or residua of the same, and also the general nutritive disturbances similar to those observed in tuberculosis of other portions of the body. Hegar describes the effect of the local tuberculous disease upon the development and function of the neighboring organ. In three cases he found a very small and infantile uterus; two of these patients had never menstruated, though past the age of puberty. Without doubt, cases of tubal and peritoneal tuberculosis undergo a spontaneous cure fairly often, though the writer does not deny the value of laparotomy in some of these cases. He condemns laparotomy in the old and indolent forms of the disease. He advises this operation in those in whom there have been for quite a long time inflammatory processes, and in whom appropriate treatment has not bettered these inflammatory conditions. Hegar believes that an abdominal operation is always indicated, as opposed to a vaginal operation, for only by the former can the operator see the full extent of the disease and remove the tumors without tearing and crushing them or squeezing out their contents.

The Mammoth Cave of Kentucky.—The air within the cave has a uniform temperature, summer and winter, of 54° F. The cave may be said to breathe twice a year—inhaling during the winter and exhaling during the summer. This breathing of the cave, and the purity of the air and its freedom from germs, are among the most interesting problems to be studied. By what process the air in the cave becomes sterilized remains to be determined.—John R. Procter, *The Century Magazine*, March, 1898.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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CARE OF THE WOUNDED IN NAVAL WARFARE.

ONE of the most difficult problems to be faced, in the event of the war, which, unless some unlooked-for change in the present state of affairs takes place, appears to be inevitable, will be the care and treatment of the wounded in and after naval battles. That the decisive fighting will occur at sea is, in the opinion of most competent military experts, a foregone conclusion, and therefore every possible effort should be put forth to provide adequate accommodation and proper treatment for those who may be wounded. The fact that a battle-ship of the modern type is, even in times of peace, sadly lacking in the necessary facilities for caring for the sick, is too well known to dwell upon, and it follows as a matter of course that these conditions will, when war is in progress, be sharply accentuated. In truth, the outlook as regards this phase of the situation is by no means pleasant to contemplate. Little is known of the effects of modern naval warfare on a large scale, but from the slight experience gained in the Chino-Japanese war it is certain that new methods of treating wounded men in action must be initiated, as well as of caring for them subsequently. In the days of wooden ships, those requiring surgical treatment were brought to the surgeon; in the modern man-of-war, divided into numerous compartments by steel decks and water-tight doors, such methods are impossible and other means of succoring those in need of assistance must be devised by the surgeons. Again, the position of the surgeon will be one of much greater personal danger than was formerly the case; he will not be able to fix upon a particular spot where he can perform his necessary duties, but must be wholly guided by circumstances and must choose a sheltered place in the ship anywhere most convenient. His equipment and the means of transporting the wounded must be of the simplest.

But the question of how most efficiently to care for the wounded after the engagement is perhaps more important than during the action itself. It will be impossible to give them the need, care, and treatment on the ship itself, and in many instances the distance from land will be too great for the services of a hospital to be available. It would appear therefore that an ambulance ship should satisfactorily supply this want. The suggestion that an ambulance ship should accompany every fleet on active service was first made by Dr. J. Rufus Tryon, formerly Surgeon-General of the Navy.

Dr. Van Reypen, the present Surgeon-General, read a paper strongly urging its adoption at the Moscow international medical congress, in which he submitted plans of such a ship. These are as follows: "The vessel as designed will be three thousand five hundred and fifty tons displacement; two hundred and seventy-five feet on the load line and three hundred feet over all; with twin screws and a speed of fourteen knots; fifty feet beam, and drawing eighteen feet: a coal capacity of four hundred and fifty tons, giving eighteen days' steaming at ten knots. The water tanks will hold nine thousand gallons. The ship will carry four steam launches and four barges, each barge arranged with a flying floor between the thwarts so as conveniently to carry twelve cots on the floor. There will be beds for two hundred and seventy-four and hammock space for eighty-six, state-rooms for eight disabled officers and cot space for twelve. The forward ward on the upper deck has been left with only one tier of berths for a ward of isolation or to accommodate more serious cases. The vessel can comfortably accommodate three hundred and thirty sick or wounded men, with sufficient berthing space for the crew of the vessel. There are quarters for four medical men, two apothecaries, and twelve nurses. . . . Near the centre of the ship on the berth deck is the operating-room, eighteen by twenty-one feet. It is well lighted by a large skylight and by air ports above the deck. . . . As soon as the action is over a launch should tow its barge alongside a vessel that has been in action, the wounded should be hoisted out and into the barge and should then steam away with all dispatch to the ambulance ship, unload its human freight, and speed away again on its mission of humanity."

The naval authorities have, it is announced, decided to act on this suggestion, and have purchased the Cromwell liner *Creole*, which is being as quickly as possible converted into a floating hospital in the Newport News shipyard. This vessel is intended to accompany the North Atlantic squadron now off Key West, and her speed will enable her to keep up with the fleet.

MR. GLADSTONE'S HEALTH.

MANY rumors have been current of late regarding the state of Mr. Gladstone's health. Some of the New York journals have gone so far as to assert positively that the aged statesman was suffering from a malignant growth somewhere at the back of the nose; the exact position and extent of the disease was not, however, stated. Unfortunately, although these assertions are not borne out by the reports published in the English medical or lay journals, it must still be confessed that they seem to bear the impress of truth. The *Lancet* in its issue of March 26th, while not committing itself to any positive statement in regard to

the disease to which Mr. Gladstone has fallen the victim, nevertheless remarks that it is in all probability something more serious than facial neuralgia. This reticence on the part of the English papers is without doubt due to respect for the feelings of Mr. Gladstone and family.

An influential English weekly contains some remarks on the subject from the pen of one of the best known and most talented British men of letters, in which the grave nature of the malady is hinted at. These eloquent words will appeal to the sympathies of the American public, and are as follows: "At a period of general sickness when the names of celebrated invalids dot the columns of the daily press, one figure stands out in bold relief as the object of universal sympathy. It has come as a shock to all classes of the community to learn that for a long time past the venerable liberal leader has been suffering continuous physical torture. The pains which were at first attributed to neuralgia are now known to have a more serious origin and to require a surgical operation before any relief can be hoped for. The great age of Mr. Gladstone—he is well on the way to ninety—must render any operation hazardous, and the situation is therefore one which cannot fail to arouse the deepest sympathy with the illustrious invalid. 'In the evening of his days,' suggests the calm sunset and the peace and rest of the twilight hour, a gentle folding of the hands, and the serene smile of one who has weathered the storms of life and come to his last moorings in the calm waters of the sweet haven of home. That when the keen eyes have grown dim, the glorious voice faint and low, and the sturdy limbs feeble, the aged frame should be racked with agony, seems a cruel satire on the theory of rewards. Mr. Gladstone himself has desired—and we can all understand his feelings in the matter—that the nature of his sufferings should not be made the theme of public discussion and newspaper comment. That is the old heroic instinct which is never lacking in the born leader of men, whether they have led in the fields of war or peace. To all emotional men sympathy is welcome, but the emotional great man never wants to be pitied. There are thousands of brave men and women who even shrink from the 'pity' of their own family circle. For this reason they frequently urge the physician, to whom everything is known, to misrepresent their malady, to make it one which will insure them loving sympathy and tender solicitude, but which will not make them objects of 'pity.'"

Compassion in his case, heroically facing as he does the inevitable, is not sought by him. It is at best nothing but the delusive anodyne for a sick spirit.

MEDICAL MEASURES OF THE RECENT NEW YORK LEGISLATURE.

Public medicine had its full quota of bills before the last legislature. Out of one hundred and fifty or more, about twenty passed both houses and reached the governor. No general laws of any importance were passed, and most of those bills now in the governor's hands are of a purely local character. The few that are general do not effect any great radical change in the existing medical laws of the State. There were, however, a number of bills of considerable interest and significance which failed to pass, many of which will come up again next year in the same or in modified form.

The dispensary bill, which was vetoed last year by the governor, passed the senate by a vote of forty to two, but was pigeonholed in the assembly committee on public health in spite of the strong attempt made to get it out. The defeat of the bill was not due to any lack of hard work on the part of its adherents, but rather to powerful and well-organized opposition. There was little doubt of its passage in the assembly had it been reported by the committee. The first attempt in this State to regulate medical expert testimony was represented by a bill, fathered by the State Homœopathic Medical Society; but it was not heard of after reaching the committee. The first attempt to legalize osteopathy in New York State was likewise buried by the committee. The medical press was up and against it, as it is against all such chicanery, almost before it saw light. The Montgomery County midwifery bill, noticed in a recent issue of the Medical Record, passed both houses and is now in the hands of the governor. There were several hearings and the opponents of the measure took the stand that local laws of this character were objectionable and that next year a general law would be introduced controlling the practice of midwifery throughout the State. The lively discussion indicated that the introduction of such a bill would, without doubt, precipitate a fight, notwithstanding the need of a general law controlling the practice of midwifery. The several bills placing barber shops under control died in committee. The "short-hour drug-clerk bill" applying to Greater New York, after numerous hearings and considerable opposition, passed both houses. The bill providing for the inspection of cold-storage warehouses by boards of health in cities of the first class was reported out of the assembly committee, but failed to obtain a place on the calendar, and the bill forbidding the sale of goods in second-hand packages did not get out of committee. The Greater New York health-board bill introduced by Dr. Brush in the senate and Mr. Laimbeer in the assembly was held in committee in both houses. On the senate side several hearings were given, and the original bill was amended, but it was not reported. The resolution in the senate concerning the State colony for consumptives died in the committee on finance. The resolution provided for the appropriation of $1,000 for the preliminary work in establishing this charity. Craig Colony received $158,000, Dannemora State Hospital for Insane Convicts $77,252.

It is not difficult to see that no great progress has been made in any one line of reform or improvement which is general in application.

Individual Communion Cups.—Asserting that the common use of one cup in communion services is a menace to health, the Indiana State board of health has recently recommended the use of individual cups.

PURE WATER FOR TROOPS ON ACTIVE SERVICE.

Now that there seems to be a likelihood of our soldiers engaging in warfare, and in a country too notoriously unhealthy for unacclimatized white men, every regard to the sanitary arrangements of the army should be carefully looked into, and especially so far as a pure water supply is concerned. The prevalence of fever, and the amount of field service performed by the troops, has several times been pointed out as a well-marked coincidence. The reason of this is not far to seek, but must in the large majority of cases be put down to the impurity of the water which the men on active service are compelled to drink. Attention was drawn to this matter in the MEDICAL RECORD of a recent date. This danger of contracting fever from this cause might be greatly lessened by providing portable water filters for troops operating in the field. At such times the men are dependent upon surface-water supplies, and it may be said that surface-water supplies are always dangerous. Dr. Smart, in a communication to the office of the war department in July last, discussed this subject and in the course of his remarks said: "I desire to point out that in the early days of the settlement of our Western country fevers were common, both in military commands and in civilian communities. These fevers were of an adynamic type. By some observers they were regarded as malarial remittents, by others as specific typhoid fevers, while others again, among whom was myself, considered that although the majority of the cases were of malarial origin, occasional cases were due to the specific cause of enteric fever, either developed *de novo* or propagated from some previous cause. Notwithstanding differences of opinion as to the nature of the fevers, there was a general belief that the water supply was concerned in their causation. This belief became strengthened as continued observation showed that these fevers diminished in prevalence both at military stations and in civilian settlements as purer water supplies were obtained. The advisability of providing pure water for troops in the field may be considered evident. The possibility of making this provision seems to have been hitherto an untried experiment, at least in this country." It is impossible to gainsay the truth of these words, and at this juncture they should have special weight, for in the case of hostilities being carried into Cuba, it is more than probable that those engaged in fighting would have as much to fear from disease as from Spanish bullets. Therefore it will be judicious to take every possible precaution.

Chicago Women in the War.—The Medical Women's Club of Chicago, at a recent meeting, appointed a committee to raise a corps of women physicians and nurses in case of a war with Spain. It is thought that from twenty to thirty physicians and five hundred or more nurses will be ready to tender their services to the government whenever they may be needed.

News of the Week.

Dispensary Abuse in Boston.—The Boston Medical Society has addressed an open letter, dealing with the vexed question of medical charity abuse, to "the trustees, the superintendents, the staffs, and the medical officers of the hospitals and dispensaries of Boston." In this letter the writers say that they have no complaint to make concerning the ethics of the persons addressed in their private consultations with general practitioners, but "as private practitioners," they continue, "we have had, with no slight feelings of regret, occasion to experience what seems to us an entirely different condition of things, as manifested in the methods which are employed by some of the medical men who are connected with the medical and surgical out-patient departments, in the several large dispensaries, in their relations to us as professional brethren, and in their relations to certain dispensary patients, especially to those patients who were ours perhaps a day, or an hour, or a year, previously, and who would otherwise be ours continuously, when occasions require, if only the same principles of medical ethics were carried out by these gentlemen in public practice as they would undoubtedly carry out in their relations to us in private practice. . . . As to medical consultations in general, aside from the special welfare of the patients, two things are always of particular importance, as between the practitioner and the consultant, namely: first, that the former shall remain in full charge of the patient, and second, that he shall have his standing with his patient enhanced and fortified. Therefore, that this is not done in our large dispensaries, is precisely what we allege against certain medical men and medical officials, who practically have charge of the conduct of all the principal dispensaries in Boston. . . . Ethically, as well as justly, it certainly cannot be held by any physicians, nor should the public be led to believe by any words or acts on the part of medical officials or dispensary practitioners, that private practitioners in general, who are instructed by these same professors, who are graduated from the same colleges, who possess the works of the same authorities, who employ the same therapeutics, who proceed upon the same theories, who have as good a practical experience, who realize as great a sense of responsibility, and who evidently are inspired by as high an ethical sense, are less competent professionally or less successful with given cases than many of those physicians and surgeons who are officially connected with the dispensaries and with the out-patient departments of the hospitals." Evidently, Boston is very much like the rest of the world, at least as far as real wickedness goes.

German Medical Professors in Constantinople.—The Turkish government having asked for a professor of medicine from Germany, the Emperor has granted the necessary authorization to Dr. Rieder of the University of Bonn. The newly-appointed professor is to receive 30,000 francs ($6,000) a year. He will also have an assistant, who is likewise a German. The

latter is to have a salary of 15,000 francs ($3,000) a year. Dr. Rieder is charged with the reorganization of the medical school. Besides their services at the school these gentlemen will also inspect the military hospitals of the city.—*The Lancet.*

Action of the Saginaw County (Mich.) Medical Society in a Case of Plagiarism.—At a regular meeting of the Saginaw County Medical Society, March 28, 1898, the committee appointed to investigate the charges preferred against W. S. Connery, M.D., reported as follows:

"*S. C. J. Ostrom, M.D., President, Saginaw County Medical Society.*

"SIR: The committee appointed by you in accordance with a resolution of the above-named society, adopted on March 11, 1898, the duties of such committee being to investigate and report on charges preferred against W. S. Connery, M.D., a member of said society, beg leave to report that after notifying the said W. S. Connery, M.D., of their appointment, time, and place of meeting, and requesting him to appear before your committee and make answer to said charges, he has failed to answer either by presence or by letter.

"After reading the article published in the New York MEDICAL RECORD, of date January 8, 1898, also the apology for publishing the same made by the editor of the MEDICAL RECORD in its issue of February 26, 1898, to Sir William Broadbent, the author of said article on 'Angina Pectoris,' published in the MEDICAL RECORD of January 8, 1898, by the said W. S. Connery, M.D., as his own original work, and said by him to have been read before the Saginaw County Medical Society by the said W. S. Connery, M.D., we can come to no other conclusion than this, viz.: That the said W. S. Connery, M.D., is guilty of plagiarism in publishing as his own production the said article on 'Angina Pectoris'; also guilty of misrepresentation in saying that this paper was read before the Saginaw County Medical Society when it had not been so read before the society; also in claiming that he was at that time president of the Saginaw County Medical Society, which he was not at the time the said article on 'Angina Pectoris' was published in the MEDICAL RECORD, viz., on January 8, 1898. He was thereby guilty of falsehood and misrepresentation, and conduct unprofessional and ungentlemanly and prejudicial to the best interest and reputation of the Saginaw County Medical Society, of which he is now a member; also his nonappearance before your committee would seem to be a confession of the truth of the charges preferred against him, and we, your committee, believe him guilty as charged.

[Signed] "SAMUEL KITCHEN, M.D., EUGENE W. DAVIS, M.D., T. M. WILLIAMSON, M.D., *Committee.*

"SAGINAW, MICH., March 24, 1898."

Upon motion the above report was received and adopted and the committee discharged. It was moved by Eugene W. Davis, M.D., and seconded by J. W. McMeekin, M.D., that W. S. Connery, M.D., be and is hereby expelled from membership in the Saginaw County Medical Society for unprofessional conduct, and that a copy of the above report and the action of the society thereon be furnished the New York MEDICAL RECORD, the *Medical Age* of Detroit, Mich., and the *Physician and Surgeon* of Ann Arbor, Mich., for publication. The motion was carried by a unanimous vote.

MORRIS C. L. KITCHEN, M.D., *Secretary, Saginaw County Medical Society.*

S. C. J. OSTROM, M.D., *President, Saginaw County Medical Society.*

Obituary Notes.—DR. JOSEPH F. COLGAN died on April 8th, at his home in Brooklyn. He was born in Brooklyn thirty-three years ago and was graduated from the Long Island College in 1890. He was the last of six generations of physicians. For several years past he had been a medical examiner for the Pension Bureau.—DR. JOHN D. VAN SAUN died suddenly in Jersey City, on April 9th. He was born in Jersey City thirty-eight years ago, and was graduated from the Bellevue Hospital Medical College in 1873. He retired from practice two years ago because of failing health.

Dissensions in the Faculty of the University Medical College.—For some time rumors have been current concerning a split in the medical faculty of the New York University, and within a few days the trouble has followed the course of most family quarrels and is being aired in the daily papers. The difficulty is understood to have arisen over the transfer by the Medical School to the university council of the college buildings on East Twenty-sixth Street, the agreement entered into at the time being said not to have been carried out by the council. There is said to be good ground for the assertion that several members of the faculty will refuse to serve at the close of the present session, and that plans are being formed for a new medical school in this city, to be conducted under the auspices of Cornell University. The New York University Medical College was organized in 1837, and opened in 1841, in the old Stuyvesant Institute, at Broadway and Bond street, afterward moving to East Fourteenth street, where its buildings were burned. It then moved to Broadway and Duane, and in 1869 settled in East Twenty-sixth Street, where it now is.

A Wholesale Experiment in Yellow-Fever Prevention.—It has been reported that the army medical authorities, have prepared a large supply of yellow-fever antitoxin, and that all the unacclimated troops sent to Havana and other parts of Cuba, in case of war with Spain, will be inoculated by way of prophylaxis, and also that a thorough test of the curative properties of the serum will be made in all cases originating in the island.

The Late Amos R. Eno left by will the sum of $5,000 to each of the following institutions in this city: Colored Orphan Asylum, Demilt Dispensary, Protestant Half-Orphan Asylum, Association for the Relief of Respectable Aged and Indigent Females, Home for Old Men and Aged Couples, New York Cancer Hospital, Society for the Relief of Ruptured and Crippled, New York Training-School for Nurses, and the Institution for the Blind.

Reviews and Notices.

Outlines of the Diseases of Women. By John Phillips, M.A., M.D. Cantab., F.R.C.P., Assistant Obstetric Physician to Kings College Hospital, etc. With 130 illustrations and two appendices. Second edition, revised. Pp. xvi. + 275. London: Charles Griffin & Co. 1897.

The present edition has been somewhat enlarged by the addition of a few paragraphs, especially the one on movable kidney. On account of the ground covered, the book is essentially a larger quiz-compend, which is rendered more valuable than most works of this class by reason of the list of references that follows each chapter.

The author keeps constantly in mind the needs of the student, so that many of the descriptions may seem elementary to the practitioner. In spite of their brevity the descriptions of operations are quite satisfactory. The sections on treatment are conservative, the writer believing that gynæcology is not absolutely synonymous with surgery. The diagrams explaining the extension of malignant disease of the uterus, displacements, etc., are especially helpful. In general it may be stated that the student will find the "outlines" a safe and valuable guide, especially in preparing for examination.

Diseases of Women. A Text-Book for Students and Practitioners. By J. C. Webster, B.A., M.D. Ed., F.R.C.P. Ed.; Demonstrator of Gynæcology, McGill University; Assistant Gynæcologist, Royal Victoria Hospital, Montreal, etc. Illustrated with 241 figures. Pp. xxii. + 688. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company. 1898.

This compact little manual presents several features of excellence. Prominence is given to anatomy, especially to the pelvic floor. Chapter VI., on "The Genital Tract in Relation to Micro-Organisms," is novel and interesting. Chapter IX., dealing with surgical technique, is condensed but quite exhaustive. The sections on pelvic inflammation and on hæmatocele are rather conventional and will meet with criticisms from modern pathologists. We are sorry to see the expression "chronic inflammation" used in reference to conditions which are rather the results of acute inflammation. We note with approval the chapters on uterine neoplasms, though it would seem as if undue prominence was given to the rare condition deciduoma malignum. Operations are described briefly but lucidly.

Twenty-five pages on the theory of menstruation are included in the appendix, and will be read with interest.

The book is most pleasing in its general appearance, the type, illustrations, and binding being entirely satisfactory. The author's clear and common-sense exposition of his subject marks him as an experienced clinical teacher.

A Laboratory Manual of Medical Chemistry. By Ira Carleton Chase, A.M., Professor of Chemistry and Toxicology in the Medical Department and Professor of Analytical Chemistry in the Scientific Department of Fort Worth University, Fort Worth, Texas. 1898.

The present small volume is, like many others of its class, a systematic arrangement of lecture notes upon medical chemistry. It deals with laboratory manipulation and the general theory of chemical action, the more important non-metallic elements, the general chemical properties of the principal metals used in medicine, water analysis, medicinal organic compounds, the chemistry of the fluids of digestion, of the blood, and of milk, urine analysis, and toxicology of the common irritant and neurotic poisons.

While the general plan of this compendium is excellent, it is, we believe, open to criticism, in that it attempts to do too much and is quite inconsistent in its method of treatment; thus the student who is competent to do good gravimetric and volumetric work, which is called for in the chapters on water analysis, would be one who had done all the earlier work in the book a year or so previously, in a regular chemical course. Again, it seems to be a mistake to sandwich organic chemistry with inorganic in miscellaneous confusion. The medical student should have run his course in inorganic chemistry and physics before entering a medical college, and when there should devote his chemical time to work along purely physiological lines. The book, while exact and well executed, and in certain respects commendable, is too much of a primer hodge-podge of the cookery-book order.

Report of Hôpital Saint-Jean, Bruxelles. Service Chirurgical du Dr. A. Gallet, Année 1896. Brussels, 1897.

If one were to seek the driest and most unprofitable type of medical reading, one would turn to the hospital reports and the reports of boards of health. In this country, at least, such publications are for the most part wearisome and useless pages of figures. In the case of hospital reports they consist of detailed and specific lists of so many dozen night shirts, turkeys, and cups and saucers donated by good Samaritans whose left hands otherwise would not know what their right hands had done.

It is refreshing to receive a report in which the statistics of such trifling value are reduced to a minimum, and in which the pages are devoted to careful and detailed scientific study of cases occurring in the service. The observations in this report cover a wide range of surgical activity—traumatic shock, brain surgery, pylorectomy with Murphy buttons, nephropexy, appendicitis, hysterectomy, cœliotomy, costa resection, pyæmia, surgery of the kidney, and various studies of malignant tumors. The studies are to be commended as a type of work which, if carried on by all large hospitals, as is being done by a few, would render their reports of value to physicians rather than to junk men.

Zur Thätigkeit der cellulären Körperelemente bei Infectionskrankheiten. Von Dr. Bruno Schurmayer. Berlin: O. Coblentz. 1897.

In a small brochure of thirty-one pages the author discusses in a pleasing and clear manner the various theories of immunity, and sketches rapidly the various steps in the development of the purely morphological ideas of Metschnikoff and his school and the chemical theories of the German schools. He shows clearly that too strict an adherence to either theory is liable to lead to false interpretations, and that, although the chemical point of view is the more important, one must bear in mind both the morphological and chemical accompaniments in the complex biological processes of disease and immunity.

Ricoerche sull' Anatomia Normale e Patologica delle Terminazioni Nervose nei Muscoli Striati. By L. T. Cipollone. Rome. 1897.

The investigation of the endings of the nerve fibres in the striated muscles has been a subject of careful investigation for a number of years. Recently the importance of these investigations has been more firmly established in the study of the muscular dystrophies and muscular atrophies. The present study is a noteworthy addition to our literature upon this branch. The author studies the normal nerve endings in the lizard, pigeon, frog, guinea-pig, rabbit, dog, and man. He discusses fully the various methods of technique and the changes due to trauma of various nerves. The paper is well illustrated, and is a careful and full treatment of the whole subject.

Grundriss der klinischen Bakteriologie. Für Aerzte und Studirende. Von Dr. Ernst Levy und Dr. Felix Klemperer, Professor und Privatdocent an der Universitat zu Strassburg. Zweite vermehrte und verbesserte Auflage. Berlin: A. Hirschwald. 1898.

Bacteriological manuals are of various kinds and occupy different fields in science. Works such as Flügge's "Mikro-Organismen" cover the entire field, but such have proven of service to the investigator and teacher rather than to the student. The present volume confines its attention more particularly to the clinical aspects of bacteriology, and is therefore particularly of value to the working doctor rather than to the laboratory bacteriologist.

While the methods of cultivation and the morphological characters of the various species of bacteria are discussed and the biological characters indicated, it is to the presence of the organisms in different diseases, the methods of detecting the same, and their manner of working in the tissues, with the symptomatic results, that the authors specially devote their attention.

The book is divided into four parts, dealing respectively with general bacteriology, inflammation and pus formation, specific bacterial diseases, infection with other forms of life, vegetable and animal, with an appendix on methods of ex-

amination of water, air, and ice, disinfection, etc. It is carefully written and is distinctly practical.

MANUAL OF GYNÆCOLOGY. By HENRY T. BYFORD, M.D., Professor of Gynæcology and Clinical Gynæcology in the College of Physicians and Surgeons of Chicago, Professor of Clinical Gynæcology in the Woman's Medical School of Northwestern University, Professor of Gynæcology in the Postgraduate School of Chicago. Second Edition, containing 341 illustrations, many of which are original. Pp. xxiii. + 596. Philadelphia: P. Blakiston, Son & Co. 1897.

WE have already had occasion to refer to the many excellent features of this work, and need hardly add that the present edition is a marked improvement over its predecessor. Many new pages have been added, and several chapters have been rewritten. We commend especially the chapters on gynæcological technique and anatomy, and the description of operations, the latter being terse, but vivid, and most helpful to the student. The system of marginal notes is another commendable feature of the new edition.

The sections devoted to malignant disease are properly illustrated and compare most favorably with the corresponding chapters in other text-books. The concluding pages on extra-uterine pregnancy bear the marks of careful revision.

In its present form this manual reflects great credit upon the excellent clinical teacher whose name appears upon the title page.

ENCYKLOPÄDIE DER THERAPIE. Herausgegeben von OSCAR LIEBREICH. Zweiter Band, 11, 2. Berlin: August Hirschwald. 1898.

THE continuation of this valuable encyclopædia maintains the high standard promised by the earlier numbers. The present Lieferung includes subjects of therapeutical interest from "Glucose" to "Hydronephrosis." The several topics are treated in a terse and brief manner, yet the facts are interpreted in accordance with the best and latest methods. When completed this encyclopædia will make an excellent work for rapid consultation.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 7, 1898.

EGBERT H. GRANDIN, M.D., VICE-PRESIDENT, IN THE CHAIR.

Final Report of Semi-Centennial Committee.—DR. EDWARD D. FISHER reported that the receipts for this celebration amounted to $3,329, and that there was a balance at present of $661.78.

Semi-Centennial Library Fund.—On motion of DR. W. M. POLK, five hundred dollars of this balance was set aside as a nucleus for a "semi-centennial library fund," and the rest was appropriated to defray the expense of publishing the addresses delivered at the semi-centennial celebration in the academy's volume of transactions.

Vote of Thanks to Ex-President Cleveland.—On motion of Dr. Polk, the secretary was instructed to transmit the thanks of the academy to Grover Cleveland, ex-President of the United States, for his kindness, not only in attending the semi-centennial exercises, but in presenting to the academy an autograph copy of his address.

Vote of Thanks for the Gift of the New York Hospital Library.—On motion of Dr. Polk, the academy sent a vote of thanks to the governors of the New York Hospital for the donation of their library to the Academy of Medicine. In doing so, he explained that many applications had been made to the governors for this library, and it had been suggested to make it a part of the new library of the city of New York, but that Dr. Billings had unhesitatingly expressed the opinion that the proper place for it was in the Academy of Medicine.

Uterine Fibroids.—This was the special theme selected by the section on obstetrics and gynæcology for discussion before the academy at this meeting.

Their Pathology.—DR. GEORGE C. FREEBORN discussed this part of the subject. He said that these tumors were composed of connective tissue and smooth muscle mingled in varying proportions. Clinically they might be classified as hard and soft fibroids. These tumors were usually of slow growth. Another division was into subserous, submucous, and interstitial fibroids. All fibroids, not pedunculated, were to be considered as subserous. During the growth of the tumor it might be pushed into the broad ligament, forming what was known as an intraligamentous fibroid. A submucous fibroid was a tumor which was separated almost entirely from the uterine wall, and which hung free in the cavity of the uterus. They were usually of rapid growth. The largest number of fibroids recorded as having been found in one uterus is fifty, and the largest fibroid, in point of size, was one reported by Dr. Hunter, which weighed one hundred and forty pounds. The common change taking place in the wall of a uterus in which a fibroid was growing was hyperplasia, and it was most marked in connection with interstitial and submucous fibroids. The fibroid tumor itself might undergo certain changes. Important among these was atrophy. They might also undergo calcification. It was most common in the submucous variety. Complete calcification resulted in a cessation of growth. Myxomatous degeneration occurred in both interstitial and submucous fibroids of large size. It was confined at first to one or more circumscribed areas, and resulted in the formation of cysts. Fibroids might also undergo suppuration. Carcinoma and sarcoma were found in uterine fibroids, and were generally spoken of as "malignant degeneration," which was a misnomer, for they were really new growths. In the adeno-myomata there were elements from which it was possible for a carcinoma to originate.

Fibroids Complicating Pregnancy.—DR. HENRY C. COE presented a communication on this subject which, in his absence, was read by Dr. Tucker. He stated that there was still considerable diversity of opinion regarding the significance of the occurrence of pregnancy in a fibro-myomatous uterus. It was true that conception was comparatively uncommon in such uteri, but it was well known that the subserous growths so commonly found in the negro race did not prevent conception. When there was a continued increase in the growth of the tumor, or hemorrhage, or urgent pressure symptoms, operative interference was indicated. A subserous growth at the fundus might cause retroflexion and incarceration of the growth. Among the internal changes which might take place in the neoplasm itself in consequence of obstructed circulation from pressure, were hemorrhage, cystic degeneration, and even necrosis. Small interstitial growths often remained quiescent. Interstitial or subserous growths situated in the true pelvis might give rise to disturbances entirely out of proportion to their size, and demanded operation. Sloughing of intrauterine polypi was always to be apprehended if pregnancy occurred. With large interstitial fibroids the placenta was apt to become prematurely detached, giving rise to early hemorrhage. An opinion having considerable support was, that although a fibroid might enlarge under the stimulus of pregnancy, it would undergo atrophy and disappear during the involution of the uterus after parturition. A certain amount of atrophy certainly might occur, but one would hardly recommend pregnancy as a cure for fibroids. In making the diagnosis it was often advisable to make an examination under general anæsthesia. In the treatment, the physician could not be guided by any fixed rules, but each case called for the exercise of the ripest judgment. A pedunculated fibroid would usually

bear careful watching, because of the liability to torsion of the pedicle. Pregnancy might often go on to full term with impacted tumors in the pelvis, but it was highly probable that the child would be born dead, and the mother would be exposed to great risks. Myomectomy by the upper route might be attempted under favorable conditions, with a fair prospect of success. In a doubtful case it might be better to perform cœliotomy at once, so as to determine the exact conditions of the growth. The abdominal was certainly preferable to the vaginal route. Submucous polypi might be removed in the ordinary manner when accessible, while subperitoneal growths might be disregarded unless they were pedunculated, or the pedicle underwent torsion. When the tumor became impacted, if its liberation under anæsthesia was impossible, the abdomen should be opened. They might be left alone if they rose out of the pelvis with the uterus; if not, abortion should be induced. If there was any reasonable doubt, explorative cœliotomy was perfectly justifiable. If the tumor was not discovered until the latter half of pregnancy, in the absence of serious pressure symptoms it was better to wait until near full term, and then perform Cæsarean section with supravaginal amputation of the cervix, subject, of course, to the wishes of the patient.

Surgical Treatment of Fibroids.—Dr. William M. Polk discussed this phase of the subject. He confined his remarks to the consideration of hysterectomy and myomectomy, expressing the belief that the latter would prove to be the operation of the future. As to the conditions demanding the vaginal operation, he said that no tumor greater in size than a uterus at the fourth month of pregnancy should be removed by this method, and there should be a reasonable assurance that there was no associated suppurative disease of the appendages. Another complicating condition, though a rare one, was malignant disease. He was of the opinion that all such tumors were best removed by the abdominal route. In operating by the vaginal route, the average operator required a rather roomy pelvis. While in general terms the normal type of pelvis was the only one permitting the vaginal operation, it should be remembered that even with a roomy pelvis the operation was contraindicated if the vagina was small. It was important, he said, when operating, to properly control the hemorrhage from the very vascular parts. For this purpose a very free incision was necessary. He preferred to leave the ovaries, when these organs were healthy, on account of their effect on the general health in the way of preventing unpleasant nervous phenomena. After ligating the ovarian arteries, and clamping the tissues close to the uterus, the assistant grasped the tumor below the clamps and lifted it out of the pelvis, thus giving the operator an opportunity to further control the vessels. All the tumor was to be cut away above the clamps, and then the vessels were isolated and ligated. His own preference was to remove the cervix, although it caused more hemorrhage. In closure of the peritoneum the stump of the ovarian vessels should be left within the cavity of the peritoneum, and not turned into the subperitoneal space along with the ligated stump of the uterus. He laid stress upon the importance of isolating the uterine artery before ligation.

Myomectomy.—He believed that in some cases myomectomy was imperative; for example, cases of submucous fibroids. Every case that could be treated by myomectomy should be operated upon in this way, remembering that the mortality depended largely upon the drainage, and the strictest precautions against infection should be taken.

The Origin of Fibroids.—Dr. H. J. Boldt opened the general discussion. He said that Dr. Freeborn had failed to touch upon the question of the origin of fibroids. His own view had long been that they arose from the muscular structure of the smaller blood-vessels. The study of this subject was, of course, only possible in exceedingly small fibromata. Regarding the sources of infection giving rise to suppuration in fibromata, he said that it seemed to him very doubtful that such infection had its origin in the bladder or in the bowel. His own experience had been that infection usually arose from some form of intrauterine traumatism, as from the use of the uterine sound, or the curette, or from attempts at abortion. In dealing with fibroids complicating pregnancy, it should be remembered that the great majority aborted between the second and fifth months. The cause of this was probably the same as that which usually prevented the occurrence of conception in cases having fibroids, *i.e.*, the inflammation of the endometrium. If, however, the pregnancy went on to term, he believed the tumor, if pedunculated, could usually be dislodged under anæsthesia. He did not think it was warrantable to persevere in prolonged attempts at delivery *per vias naturales*; it was far safer to perform Cæsarean section than to effect delivery by a craniotomy or other severe obstetric operation. If the fibroids were of the interstitial variety, there was great liability of suppuration or gangrene occurring, and this being the case it was the duty of the physician to proceed immediately to the removal of the uterus and neoplasm. Regarding the method of operating, he expressed himself as thoroughly in favor of the total operation, for he did not believe the Porro operation was destined to remain an accepted operation in this class of cases. Dr. Coe advised against matrimony for women having a uterine myoma. This seemed to him a rather extreme position, for comparatively few of them conceived. At the present time it was considered that hysterectomy was not more serious than an ovariotomy. The vaginal operation should be limited to a tumor not larger than a uterus at the fourth month of pregnancy. Even though the vagina were small, he would not hesitate to operate by cutting the vagina to gain more room. Convalescence in such cases was rather more tedious, but the operation seemed to be safe. He would not, however, operate by the vaginal route if the pelvis were of the male type. Undoubtedly myomectomy was not done sufficiently often, and was destined to be the operation of the future. In two cases in which he had left the cervical stump when removing the uterus, there had been an exudate. This had not occurred in the cases in which he had done the total extirpation. His plan was first to place the clamps alongside of the uterus, and then cut close to the uterus down to the base. The myoma was next enucleated on either side. He had not left the ovaries behind, and did not think there was any advantage in so doing. In order to control the hemorrhage after cutting the broad ligament, the vessels could be readily ligated separately under the guidance of the eye. For this purpose No. 1 or No. 2 catgut was used. The broad ligament was then sewed with fine sutures so as thoroughly to close in the wound.

The Operation of Partial Extirpation.—Dr. J. Riddle Goffe said that he was especially interested in the technique for the removal of fibroid tumors. On general principles he was strongly in favor of preserving intact the ovaries and tubes, and so keeping up the menstrual influence. However, a recent experience in this line of conservative surgery had led him to pause, because it had been necessary subsequently to remove these organs, although at the first operation they had appeared to be free from disease. He was an advocate of leaving the stump of the cervix, not only because this method of operating took less time, but because convalescence was perfectly smooth, and the parts were restored after the operation nearly to their normal condition. Convalescence was

not disturbed by changing dressings. His plan of operating for the removal of the uterus in cases of fibroid tumor was to pass a ligature under the ovarian artery, and ligating over the border of the broad ligament. He preferred to use a long ligature of No. 8 catgut, and to include the different vessels in successive loops of this ligature. An anterior and posterior flap of peritoneum was dissected up beyond the uterine arteries, and a part of the long ligature was passed underneath these flaps. On drawing this ligature taut, the broad ligament was puckered up and covered with the peritoneal flaps. The upper portion of the uterus was then removed, after which the peritoneal flaps were reversed. Before closing the wound, it was his custom to apply pure carbolic acid to the interior of the cervical canal. He had been doing this operation for ten years, and the results had been better than by all other methods.

Favors Total Extirpation.—Dr. H. N. Vineberg said that last summer a woman of twenty-two years had consulted him. She had well-developed ovaries but a rudimentary uterus, and was greatly troubled by the menstrual molimina. These symptoms disappeared promptly on the removal of the ovaries. Such an experience led him to doubt the wisdom of removing the uterus and leaving the ovaries intact. Every time he had performed hysterectomy and had left the cervix behind he had had occasion to regret it, and in one instance he felt that it had been responsible for the death of the patient. He would admit that a great deal of experience with this method was necessary in order to carry it out successfully. It seemed to him that whenever one found a small fibroid which was easily removable from the vagina, it was proper to advise its removal even though it gave rise to no symptoms. This might seem to some too radical, but he thought it would avoid in many instances serious consequences. He had operated five times by ligation of the uterine arteries. Only the last case had proved successful, but in this one the cure had been complete and most satisfactory.

SECTION ON SURGERY.

Stated Meeting, March 14, 1898.

W. W. Van Arsdale, M.D., Chairman.

Acute Strangulated Omental Hernia.—Dr. W. B. Coley presented a case of acute strangulated omental hernia of the interstitial variety, illustrating a very rare condition. On February 23, 1898, the patient, a man of thirty years, was dancing, when he felt a sudden and severe pain in the left inguinal region, and coincident with this a swelling appeared here. This was accompanied by nausea and some vomiting. When seen on February 24th, about twelve hours afterward, he walked with difficulty and with pain, and there was an elliptical tumor extending from the scrotum over the inguinal canal, and about three inches beyond the external ring, overlying the aponeurosis of the external oblique. The tumor was clearly cystic, but so tense that the exact nature of its contents could not be determined. The bowels had moved slightly that morning. In view of the cessation of the acute symptoms and the general condition, the diagnosis of acute strangulated omental hernia was made. The operation was performed the next morning, and the diagnosis confirmed. Six or eight ounces of serum was present, together with a large mass of congested omentum. The constriction was formed principally by the neck of the sac, and a second constriction higher up was formed by the ring. Between the external and internal rings was a dilatation of the sac. The whole canal was slit up freely; the sac was tied off on a level with the peritoneal cavity, and, the sac being congenital, it was tied over the testicle and the entire wound closed by the Bassini method. The wound healed by primary union. The speaker said that acute strangulation of the omentum was very rare. In this case there was undoubtedly a congenital sac, which was almost entirely obliterated in the upper portion.

Delayed Union Following Fracture of Both Bones of Forearm; Numerous Operations.—Dr. I. S. Haynes presented a man, forty-four years of age, a painter by occupation, who, on August 6, 1895, fell from a scaffold, a distance of thirty feet, fracturing the sixth, seventh, and eighth ribs near the sternum, and also the forearm. When he was seen some time afterward by Dr. Haynes, there was some swelling about the seat of fracture, due to the callus, and the hand and fingers were the seat of bad adhesions. Under ether these adhesions were ruptured, and the ends of the bones actively rubbed together. The arm was then put up in short side splints. Later it became necessary to cut down upon the fracture, as there was still no union. Inspection showed the end of the lower fragment atrophied and rounded off. There was a little fibrous tissue between the fragments. The periosteum was peeled off and a small portion of the ends of the bone removed. The same condition was found in the ulna as in the radius, and the ends of both bones were refreshed in the way mentioned and the ulna was wired. This was in November. In January it became necessary again to operate. In December a third operation was attempted, as there was still no effort at union. The fragments were bevelled by a saw, and the bones were brought together and overlapped for a distance of about one and one-fourth inches. The fragments were then firmly bound together with silver wire. On May 1, 1897, it was noted that there was solid bony union between the fragments, but there was a small sinus still open. At present there is shortening of two and seven-eighths inches; pronation and supination are about two-thirds of the normal; the wrist and finger movements are good, although not quite normal; the arm is strong and can be used for quite heavy work.

Dr. H. Lilienthal said that, in connection with the case presented by Dr. Haynes, he would like to show an *x*-ray photograph of a very similar one. The patient was a woman, forty-eight years of age, who had broken the right arm. The fracture was at first put up in plaster of Paris, but there was no union after four weeks. The ends of the bones were ground together, and put up for another four weeks. This process was repeated, but even at the end of nine weeks there was no union. The patient then, of her own accord, had an *x*-ray photograph taken, and came under his observation. This showed not only non-union, but misplacement of the fragments. Under ether he endeavored to replace the bones, and then ground their ends together. The result was no better. He had, therefore, resected the ends of the fragments with a saw, and tied the fragments together, not by drilling, but by tying them together with silkworm gut. No callus was found at the operation, and there was no atrophy, but there were some fibrous tissue about the ends of the fragments and a true synarthrosis between the ends of the radius, with a sort of synovial fluid. After about six weeks the ulna united firmly, but the radius was still ununited.

Dr. Haynes thought the reason that union had not occurred until the bones had been overlapped was that there was a slight gaping, and the vitality was so low that this interval was not filled up by healthy granulations. In regard to the treatment of these cases, he desired to say that it was objectionable to extend the straight splints below the wrist. Immobil-

ization could be secured without so extending the splints, and the use of the long splints was liable to be followed by stiffness of the fingers and at the wrist.

Use of an Ivory Peg.—Dr. W. W. Van Arsdale said that the most common cases of delayed union after fracture seemed to be those in the tibia. In one case of delayed union in the forearm, occurring in a boy, he had tried "Thiersch's spindle," made of ivory. After thorough sterilization it was inserted into the cavity of the bone, and healing seemed to be very satisfactory. After some weeks there was some local irritation, and the spindle was consequently removed. It was found to have become eroded and reduced very considerably in size. The boy was then lost sight of for several months, but when he again came under observation it was found that firm union had taken place. It was probable, therefore, that the spindle had benefited the case.

Dr. R. F. Weir said that he could recall only three instances in which there had been non-union in fractures of the forearm. In two of these he had been able by operative procedures to secure union.

Syphilitic (?) Disease of the Fibula.—Dr. Reginald H. Sayre presented a little boy whom he had first seen about three weeks ago. About one year before the boy had fallen and injured the leg. He complained of pain along the fibula and in the thigh. The speaker had brought him to ascertain whether or not the case was one of sarcoma of the fibula. There was no definite specific history, but from the fact that improvement had followed mixed treatment he was inclined to think that the case was one of syphilitic disease. An *x*-ray photograph showed involvement of both the femur and the fibula, though nothing abnormal could be detected about the femur on palpation. This seemed to him to confirm the opinion that the case was one due to syphilis.

Probably a Sarcoma.—Dr. Coley said that, in view of the history of traumatism and the character of the swelling, it seemed to him not at all improbable that the disease was really sarcoma. It should be remembered that syphilitic disease in this region and of this form was quite rare. It seemed to him justifiable to cut down upon the part and remove a portion for minute examination.

Dr. Sayre said that, from the fact that there was slight enlargement of two joints in the body, that the femur as well as the fibula was enlarged, and that both these bones presented an abnormal appearance in the *x*-ray photograph, he was inclined to doubt the original diagnosis of sarcoma. Since the patient had been put on mixed treatment there had been evident improvement, and, therefore, the speaker felt justified in continuing this line, for the present at least. Under other circumstances he would be willing to remove a portion for examination. According to the *x*-ray photograph, if the case was one of sarcoma an amputation at the hip-joint would be required.

Malignant Disease Improved by Antisyphilitic Treatment.—Dr. Coley said that about two years ago a woman had been admitted to the Cancer Hospital with the diagnosis of specific disease of the breast. She was put upon mixed treatment, and improved so rapidly that the diagnosis seemed to be confirmed. Before she left the hospital, however, he had removed a portion of tissue and examined it microscopically, only to find that the disease was typically malignant.

Dr. Weir said that on several occasions he had found that cases of sarcoma had been temporarily benefited by mixed treatment. Long ago, in a case treated with the late Dr. Seguin, he had seen marked improvement in a tumor of the brain following the use of antisyphilitic treatment. Even cases of epithelioma would show this temporary improvement.

Dr. Van Arsdale said that some time ago a case had been presented to the New York Surgical Society, in which a similar condition had existed in the humerus. Most of those present looked upon the case as one of sarcoma, but the growth being cut down upon it was found to be an ossifying hæmatoma. In this case potassium iodide had been given for some time, but without good effect. The removal of the hæmatoma effected a permanent cure.

Dr. A. L. Fisk said that he had had three cases of sarcoma of the humerus, two being central and one subperiosteal. In these the *x*-rays showed a distinct change in the bone. It did not seem to him that from the *x*-ray photograph presented by Dr. Sayre any conclusions could be drawn, as the print was altogether too indistinct. A central sarcoma could be easily made out by an *x*-ray photograph, and could be differentiated from a central abscess. In the latter condition the shadow was decidedly brighter than in a case of central sarcoma.

Dr. Sayre explained that the lack of definition in his radiograph was due to the child having moved during the exposure. He thought also a longer exposure with a better vacuum would give a better radiograph.

Asepsis of the Hands; Gloves for Operations.—Dr. E. M. Foote, in some remarks on this subject, called attention to certain operating-gloves which he had found very useful. The ordinary methods of sterilization of the hands, he said, were successful only at the expense of much time and epidermis. Quite recently Mikulicz had recommended the use of silk gloves, which could be readily sterilized and changed during an operation as they became soiled. Of course, they were not impervious to moisture, but they could be made to shed water if thoroughly dried and soaked in a ten-per-cent. solution of paraffin in xylol before being sterilized. Such gloves were decidedly superior to rubber gloves, and much less clumsy to use. In order to avoid infection of the wound from the hands, the following points should be observed: (1) keep the hands as far as possible out of the wound: (2) wash and dry them, and cover with sterilized gloves; (3) for operations in the serous cavities and for difficult dissections, sterilize the hands by the well-known methods before covering them with the sterilized gloves.

The Gloves Should be Impervious.—Dr. George E. Brewer said that he had made a good many experiments with the ordinary methods of hand disinfection, taking cultures from the hands and nails, and had found that none of the methods of sterilization commonly employed were reliable. Experiments with formalin yielded somewhat better results than the other agents, but all were still unsatisfactory. Then, again, it should be remembered that, although the hands might be sterile at the beginning of an operation, it did not follow that they were so after a short time. The perspiration was in itself very poisonous. He therefore objected to the cotton gloves and to all gloves which were not impervious. He preferred the rubber gloves on this account, and his results since adopting these gloves in hospital practice had certainly been very much better than formerly.

Thorough Hand Disinfection Essential even with Gloves.—Dr. Weir said that it was true that hand disinfection had been the weak point in surgical technique. He had been using, though not continuously, lisle-thread gloves for a number of years. With them, as with the rubber gloves, the hands must be, in the first instance, thoroughly disinfected. If this part was neglected, and the rubber gloves were pricked or torn during an operation, the wound was liable to be infected. In this respect they were more dangerous, because the surgeon relied upon them implicitly, not knowing, in many instances, when they were torn.

The tendency was for the surgeon to be too lax in the first cleansing of the hands if rubber gloves were used. He thought if Dr. Brewer had contented himself only with bichloride of mercury and permanganate of potassium, he must certainly have had better results from the use of rubber gloves. But these methods of hand disinfection were not the best known; the use of alcohol or of nascent chlorine was far more efficacious.

Dr. Brewer explained that he had tried all except the last method of disinfection mentioned.

Dr. Coley said that in the last few months a series of bacteriological tests had been made at the Hospital for Ruptured and Crippled, and in a series of twenty-five or thirty cases the house surgeon had never failed to have his hands sterile.

Dr. Lilienthal said that he had used the cotton gloves without the paraffin, and liked them very well except for delicate manipulations in the peritoneal cavity. But the hands should be just as thoroughly disinfected as when gloves were not used. He heartily indorsed the principle that had been enunciated by Dr. Foote, *i.e.*, to keep the hands out of the wound as much as possible.

Trim the Finger Nails Close.—Dr. A. M. Phelps said that one very fertile source of infection was the introduction of the needle through the skin into the wound. He had seen Schede constantly operating under irrigation, and Schede had but little suppuration. He had also seen a good deal of suppuration in clinics in which gloves were used during the operations. It was important that the finger nails should be kept closely trimmed. If this point was attended to, if the hands were thoroughly disinfected, if care was taken not to infect the wound with the needles, and if the surgeon operated under irrigation with antiseptic fluids, there should be very little suppuration.

Prefers Rubber Gloves.—Dr. F. Kammerer said he had not found rubber gloves much more inconvenient than cotton ones; on the contrary, he had found that the thin rubber gloves possessed certain advantages. A cotton glove rarely fitted the hand well, and the top of the glove projecting beyond the finger-ends seriously interfered with the surgeon's manipulations. It did not seem to him that the perspiration was a great element of danger. The great advantage of the cotton gloves was the fact that the surgeon did not rub the tips of the fingers and the beds of the nails against the wound.

The Gloved Hand Must Bungle.—Dr. Robert T. Morris said that if one must use gloves in order to be up to date he preferred to be behind the times. The most skilful work must be done by the aid of a delicate and educated touch. If the hands were disinfected with nascent chlorine, there should be no occasion for the use of gloves. In peritoneal work he was sure the operation would be prolonged and bungled by wearing gloves.

A Compromise.—Dr. J. B. Walker said that the most important point seemed to be to give great attention to the scrubbing of the tips of the fingers and the beds of the nails. These parts were often neglected, while the back of the hand received a vigorous scrubbing. It might be well to have the assistants wear gloves, even though the operator avoided them for fear of obtunding his sense of touch.

Infection from Needle Punctures Avoidable.—Dr. Coley thought Dr. Phelps attributed far too much importance to the skin as a source of infection, for in the series of experiments conducted at the Hospital for Ruptured and Crippled the skin of the patient had been sterile in every instance. Moreover, in hernia cases, in which the sutures were passed through the skin, the skin was found to be sterile in ninety-five per cent. of the cases.

Have Few Assistants.—Dr. A. E. Gallant said that some surgeons had stated that their results had been better as soon as they had insisted upon their assistants wearing gloves. This should serve as a useful hint. It would be well to reduce as far as possible the number of assistants. It seemed to him that it was rare that more than two assistants would be required.

Dr. Kammerer remarked that occasionally he had been compelled to take off his gloves in order to get a better sense of touch, but this was very rarely needed.

Don't Sneeze while Operating.—Dr. Lilienthal said that theoretically we should go a little further and follow the advice of Mikulicz, to wear a covering over the head and across the mouth. Certainly it was conceivable that an inopportune sneeze might do a great deal of mischief.

Rubber Gloves Increase the Perspiration.—Dr. Van Arsdale said that he felt sure that he had seen a number of cases of laparotomy go wrong from perspiration falling into the wound from the forehead. Rubber gloves would be apt to make the hands perspire excessively.

Dr. Kammerer thought the surgeon was as well guarded from perspiration of the hands with cotton gloves as without them.

Delicacy of Touch Not Seriously Impaired.—Dr. Foote said that the point he had desired to make was that most surgeons did not sterilize their hands completely before beginning to operate. He had found that the delicacy of touch was nearly as great with the gloves that he had presented as with the bare hand. These gloves were very cheap, so that several pairs could be sterilized for an operation, and as the gloves became moist, from perspiration or otherwise, a clean, dry pair could be substituted. For ordinary operations it seemed to him just as unsurgical to put the fingers into the wound as it would be improper to eat meat at table without using a knife and fork.

Gastro-Enterostomy, Jaboulay-Braun Method, with Two Murphy Buttons.—Dr. Robert F. Weir read a paper on this subject, and presented an illustrative specimen (see page 541).

Dr. Kammerer said that his personal experience with the posterior method was limited to one case, as he had formerly practised the Wölfler method with various modifications. Although he had done the operation a number of times, he had lost a number of patients from the flow of bile into the stomach and the obstruction of the efferent loop of the attached duodenum. The recorded cases certainly seemed to prove that the Murphy button was borne very well in the stomach, and it was known that in the posterior operation suture was a very complicated procedure; hence the button should be always used in this operation. In one case, at least, he had seen violent symptoms arise from the button falling into the stomach and remaining there.

Dr. Lilienthal called attention to a Murphy button which he had devised for the purpose of preventing its slipping into the stomach. He had had one side of the button made larger than the other to obviate this difficulty, but had never subjected it to a trial test.

Dr. Van Arsdale referred to two cases in his own experience. In one he had used the Murphy button for a gastro-enterostomy done by the posterior method. The button fell into the stomach, and caused such persistent vomiting that the patient died of exhaustion thirteen days afterward. The autopsy showed nothing to account for this vomiting except the presence of the button in the stomach. In another case, at the Mount Sinai Hospital, he had used the suture, doing the posterior operation. He had not found that it had taken a much longer time, but he had used a very long incision in order to make sure that the opening would not close. The result in this case had been so satisfac-

tory that he had decided to employ this method in the future.

Exhibition of Brain from a Case of Apoplexy Subjected to Operation.—Dr. Robert T. Morris reported the case of a man, fifty-six years of age, who, on December 16th, while walking across the floor, felt that his right arm was becoming paralyzed. After five minutes his right leg was paralyzed, and at the end of thirty minutes he was unconscious and vomiting. Dr. Morris saw the case about forty-five minutes after these symptoms had developed, and had thought it might be well to open the skull with the object of allowing some of the blood to escape externally instead of into the brain, and so lessening the amount of injury which the escaping blood was likely to produce. The chosen point of attack was over the arm centre, because the arm was first involved. The idea was to follow the arm fibres until the clot was found. An opening was accordingly made with a trephine over the ascending parietal convolution. At this time the patient was so nearly moribund that the operation was for a moment discontinued. The meninges being opened, a very large quantity of pink serum escaped rapidly, spurting out under great pressure. The man's breathing immediately became regular, and his pulse dropped nearly to the normal and remained so. The serum was not distinctly bloody. The exploration was carried into the lateral ventricle, but very little serum was found there. He then went toward the island of Reil, and found some small clots escaping from the wound in the brain made by the instruments. The patient rallied as one would from a clot in the brain at this point. By the second day he was able to sit up and take some food. The effect of the operation was to relieve the general pressure over the left hemisphere of the brain. Although a clot was not found, enough serum was allowed to escape to prevent impending dissolution. The patient developed a hypostatic pneumonia on the tenth day, and died on the twelfth day.

Dr. Graeme M. Hammond said that he had had an opportunity of seeing this very interesting case within a few days after the operation. The man presented all kinds of aphasia—word deafness, word blindness, and inability to express a single idea. He knew the use of objects presented to him. He was hemiplegic on the right side of the body—arm, leg, and face. The autopsy was made a few hours after death. The first thing to attract attention was an enormous clot in the Sylvian fissure. The clot being scraped away, an opening was found in the fissure of Sylvius, leading inward. Most of the cerebro-spinal fluid had been drawn off during the operation. The hemispheres being opened and cut into just above the corpus callosum, a clot was found leading into the brain. There was present not only a large clot in the anterior region of the brain, but also an extensive clot extending longitudinally. Dr. Hammond said that the objection to operating early in a case of this kind was that it was often impossible at first exactly to locate the lesion. Thus the sensory aphasia in this case was apparently due to the compression of the Sylvian artery by the hemorrhage, and the consequent cutting off of the supply of blood to that part of the brain in which the centres affected were situated; indeed, this case was an excellent illustration of the difficulties and uncertainties of an early diagnosis. If the hemorrhage could be accurately located, the pressure could be relieved by such an operation, but it would not relieve the hemiplegia or any of the symptoms resulting from destruction of nerve tissue.

Dr. Weir said that he wished to commend Dr. Morris for his boldness in carrying out a correct surgical principle. In his own first operation for tumor of the brain, the tumor had not been correctly located; nevertheless he had made a huge opening in the skull and the patient had been immensely benefited. At this time (1879) he had advocated making a large opening in the skull, and subsequently he had advised operating in certain cases of cerebral hemorrhage, but he had been met with the objections just offered by Dr. Hammond. In 1894, in consultation with Dr. Dana, it had been decided to make an opening in such a case. An extensive exploration was made, but no clot could be found. At the autopsy, the next day, the condition was found to be one of embolism. In spite of this failure, he had felt convinced that it was justifiable to operate in cases which were steadily losing ground.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 9, 1898.

T. Mitchell Prudden, M.D., President.

An Anomaly of the Pulmonary Valve.—Dr. Warren Coleman presented, as an anatomical curiosity, a pulmonary artery showing four cusps instead of three. The fourth cusp was about one-third the size of the normal cusp, and was situated between the two posterior cusps. It was difficult to understand how the orifice could have been entirely closed by this anomalous valve.

Aneurism of the Basilar Artery.—Dr. Coleman also presented an aneurism of the basilar artery, which was interesting from a clinical standpoint. It had been taken from a man, fifty-four years of age. According to the history, when fifty years old he had suddenly gotten out of bed to go to the assistance of a member of his family who was ill, and had been almost immediately stricken with paralysis of the right side. He never regained the use of either the arm or the leg on that side, and contractures set in. He complained more or less constantly of headache and of pain in the right thigh. He death was preceded by coma, which gradually developed in the course of forty-eight hours. The autopsy revealed this aneurism, which measured 2 cm. in its transverse horizontal diameter, 1.5 cm. in the axis of the artery, and 1.5 cm. in the transverse vertical diameter. It was situated far forward in the artery, though apparently not involving either of the branches. On removing the brain from the skull it was found that the aneurism compressed the left crus cerebri, without affecting the spinal bulb. The symptoms, therefore, were those of interruption of the fibres in the left crus only. Death seemed to have been caused by occlusion of the aneurismal sac. The posterior communicating branches were exceedingly small, so that occlusion of this sac with a clot would deprive the spinal bulb of so much blood that death would result. The interior of the aneurism was filled with fresh clot.

Dr. Walter Lester Carr presented in connection with this case a specimen of aneurism of the basilar artery, which had been presented to the society in 1891. It had been taken from a man twenty-eight years of age. He had had a fall some years previously, and there was an indefinite history of syphilitic infection. The clinical symptoms were slow pulse, slow speech, and interference with respiration. There were pain in the cervical region and convulsions.

Dr. Eugene Hodenpyl remarked that he had a specimen very similar to the first one presented by Dr. Coleman, but in his case there had been a well-marked presystolic murmur during life.

Dr. W. P. Northrup thought that if the aneurism had developed slowly, like a tumor, a point would have been reached at which symptoms would have suddenly developed. He could recall at least two cases in which tumors of the brain, although growing

slowly, had suddenly given rise to symptoms. In one of these cases, without warning, the patient ceased breathing. The only lesion found at autopsy was a tumor at the convexity of the brain.

Dr. C. A. Herter said that on several occasions he had seen symptoms of an acute character develop in the course of a tumor, the ordinary symptoms of which had already developed, but he had never met with a case in which the first symptoms had been sudden in their development. It was quite a new idea to him, that an aneurism, without rupture or thrombosis, might give an acute hemiplegia as its first symptom.

Dr. Prudden asked if there was anything in the morphology of the blood-vessels which would justify the belief that the suddenness of onset of the symptoms had been the result of a sudden closure of neighboring vessels not directly connected with the aneurism.

Dr. Coleman replied that although a very careful examination had been made regarding this point, the result had been entirely negative. With reference to the point made by Dr. Hodenpyl regarding the existence of a murmur in the case having an anomalous pulmonary valve, he would say that his patient had been in Bellevue Hospital for a sufficient time to allow of an accurate clinical record being made, yet there had been no adventitious sound discovered about the heart.

Malignant Adenoma of the Stomach.—Dr. James Ewing presented a growth from the pyloric region of the stomach. It had been removed from a German butcher, twenty-seven years of age, who gave a distinctly alcoholic history, and who had been emaciating and becoming anæmic for just one year, though previously healthy. There were, during this year, no gastric symptoms. Shortly after admission to Roosevelt Hospital, on December 18th, he began to complain of pain in the epigastrium, worse after eating, and had occasional attacks of vomiting. On admission he looked excessively anæmic, and was very much emaciated. He complained chiefly of dyspnœa, general weakness, and pain in the epigastrium. The physical examination was negative. The urine was 1.005, acid, and was free from sugar, albumin, and casts. The excretion of urea was always low. The temperature during the two months he was in the hospital ranged between 97° and 100.5° F. Vomiting occurred nearly every day, and increased in quantity. It never contained either red or black blood, but was usually of a yellowish color. Hydrochloric acid was absent, and lactic acid was present in considerable quantity. The blood examination, on admission, showed red cells, 1,100,000; leucocytes, 6,000; hæmoglobin, 15 per cent. Under iron and arsenic the hæmoglobin temporarily increased, reaching 30 per cent. after one month. It then steadily declined, along with a diminution of red cells and an increase of leucocytes. On account of the absence of gastric symptoms the diagnosis was at first thought to be pernicious anæmia, although the morphology of the blood did not favor this opinion, as the chief character, besides the extreme reduction in the number and great variations in size of the red cells, was the uniform loss of hæmoglobin. No nucleated red cells were seen at any time. Toward the end there was a marked leucocytosis. After about six weeks a slight tumor was detected in the region of the pylorus, and at this time the vomitus resembled that from a dilated stomach. Masses of hæmatoidin, as well as shreds of the epithelial tumor, were discovered microscopically in the vomitus, which chemically had always shown absence of hydrochloric acid and presence of lactic acid. At the autopsy there were noted a small tuberculous cavity in the left pulmonary apex, adherent pericardium, marked fatty degeneration of heart muscle and liver, double ureter on right side, and a large ulcerating tumor of the pyloric region of the stomach, with firm posterior adhesions. The tumor involved the entire circumference of the pylorus, which was almost occluded, and extended irregularly over the pyloric end of the stomach for a distance of three or four inches. Its surface was very irregular, fungating in places, and deeply necrotic. The edges were moderately raised but not very dense. The stomach was greatly dilated, and contained two quarts of dark fluid of the microscopical and chemical characters noted in the vomitus. No metastases were discovered. The periportal lymph nodes were involved in the adhesions, but no others seemed to be affected. The microscopical diagnosis was malignant adenoma of the stomach.

Dr. Ewing said that the case was interesting: (1) because of the occurrence of this form of cancer in a patient so young; (2) because of the marked resemblance clinically to pernicious anæmia; and (3) because of the characteristic appearance of the vomitus toward the end of the disease. There were very few reported cases of malignant adenoma in patients of this age. The microscopical examination showed that the type of adenoma was much better preserved than usual.

Leukæmia.—Dr. Ewing also presented fresh specimens from a case of leukæmia. They were taken from a child of eleven years who was known to have had the disease at least four years. The blood was distinctly that of a myelogenous leukæmia, the largest percentage of white cells being myelocytes. The case had been under clinical observation for some years. In comparison with the weight of the child, the liver and spleen were excessiely enlarged. On section, the liver showed the portal canals infiltrated with new cells. The enlargement of the internal lymph nodes was a very prominent feature. The lungs showed small areas of fresh pneumonia and some areas of leukæmic infiltration. The heart was very considerably hypertrophied, and contained a characteristic leukæmic clot on the left side. The marrow of the sternum was extremely cellular, and of a much ligther color than normal.

Dr. Harlow Brooks said that three years ago there had been at Bellevue Hospital a case that had been diagnosed as pernicious anæmia after having been under observation for about three months. The clinical diagnosis had been verified by several blood examinations. At the autopsy he had found a typical malignant adenoma of the stomach situated in the region of the pylorus. Whether it simply happened to occur in connection with the anæmia, or whether the blood examination had been deceptive, he would not say, but he found it hard to believe the latter, as the examinations had been conducted by several well-known laboratory experts.

Dr. John H. Larkin said, regarding the right kidney from the case of adenoma of the stomach, that in addition to the double ureter he had discovered in the same kidney a small tumor which, upon microscopic examination, proved to be an adenoma of the kidney.

Dr. Ewing said that he had paid considerable attention to the character of the blood in this disease, and had yet to see a case of malignant disease of the stomach in which the blood was distinctly that of pernicious anæmia. It often resembled the blood of pernicious anæmia, though presenting distinctive characters of its own. These distinctive features were principally two, viz.: (1) The loss of hæmoglobin in the cells; and (2) the behavior of the leucocytes. In every case of ulcerating carcinoma of the stomach that he had seen, except the one just presented, there had been, from the first, distinct leucocytosis. As a

rule, the leucocytes were very much increased in carcinoma of the stomach, and were quite uniformly diminished in pernicious anæmia. Microscopical specimens were also exhibited.

An Experimental Study of the Toxic Properties of Indol.—Dr. C. A. Herter read a paper with this title, giving the results of his experiments on the lower animals and in man. He said that indol was produced in some quantity in the intestine, and was oxidized in the organism into indoxyl, which, in combination with sulphuric acid, formed the basis of the well-known indican or indoxyl reaction of the urine. Indol crystallized irregularly, had a melting-point of 52° C., volatilized readily, and possessed a characteristic fecal odor. It was produced by a considerable variety of bacteria, both pathogenic and non-pathogenic—*e.g.*, the colon bacillus, typhoid bacillus, the cholera bacillus, vibrios, etc. The indol used in these experiments was obtained from the putrefaction of large quantities of pig's fibrin. Indol underwent an important change within the organism, being first oxidized into indoxyl, and then changed into the sulphuric-acid salt of indoxyl. It was as indoxyl sulphate of potassium that the indoxyl formed within the organism left the body in the urine. When indol was injected in large quantity into the blood it soon disappeared and could not be recognized; yet the addition of a few drops of indol to a considerable quantity of blood outside of the body gave a different result, the indol being very readily recovered by distillation. This showed that the organism possessed the power of converting the indol very rapidly into some other body. It seemed probable that the main factor in the production of indol in the intestine was the presence of the colon bacillus. The common colon bacillus ordinarily produced indol when acting on proteid media. Indol in the intestine was transformed into indoxyl after absorption, and subsequently to indoxyl potassium sulphate. The indoxyl of the urine was convertible by oxidation into indican. The experiments detailed in the paper were directed to the investigation of: (1) Acute indol poisoning in rabbits and dogs; (2) chronic poisoning in rabbits; and (3) the effect of indol when taken into the stomach of human beings. It was found that intravenous injections of indol exerted marked toxic effects on the nervous system in dogs and rabbits, producing cardiac and respiratory depression, general prostration, marked contraction of the pupils, irregular clonic spasm, and increased reflex excitability, including increase in the activity of the knee-jerks. When fatal doses were injected the cause of death in every instance seemed to be cardiac, rather than respiratory, failure. Injections into the intestine caused more marked effects on the nervous system than intravenous injections. Small quantities of indol, when administered subcutaneously every day, caused profound disturbances of nutrition, and caused death in a few weeks. The immediate cause of death in chronic indol poisoning was not clear. The chief alterations were found in the liver, the capillaries of the lobules being much congested and the liver cells the seat of pigmentation. In marked contrast to the rabbits was the behavior of a monkey. A small monkey of about the same weight as the rabbits was scarcely affected by small doses of indol given for two weeks. In order to determine the effect on the human subject, three healthy men were given indol in increasing doses, beginning with 0.1 gm. in capsules immediately after meals. The first subject experienced slight frontal headache, and then colic, followed by diarrhœa. This was probably owing to the rather large doses of indol, as he received 0.5 gm. of indol. He was entirely well the next day. The doses of indol which were sufficient to cause symptoms in the first case had no effect on the second man, and it was only when large doses—1 gm. or more—were administered that symptoms were produced. These were, extreme insomnia and unnatural mental activity, and, toward the last, frontal and occipital headache. The third subject had frontal headache the greater part of the time, and some dizziness toward the end of the experiment. The knee jerks were increased. The symptoms wore away on discontinuing the indol. On a second trial, five days after the completion of the first, and under rather larger doses, the original symptoms returned. A third trial was made, extending over a period of eight days. In this experiment marked headache was noted only once, but there was an almost continuous sense of discomfort in the frontal region. The most prominent feature was the excessive lassitude. The urine gave no indol reaction before and after the experiment, but it was marked during the administration of the indol.

Dr. Herter then took up the consideration of the clinical significance of excessive indol production in the intestine, and its excessive absorption, as shown by a strong indoxyl reaction in the urine. He said that the first difficulty encountered was the absence of a satisfactory normal standard, as many persons had the indoxyl reaction constantly present in the urine. One should be cautious about concluding that the frontal headache was due to the indol absorption, although it was probably so produced in very exceptional instances. In the experimental cases the frontal headache was cleared up by out-door exercise. One might perhaps find in these experiments an explanation of the headaches and sensations of discomfort in the head observed in many persons suffering from constipation. The most important factors in determining individual susceptibility to indol were: (1) The character of the nervous system; and (2) the ability of the organism to transform indol into less toxic substances. It would seem from the observed effects of indol, taken in conjunction with the study of the clinical conditions in which the indoxyl reaction was markedly increased, that we were justified in believing that prolonged and excessive indol absorption was capable of causing frontal headache, abnormal cephalic sensations, and indisposition to mental and physical exercise. If prolonged, the latter might form the basis of a neurasthenic state. While we could not regard indol as an indifferent substance, we could not, on the other hand, regard it as a highly toxic one.

Dr. S. Bookman said that his experience seemed to show that indol was formed during pancreatic digestion and fermentation. He would like to know whether any gas analyses of the blood had been made to determine whether the oxidizing coefficient had undergone change in cases in which indol had been administered, and also whether the improvement observed from exercise might not be due to the absorption of oxygen and more active metabolism, with oxidation of the indol itself. It had occurred to him that it was possible that the potassium in the indoxyl potassium sulphate, when given in large doses, might be responsible for some of the prostration noted.

Dr. Ewing said that the paper gave much more definite information on this subject than he had been able to obtain elsewhere. Personally, he had experienced difficulty in applying the ordinary clinical test for indican, as it was very easy to add an excessive amount of the oxidizing agent. For this reason he desired further details regarding Dr. Herter's method of making this test. He also asked about the frequency and grade of indicanuria in albuminous putrefaction in other parts of the body than the intestine.

Dr. Bookman said that in applying the indican test he had found that a fifteen-volume solution of hydrogen peroxide and strong hydrochloric acid acted very uniformly and satisfactorily.

Dr. Herter said that he agreed with Dr. Bookman that it was not unlikely that the influence of exercise in clearing up the headache was dependent upon increased oxidation, but he did not think the potassium salts, under the circumstances, would be likely to exert any influence in rendering indoxyl more toxic than it had been previously. It should be noted that in his experiments the indol itself had been introduced, and not the potassium salts. He had made no gas analyses, and his reading of the literature had led him to believe that this method was likely to introduce many errors. Undoubtedly indol was produced under the influence of the pancreatic ferment on proteid material, but it might arise in the absence of the pancreatic juice, or even if the duct be tied. When large numbers of colon bacilli were introduced into the intestine below the point at which the pancreatic juice enters the gut, as he had done, there would be found to be a very rapid increase in the indoxyl in the urine. It was reasonable to attribute this, chiefly at any rate, to the action of the colon bacillus. As to the method of applying the indican test, he would say that he had met with the difficulty referred to by Dr. Ewing, and had found that this could be largely avoided by using a 0.5-per-cent. solution of ferric chloride in concentrated hydrochloric acid, mixing an equal volume of this and the urine, and then shaking out with chloroform. The putrefaction of proteids in other parts of the body was capable of giving rise to very strong indoxyl reaction in the urine. Cases in which abscesses had been opened had given a strong indoxyl reaction in the urine, and indol had been found in appreciable quantities in the abscesses themselves. As to the relationship between neurasthenic states and excessive absorption of indol, he would say that of thirty-two cases presenting the clinical characters of neurasthenia, twenty-one gave a strong indican reaction in the urine, and eleven a slight reaction or none at all.

The Report of a Case of Acromegaly, with Specimens, and of a Case of Hemorrhage into the Hypophysis Cerebri.—Dr. Pearce Bailey read this paper. He said that there were now on record over thirty microscopical examinations, with autopsies, but many lacked descriptive detail, and there were many notable discrepancies in the reports. It had been ascertained that the pituitary body is regularly diseased, usually in its anterior portion, that the thyroid is usually enlarged, sometimes atrophied, very rarely normal, and that the thymus is occasionally persistent or enlarged. The most constant visceral lesions were those of the pituitary and thyroid. The case reported was that of a woman, sixty-five years of age, who had been in good health up to five years before death. Then the hands and feet became enlarged and the seats of pain, extending up the limbs. There was no loss of muscular power at that time, and until her last illness she could walk and use the hands. The urine was albuminous, but there was no œdema of the extremities. Her death followed shortly after the sudden development of symptoms of uræmia and pulmonary congestion. The autopsy was made twenty-four hours after death. There was an extensive growth of hair on the face; the chin was prominent; the bridge of the nose was widened; the heart was moderately hypertrophied, but there was no valvular lesion; the muscular tissue was soft; there were acute congestion and œdema of the lungs, and the kidneys were the seat of chronic diffuse nephritis. The liver was normal. The cerebral dura was adherent to the skull and the pia mater was slightly thickened anteriorly. The brain weighed 1,284 gm., or about 72 gm. in excess of the usual weight. There was no gross deviation in the form of the convolutions. Examination of the ganglion cells by Nissl's method was negative. A mass of tissue occupying the position of the thymus was removed, but the microscope showed none of the thymus remaining. The thyroid weighed 84 gm., instead of 29.3 gm., the average normal weight. Its surface was firm and smooth, and on section a white, viscid fluid exuded. There was a number of small cysts. The gland substance proved, on microscopical examination, to be generally normal. The pituitary body was very much larger than normal, weighing 8 gm., instead of 0.6 gm. It was red and very soft, and the contents were whitish and semi-fluid. Sections showed three distinct portions, united by a common capsule. These portions were: (1) The smallest, or posterior lobe, which was somewhat more cellular than normal; (2) the middle portion or glandular lobe, the chief characteristic of which was its vascularity; and (3) the anterior portion, composed of fibres and cells, with deeply staining nuclei. In other words, there were a pituitary body and an outgrowth from its anterior lobe. The tumor might be regarded as an adenoma.

The second case reported was that of a male, fifty years of age, who was admitted on February 13, 1897, to St. Luke's Hospital, to the service of Dr. Van Horne Norrie. The patient was comatose on admission, and died within twenty-four hours. He had been moderately alcoholic, and for several years previously had had paræsthesiæ of the lower extremities and back. Shortly before admission he had complained of impairment of vision and pain under the eyes, and later there were nausea, vomiting, and blindness. He lay on the left side almost continuously; the pupils were moderately dilated; there were paralysis of the internal rectus and ptosis on the right side. There was no other paralysis and no optic neuritis. At the autopsy, there was no external evidence of acromegaly. On examining the brain, a high degree of endarteritis of the basilar artery was noted. Occupying the sella turcica and projecting about 3 mm. above it, was a mass which, on microscopical examination, proved to be the encapsulated pituitary body enlarged to three or four times its normal size. An extensive hemorrhage had taken place into it. There was an endarteritis of many of the small vessels in this mass. The parenchymatous hypertrophy of the pituitary body must have antedated the hemorrhage. The latter was the result of rupture of some of the diseased vessels in the pituitary body. The speaker said that it was possible that this case represented an early stage of acromegaly.

The society then went into executive session.

Bone Setting in Rural England.—A writer in a contemporary English weekly records the following amusing account of how bone setting is practised in the country districts of parts of England: "An old woman I once knew had a kind of shibboleth which she repeated in all cases of injury of the elbow. 'There are two small bones at the elbow,' was her remark. Now, there are not two small bones at the elbow, as every ambulance student knows. Still the old lady held on her way rejoicing. I have even heard it seriously asserted that this old lady had 'mended a man's broken neck' when the surgeons had given him up as a hopeless case. A capital story of bone setting is that of the Scotch laddie, Jock by name, who, after being carried by his mother an unwilling patient to the bone man to get his leg set, was asked if the manipulation had hurt him. 'No,' said Jock; 'it dinna hurt me.' 'I told you it wadna be painful,' said his mother. 'Ah,' replied Jock, 'nae wonder! Ye see, mither, I just let him fumble wi' tha sound leg.'"

Correspondence.

HEMORRHAGE IN CATHETERIZATION OF THE URETERS.

To the Editor of the Medical Record.

Sir: In the article of Dr. Vineberg, in the Medical Record of February 5, 1898, I find the words: "Casper states that it [bleeding] occurs in fifty per cent. of his cases." This is a mistake; I have spoken only of a few blood corpuscles which are found in fifty per cent., after the urine has been centrifugalized, but have not said that macroscopical bleeding occurs thus often. And, moreover, that was in the beginning of the employment of the method; now, after I have had more experience in catheterizing the ureters, I find even less (no more than in ten per cent. of the cases) microscopical bleeding.

Will you kindly publish this correction, which, I think, is in the interest of the science?

Leopold Casper.

Berlin, March 20, 1898.

TREATMENT OF HYDROPHOBIA BY THE HEALTH BOARD.

To the Editor of the Medical Record.

Sir: In your issue of March 26th, in the column under the heading "News of the Week," there is a paragraph entitled "The Paternal Government of Our Health Board." If you will permit me space in your valuable columns for a few words, I will give a brief description of this new department. I am in a position to do this, being one of the physicians in charge of the new work referred to.

For about a year now I have been experimenting with and investigating, in conjunction with Dr. R. J. Wilson, the Pasteur method of immunizing persons against hydrophobia. The treatment, which requires a large amount of apparatus, a laboratory, animal house, etc., certainly cannot be employed, as at present used, by physicians generally; and as there is no place in the city where the poor can be treated free, why should not the city provide for them?

The mortality from bites by dogs proved mad is fully ten per cent. for all parts of the body; much higher for exposed regions. According to Pasteur and other investigators in this field, it has been reduced to less than one per cent. by the dried-cord treatment.

The board of health opened this new department three weeks ago, for the benefit of the public. Since this time eleven people have applied for treatment, nearly all from Richmond Borough, where there has been a serious outbreak of hydrophobia in dogs.

The patients applied for treatment as follows: Two from West New Brighton on the 26th, after having been bitten. One of these patients was bitten twenty-eight times on the hands and arms, and badly lacerated; the bites were not cauterized. The other patient was bitten nine times in the arm through the sleeve. In the first case the prognosis given was very grave, owing to the lapse of time before treatment was taken and the nature and seat of the bites. The patient bitten nine times in the arm was not in so serious a condition, but still the prognosis given was grave. The dog which bit these people had previously been sent to the laboratory for examination. After autopsy, inoculations were made from the medulla into rabbits and guinea-pigs, all of which died of typical rabies; also a second series of animals inoculated from these rabbits and guinea-pigs, proving beyond a question the diagnosis of hydrophobia.

Besides these people mentioned above, another person bitten by the same dog applied for treatment before it had been opened to the public.

Several other dogs, supposed to have been bitten by this same dog, have died presumably mad; one of them infected two persons with saliva. They first went to the Pasteur Institute for treatment, then came to the health department. They were advised to continue where they began. One of the dogs bitten by this rabid dog, and which subsequently died under suspicious circumstances, was sent to the laboratory, and after autopsy inoculations were made in rabbits and guinea-pigs, which are now under observation.

Another dog in West New Brighton, apparently with no connection between it and the first cases, became rabid and died in three days. The diagnosis of rabies was made by an able veterinarian. Its body was sent to the laboratory, inoculations were made in rabbits and guinea-pigs, and the animals are now under observation. This dog bit two people, who are now undergoing treatment by the health department.

Besides these cases, two people who applied for treatment were advised not to take it, as the dogs which bit them were manifestly not mad. Two other people have just applied for treatment, who were bitten by a dog supposed to have been mad. The dog was killed, and is to be sent to the laboratory for investigation.

The above facts give the amount of work done so far, but the cases will be reported much more fully later, with results of treatment, etc. I think these facts will prove that there is room for this new department, and that the field of the physician will not be encroached upon. Follen Cabot, M.D.

128 East Thirty-eighth Street.

A REPLY TO DR. VINEBERG—ABDOMINAL HYSTERECTOMY—ACUTE PUERPERAL SEPSIS.

To the Editor of the Medical Record.

Sir: Dr. Vineberg writes a reply to my remarks in a discussion concerning the specimen of a uterus which he presented at the meeting of the obstetrical section of the Academy of Medicine on February 24th. It is to be regretted that the doctor makes this a personal matter, there being no justification for such a course, or for adopting this mode instead of making his final reply at the time of the meeting, my remarks having been made only in the interest of science, and not adversely to the gentleman, but only to his procedure. This compels me to answer him through your columns. Although the doctor states that his reply must not be taken as an implied criticism, I do not see how it can be construed otherwise, he selecting only my name in his reply. The doctor, however, has said nothing in his answer which in my opinion makes his procedure valid, and I still adhere to the views expressed in the discussion, printed in the number of your journal for March 12th—namely, that I have not seen a case of "acute puerperal sepsis" cured by such operation. In the cases of acute puerperal sepsis to which I allude, I do not include those having accumulations of pus somewhere in the pelvis, or cases of puerperal sepsis due to remnants of placenta or decidua remaining in the uterus. I have operated upon a goodly number of women ill with acute puerperal septic peritonitis, hoping to save one or another, but so far in vain. The condition found is a large flabby uterus, the Fallopian tubes congested but not containing pus, the ovaries macroscopically normal, the intestines distended and the peritoneal surface more or less congested, no adhesions at any place—in short, a septic peritonitis. The patients give the

history of having been delivered from two to six days previously, when the trouble began with a more or less marked chill; but I have seen a number of cases in which the chill was absent, and the only complaint, so far as the patient was concerned, would be a feeling of heat and weakness. The temperature varies from 103° to 106° F; the pulse ranges from 130 to 160 and is feeble and easily compressible; the abdomen is distended; the face has the characteristic appearance—sallow, with slightly flushed cheeks and pinched alæ nasi. Death takes place in such cases in from the fifth to the tenth day after the delivery.

If a major operation is performed, such patients die earlier, usually within thirty-six hours after the operation, the shock of the surgical procedure contributing to this. Such has not been alone my experience, but also the experience of all those personally known to me.

On the other hand, all of us who have had sufficient experience can recall cases of the type to which Dr. Vineberg's belong, presenting symptoms as aggravated and even more so than his cases, which ended in recovery without an abdominal hysterectomy. The views which I expressed in the discussion alluded to were shared by all who spoke at that time; and, in fact, by every one who saw the two uteri presented, one of which contained a good-sized piece of adherent placenta, which might have been removed, thereby removing the focus of infection and avoiding the abdominal hysterectomy which the doctor did.

H. J. Boldt, M.D.

54 West Fifty-First Street, New York.

New Instruments.

SEVERAL NEW GENITO-URINARY INSTRUMENTS.[1]

By Ferd. C. Valentine, M.D.,

New York,

Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West Side German Dispensary; Genito-Urinary Consultant, United Hebrew Charities, etc.

A New Urethral and Intravesical Irrigator.—The favor into which copious urethral and intravesical irrigations for the treatment of gonorrhœa and its sequelæ have risen in all parts of the world has called for a simpler means of accomplishing the desired end. I thought I had attained this when I published my last article on the subject.[2] But the apparatus then advocated had defects which are overcome in the one I have the honor of showing now. Aside from more sightly appearance, it has the marked advantages of greater simplicity, less liability of breakage, and far greater facility of operation. Indeed, so simple is it that the complex directions required for its predecessors become entirely unnecessary now.

It consists of an elevator, which, however, is a convenience only for those who have many irrigations to perform daily. The movable collar can be substituted by one fixed at nine feet from the floor. The percolator in which the liquid used is placed can be set into the ring so fixed or, if the elevator is used, hoisted by a cord and made fast to a plain hook.

The essential part of this irrigating apparatus is its new stopcock and shield. The latter is of metal, varnished to withstand the effects of potassium permanganate, which is most frequently used in these irrigations. The shape of this shield is that segment of a globe which experience has shown to be all-sufficient for the reception of the fluid as it spurts from the meatus and for guiding it into the basin held by the patient. The advantages of metal over glass, in a shield, are too evident to merit much discussion. Theoretically, glass conveys the idea that the surgeon can visibly guide his work through its transparency. As, however, at the very beginning of irrigation the glass becomes blurred from the escaping fluid, the employment of this material as a shield becomes illusory. Moreover, the metal shield, being about one-fourth of a globe, leaves the meatus and glans in plain view, while it is large enough to serve all the purposes for which I originally devised this portion of the apparatus. The new shield has a little ring by which it may be suspended from a cup hook when not in use, thus preventing doubling and consequent premature breaking of the rubber tube.

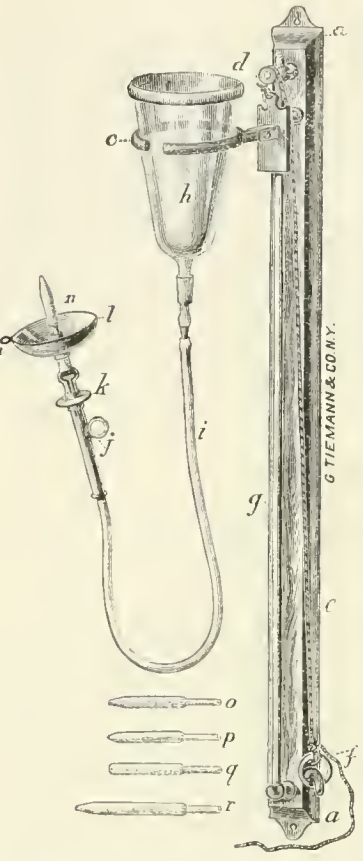


Fig. 1.—Valentine's Urethral and Intravesical Irrigator. *a*, *a*, Board with metal ends, the upper part thereof to be attached to the wall, nine feet from the floor; *c*, sliding ring to hold percolator; *d*, pulley for readily lowering the percolator to fill it; *e*, cord by which percolator is raised and lowered; *f*, ring slipped over hook to hold percolator in place when filled for use (experience has shown that this elevation suffices to overcome the most resistent compressor; minor pressure is easily regulated exactly as required by the stopcock); *g*, brass rod, on which percolator collar slides; *h*, glass percolator; *i*, soft-rubber tube, six and one-half feet in length; *j*, ring of stopcock (in irrigation, the fourth finger of the right hand is passed through this ring; *k*, flange, moved forward and backward by right thumb to vary the flow from merely sufficient to wash the prepuce, glans, meatus, etc., to a full stream, sufficient to enter the bladder, which a little experience enables the operator to do painlessly); *l*, metal shield to catch irrigating fluid as it spurts from the meatus, and direct it into the basin held by the patient (in male as well as female patients, irrigation can thereby be accomplished without soiling the body or clothing); *m*, ring to suspend stopcock when not in use; *n*, stopcock attached to tube; *o*, pointed glass nozzle for average meatus; *p*, dome-shaped glass nozzle for a very large meatus; *q*, flat glass nozzle for a very small meatus; *r*, long nozzle for female urethra.

The shield is a part of the new stopcock. This latter consists of a simple metal tube with two of its sides cut, into which heavily tipped strips of the same metal are sunk. They are managed by a ring, which is easily moved forward or backward. These motions practically cover the whole technique of urethral and intravesical irrigations. When the ring is as far forward as it can be pushed, the rubber tube within is closed. Slightly drawn back, it allows enough fluid to escape to wash the prepuce, glans, and meatus; if it is farther drawn back the jet becomes as strong as may be desired for urethral irrigation. When the ring is entirely drawn from the cut portion of the tube it yields a pressure sufficient to overcome the strongest compressor, and this makes intravesical irrigation easier than was possible with the instruments formerly recommended. The position of the patient, the indications for treatment, the solutions employed, and all other details were fully described in the Medical Record for June 5, 1897.

[1] Demonstrated before the genito-urinary section of the New York Academy of Medicine, December 14, 1897.

[2] Valentine: "Further Improvements in Urethral and Intravesical Irrigations," Medical Record, June 5, 1897.

Albarrán's cystoscope marks an era in examinations of the bladder, ureters, and kidneys, and in the treatment of these organs. Its optical portion is similar to that of Nitze's cystoscope. The lamp, however, gives a greater illuminating intensity, heats far more slowly, and can more easily be changed. Its shaft is much thinner than that of any other cystoscope, but the prism and lenses are so arranged as to expose a much larger surface of the interior of the bladder.

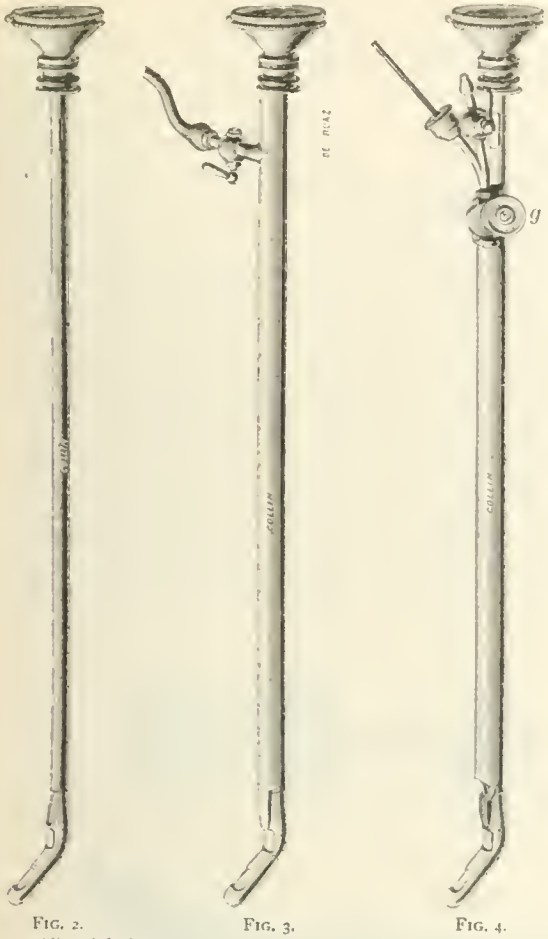


Fig. 2. Fig. 3. Fig. 4.

Fig. 2. Albarrán's Cystoscope.
Fig. 3. Albarrán's Cystoscope with Irrigating Attachment in Place.
Fig. 4.—Albarrán's Cystoscope with Attachment for Ureteral Catheterization.

The attachment for ureteral catheterization is easily made a part of this cystoscope. Complicated as it appears in illustration, its mechanism is exceedingly simple. Its essential feature is the movable guard, which can give the ureteral catheter any curve that may be required, while the instrument is in the bladder. This is accomplished by means of the eccentric wheel *g*. I do not recall having seen anywhere in the writings of Nitze, Casper, Brenner, or others, that lateral directions can be given the ureteral catheter by twirling its distal end. This as I have often shown is easily done, and ureteral catheterization accomplished without turning the cystoscope, whereby view of the mouth of the ureter is readily lost. But an inexpressibly great impulse is given ureteral catheterization by Albarrán's guard, which curves the catheter from behind forward, between the vertical and horizontal positions, without tilting the instrument. The percentage of successful ureteral catheterizations is vastly increased by this simple appliance.

Behind the wheel which moves the intravesical guard a nipple with stopcock is attached. This leads through a tube to the prism and lamp, which can be cleansed of blood, pus, or mucus, by a slight injection of boric-acid solution, while the cystoscope is in the bladder. This improvement does away with one of the elements which frustrated even simple cystoscopy in many instances. The same part of the apparatus also enables the surgeon to draw off an excess of fluid from the bladder, to increase its contents if they are not sufficient, or to substitute clear fluid when the fluid in the bladder has become turbid.

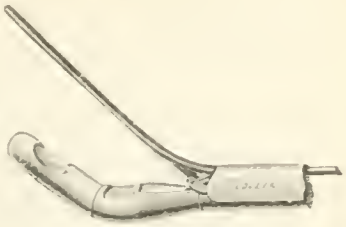


Fig. 5.—Tip of Albarrán's Cystoscope, showing one of the angles to which the ureteral catheter can be bent within the bladder.

The irrigating attachment is naturally simpler still than the one before outlined. Its large canal renders washing the bladder easy during cystoscopy.

Albarrán sums up his description[1] as follows:

"1. The same instrument can be used as a simple cystoscope, an irrigating cystoscope, or as a ureteral cystoscope. This instrumental combination is of a degree of importance from an economical point of view, owing to the high price of cystoscopes. As regards ureteral catheterization, I would call attention to the following advantages:

"2. The visual field of the instrument is very large, which permits finding the ureters as easily as with the best cystoscopes ordinarily used.

"3. The luminous intensity of the lamp gives a strongly lighted field, which greatly facilitates all manœuvres.

"4. The ease with which ureteral catheterization can be performed in the male and the female is truly remarkable. The precision of movement given the extremity of the sound is such that I have often performed catheterization in less than half a minute, and several of our pupils in the Hôpital Necker have readily learned this catheterization. This instrument has made ureteral catheterization common, almost daily, in the service of my master, M. Guyon.

"5. The changes which can be given the ureteral sound are so extended that I always, up to the present, have succeeded in catheterizing all cases, even those in which the prostate was hypertrophied.

"6. The sound penetrates the ureter in the most appropriate direction, *i.e.*, from below upward and from within outward.

"7. The instrument is perfectly watertight.

"8. The ureteral attachment which carries the sound is separable from the optical portion. It can be placed in the oven; thus the only part which might leave something to be desired regarding cleansing can be positively sterilized."

The author's further claims for his ingenious instrument have been mentioned before.

The catheters, which can be made to penetrate the ureter, even the pelvis of the kidney, are modifications of ordinary urethral catheters. Up to 12 F. can be introduced over the Albarrán guide sound if the calibre of the ureter permits. They can be left *in situ* as long as required, and can be changed whenever necessary, merely by reintroducing the guide sound through their lumen and stripping the catheter from it. The advantage of being able continually to drain a kidney, as for instance in a fistula after nephrotomy, is self-evident. To do this without repeated cystoscopy is of incalculable benefit to the patient.

Further description of this instrument, however, would lead to an extended paper on ureteral catheterization, which would be far beyond the scope of the present demonstration.

[1] Albarrán: "Technique du Catheterisme Cystoscopique des Uretères." Revue de Gynecologie et de Chirurgie Abdominale, No. 2, May–June, 1897.

Kollmann's irrigating dilators are certainly most ingenious combinations, by which urethral dilatation and irrigation can be performed at the same time. Both instruments, (*a*) for the anterior urethra and (*b*) for the posterior urethra, have channelled blades, through which the fluid used for irrigation (preferably hot two-per-cent. boric-acid solution) can be passed while dilatation is being performed. The liquid so injected escapes from the distal end of the dilator into the urethra; the shield in front, being closely pressed upon the glans, prevents its flowing from the meatus. It consequently finds its way through an orifice near the proximal end of the instrument, which connects with the lower stopcock, to which a rubber tube is attached to conduct the fluid to a receptacle conveniently placed.

While these instruments have acted satisfactorily in my hands thus far, my experience with them in the past two months I have used them is naturally too limited to warrant reporting any advantage over post-operative use of the new irrigator before outlined. Theoretically, however, there should be at least convenience in this immediate connection of dilatation with irrigation, especially in cases of obdurate chronic urethritis.

These irrigating dilators, as they are used without rubber covers, cannot be recommended to practitioners, unless they, like my present audience, have by large experience in urethral instrumentation acquired that special delicacy of touch which will prevent injury to the organ.

Fig. 6.—Kollmann's Irrigating Dilator for the Anterior Urethra.

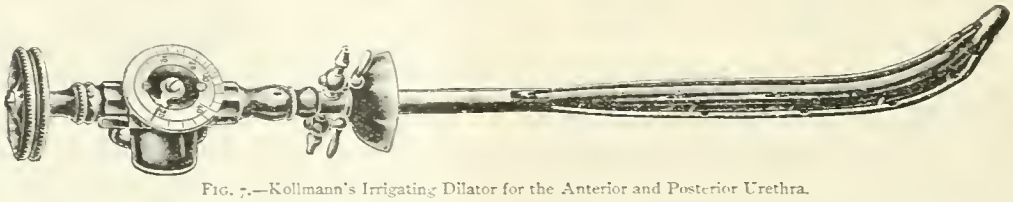


Fig. 7.—Kollmann's Irrigating Dilator for the Anterior and Posterior Urethra.

Wossidlo's centrifuge, like the new urethral and intravesical irrigator, is an apparatus which will prove as useful to the general practitioner as to the specialist. It consists essentially of a heavy base, on which the revolving plate is carefully balanced. It differs from the ordinary top centrifuge essentially in that it requires no clamping, but can be placed anywhere, even on the microscope table, where it makes no noise and causes no vibration. After use it can be put out of the way of other work, certainly a most desirable feature when office space is limited. While Wossidlo's centrifuge will do all the work required of such an apparatus, its price is lower than that of any other thus far placed on the market.

My new urethral and intravesical irrigator is manufactured by Collin (Paris), Heynemann (Leipzig), and Tiemann (New York). Albarrán's cystoscope is made by Collin; Kollmann's irrigating dilators and Wossidlo's centrifuge are made by Heynemann.

242 West Forty-Third Street, New York.

London Pauperism.—A census of London paupers, taken on the last day of the first week of March in the years named, shows that the number of paupers was, in 1898, 105,882; in 1897, 105,694; in 1895, 137,298. —*London Times.*

AN IMPROVED HAGEDORN NEEDLE.

By H. F. BIGGAR, Jr., M.D.,

Cleveland, Ohio.

There have been many devices brought forward in the direction of new needle forceps for needles of the Hagedorn type. These have been as intricate and complicated in many instances as they were varied in construction. Few have given entire satisfaction.

The best forceps have always been the simplest in construction, that could be adapted to any cavity or position.

My aim has been not to adapt the holder to the needle but to change the needle to fit the simplest form of forceps. The accompanying cut represents an improvement on the popular Hagedorn needle, so that it may be firmly and securely held by any style of needle forceps.

The cutting-edge and point and about one-half the length of the shaft consists of an ordinary Hagedorn. Then the plane of the shaft changes at 90°, and the remainder of the needle, the part grasped by the forceps, lies horizontal to the vertical point.

The needle is made in six sizes and curves by George Tiemann & Co., who have made them for me for over a year. In corresponding with Messrs Tiemann & Co., I learn that Dr. J. A. Dibrell, of Little Rock, Ark., has previously devised a similar needle, of which I was ignorant. But in surgical work I find the needle so convenient and of such service as to warrant bringing it before the profession.

Chest Disease in London.—The Royal Hospital for Diseases of the Chest in London has just published its annual report, and it is stated therein that the total number of in-patients under treatment during the year was 740, of whom 577 were discharged relieved or convalescent, 94 died, and 64 remained in the wards at the end of the year.—*London Times.*

Growth of Town Population in Japan.—The last Japanese census shows that in Japan, as in many other countries, the population tends more and more toward the towns. In 1886 not quite two per cent. of the total population lived in towns of over 10,000 inhabitants, while in 1894 the proportion was over sixteen per cent., although in the mean time the total population had increased from 38,500,000 to nearly 42,000,000. In 1886 the number of towns with more than 10,000 inhabitants was 117, in 1890 it was 188, and in 1894 it was 205. Four and one-half millions of people lived in these towns in 1886, and 6,750,000 in 1894.—*London Times.*

FORCEPS AND CURETTE FOR THE REMOVAL OF ADENOIDS.[1]

By WALTER F. CHAPPELL, M.D.,

CONSULTING LARYNGOLOGIST TO THE LOOMIS SANITARIUM; SURGEON TO THE MANHATTAN EYE, EAR, AND THROAT HOSPITAL, NEW YORK.

The best means of removing adenoid tissue from the nasopharyngeal space has been a fruitful source of discussion ever since its importance was fully recognized. The location and formation of this space render it somewhat inaccessible for operative procedures, excepting through the mouth. Some well-known specialists have recommended the nasal passages as the best route to the nasopharynx, but it must be some very unusual condition which would make such a selection preferable. Various instruments have been devised for the removal of adenoid tissue, and many claims of success and superiority have been made by their various advocates. The forceps and curette are, however, generally conceded to give the most satisfaction, and are the instruments which will be considered in this brief paper. I present samples of some of the forceps and curettes to be found in the instrument shops of the city. Of course, all the gentlemen present are in a general way familiar with them, and each has his favorite instrument, but this presentation is only to refresh our memories for discussion. The statement is often made that the removal of adenoids is a simple operation and safe for any physician to perform. To be sure, free hemorrhage is easily obtained, and neither the patient nor the doctor can always tell just what has taken place; and it is not until later, when otitis media, unilateral deafness, dry pharyngitis, or some other complication is encountered, that the importance of some experience in these matters is realized. How often members present this evening have had children brought to them, who have been operated upon without any relief! One of the causes of incomplete removal of adenoid tissue, unnecessary destruction of mucous membrane, or other damage in the nasopharynx, is the forceps or curette employed being too large. From measurements I have made after death on infants under three years of age, I am convinced that both the forceps and curette, especially the latter, on sale are far too large for safe and satisfactory use. This is of special interest when we consider the large number of young children who suffer from adenoid growths. In an examination of two thousand children which I made about nine years ago, the greatest number occurred in children under six years of age.

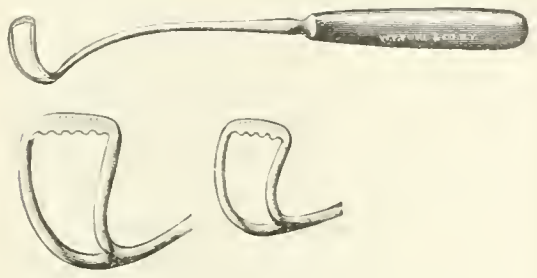
A recent examination of the records of the Manhattan Eye, Ear, and Throat Hospital shows that for the five years preceding 1898 four hundred and thirty-seven infants under three years of age were brought to the hospital for treatment of the throat. One hundred and sixty-seven of these had adenoid tissue in the nasopharynx, the greatest number ranging from two to three years of age. There were quite a number under one year, and four in whom the growths were congenital. In infants under six months I have always found the index finger too large for a satisfactory digital examination. Until I employed a curette made on the measurements referred to, I was not satisfied with the treatment of the nasopharynx which I had been able to employ in young infants. In my experience, to obtain the best results with a minimum amount of danger, we should use instruments of sizes based on actual measurements of the nasopharynx at various ages.

Whether we shall use the forceps or curette, or both, is another matter for discussion. For some time the forceps had the preference, but at present the curette has considerable favor in this country. Many use both instruments, selecting that which seems most suitable for the case in hand. Regarding the forceps, one of the favorite arguments in their behalf is that large masses of tissue can be removed and reserved to show how much has been taken away. This can be done equally as well with the curette in skilled hands, especially if the child is in the erect posture. Forceps opening laterally or antero-posteriorly in a space so small as the nasopharynx involve considerable danger to the surrounding parts. They remove growths by piecemeal and are apt to leave small tags behind. To be safe and to obviate all these difficulties in using the forceps, we are told to pass the finger into the nasopharynx and guide the blades of the forceps to each growth. This unnecessarily prolongs the operation, making from six to twelve insertions of the instrument necessary in every case. Furthermore, in my experience it is not an easy matter to employ the forceps with your finger in the nasopharynx of a child. The movement of the curette, on the other hand, is an antero-posterior one of a sweeping character, extending from the posterior margin of the septum to the free margin of the soft palate in the median line. This takes in the whole surface of the nasopharynx on which adenoid tissue is usually found, and needs only the guidance of an experienced hand. Two or three skilful applications should clear the nasopharynx in ordinary cases. The rapidity and exactness with which this can be done justifies, in my opinion, our dispensing with an anæsthetic in many cases. The advantage of this is very obvious. In the writer's opinion it is also impossible to acquire the same delicate touch with the scissor-like movement of the forceps that can be acquired with the curette, which should be the same as a pen in the hands of a skilled penman. In the selection of a curette, one should be chosen of suitable size for the age, and, if possible, of the shape of the nasopharynx. The blade should be narrow, so that it will engage near the septum, and should not look directly backward, or it will strip up tissue unnecessarily, especially on the posterior wall of the pharynx. The width of the fenestra at the point of junction of the arms with the shaft of the curette should be one-half of its width at the blade. This is important, as, if narrower, it allows the instrument to slip over the growths without thoroughly engaging them; if wider, it is grasped by the soft palate and interferes with the rapid use of the instrument on the posterior wall. The shank of the curette may be straight or curved, preferably the latter. Raising the handle then throws the blade forward, and, in place of the blade embedding itself in the mucous membrane of the posterior wall, it almost picks the growths from the mucous membrane.

Before beginning the operation, locate as clearly as possible the amount and situation of the adenoid tissue. Then pass the instrument behind the soft palate, depressing the handle until the blade touches the septum and roof of the vault. A fair amount of pressure should then be exerted, so as fully to engage the tissue behind the septum, before the backward movement is begun. The latter is made quickly and with very moderate firmness, until the posterior wall is reached, when the pressure is lessened by elevation of the handle of the instrument. I wish to protest against the great amount of force employed by some operators. A well-known specialist has frequently remarked in my presence that he went to the bone every time, and I have been present when the periosteum was certainly denuded. To my mind there is no excuse for this, and the amount of pressure used is one of the points we should all carefully determine, and endeavor to accomplish this operation by skill and not by force.

[1] Read before the section on laryngology of the New York Academy of Medicine, February 23, 1898.

The curettes here shown have been used by me for several months at the Manhattan Eye, Ear, and Throat Hospital. They have been changed from time to time as experience suggested, and in my opinion cover fully the requirements for this operation. The width of the smaller curette and length of its fenestra are based on the measurements I have referred to, and it is intended for use in infants and children up to their fourth year. The larger curette is based on similar measurements in children from four to fourteen years of age, but may also be used for adults. The cutting edge of the blade



may be straight or coarsely serrated and not very sharp. At first sight the serrated blade might suggest teeth which would tear the mucous membrane, but it does not if it has the right pitch, and really preserves the mucous membrane, as it crushes and rakes off the growth with very light pressure, leaving the membrane intact. The smallest points of adenoid tissue are readily caught in this form of knife, and can be preserved for examination if desirable.

The points in favor of a curette may be summed up as follows: It shortens the time required for the operation; frequently anæsthesia may be omitted; it minimizes the danger of injury to the Eustachian tube, septum, or soft palate, and of any unnecessary sacrifice of mucous membrane.

7 East Fifty-First Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending April 9, 1898:

	Cases.	Deaths.
Tuberculosis	146	132
Typhoid fever	8	3
Scarlet fever	128	11
Measles	329	9
Diphtheria	145	15
Laryngeal diphtheria (croup)	13	4
Chicken-pox	26	0
Cerebro-spinal meningitis	0	4
Pertussis	1	0
Erysipelas	1	0
Parotiditis	2	0
Small-pox	1	0

Accountability of the Physician.—The law does not require of a physician or surgeon absolute accuracy, either in his practice or his judgment. The law does not hold physicians and surgeons to the standard of infallibility, nor does it require of them the utmost degree of care or skill of which the human mind is capable, but that, while in the practice of their vocation, they shall exercise that degree of knowledge and skill ordinarily possessed by members of their profession. This is the declaration made by the supreme court of Nebraska, in the case of Van Skike *vs.* Potter, December, 1897, which was an action brought to recover damages from Drs. Potter and Reynolds for alleged negligent treatment of a kneecap fracture. The trial resulted in a verdict and judgment in favor of the doctors, which the supreme court affirms. The evidence, the supreme court holds, sustained the finding of the jury that the defendants did not contract with the plaintiff to effect for him a permanent cure, and did not contract to visit and treat him until he was cured. As to whether they had pursued the proper method in setting his kneecap, by wiring the fractured portions together, the supreme court says: "As is usual, the experts for the plaintiff agreed with his contention, and the experts on behalf of the defendants agreed with their contention": and it decides that they were not guilty of negligence in the treatment given the plaintiff, including the leaving the point of a drill in the bone, when broken off in drilling a hole in one of the pieces of the kneecap, owing to a movement of the plaintiff's leg. Upon the issue made by the pleadings as to whether the defendants agreed to visit and treat the plaintiff until he recovered, the court holds that they were properly permitted to testify that at the date of their last visit to him they informed him that they should not return unless they should be requested so to do. It also holds that in such a case text-books on surgery, though standard authority on the subject, could not be read to the jury as independent evidence of the opinions and theories therein expressed or advocated. —*Journal of the American Medical Association*, March 12th.

The Effect of Water Pressure.—It is a remarkable fact, says an English paper, that the very means of life may be the cause of death. A whale may be drowned, and now a scientist tells us that there seems to be a peculiar fatality among fishes. After reaching a certain depth of water, the swimming bladders become distended by the pressure of air, and the fish literally explode. Too much of one's native element may bring about most disastrous consequences. A sudden change of air from one density to another may cause the rupture of a blood-vessel, and a too sudden change of temperature has produced like results. Extremes of all sorts are not only very injurious, but are likely to prove fatal, especially to organisms that are not in the enjoyment of robust health.

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended April 9, 1898:

Small-Pox—United States.

		Cases.	Deaths.
Alabama, Hurricane Bayou	March 27th to April 1st	5	
Mobile	March 27th to April 1st	3	
District of Columbia, Washington	April 2d	1	
Louisiana, New Orleans	March 26th to April 2d	2	
Michigan, Ionia	April 2, small-pox reported.		
Tennessee, Bristol	March 1st to 31st	1	
Chattanooga	March 1st to 31st	12	
Elk Valley	March 1st to 31st	1	
Jellico	March 1st to 31st	1	
Johnson City	March 1st to 31st	2	
Knoxville	March 1st to 31st	17	
Mingo	March 1st to 31st	1	
Morristown	March 1st to 31st	5	
Rockford	March 1st to 31st	1	
Rutledge	March 1st to 31st	11	
Shield's Ferry	March 1st to 31st	4	
Sprowles	March 1st to 31st	1	

Small-Pox—Foreign.

Bohemia, Prague	March 12th to 19th	6	
China, Hong Kong	February 12th to 19th	38	18
Cuba, Cienfuegos	March 20th to 27th	..	2
Sagua la Grande	March 12th to 26th	146	12
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THE CHOICE OF ROUTES, ABDOMINAL OR VAGINAL, IN INTRAPELVIC SURGERY.

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NEW YORK.

It is apparent to every one who is familiar with intrapelvic surgery that there is a great difference, in both immediate and remote results, between abdominal and vaginal section. Experience shows that the latter is borne far better than the former. There are less pain and discomfort, there are less likelihood of shock and less danger of septic infection, and the future well-being of the patient is less frequently threatened with uncomfortable sequelæ. Our later statistics show how greatly the death rate has been reduced by the resort to the vaginal route for the performance of operations that were formerly done through the abdomen alone. The reason for this is not far to seek. The peritoneum is a highly absorptive, delicate, and sensitive membrane. It belongs to the lymphatic system, with a most exquisite nerve supply derived from the sympathetic. It is, in fact, a large lymphatic sac, and, covering as it does the intestines and pelvic organs, presents a vast serous surface. Its careful protection, therefore, from infection and injury is of the first importance. It is said, and said truly, that with our modern cleanliness and care the mere opening of the peritoneum is attended with but slight danger. Still it is the initial step of a capital operation, and no man undertakes it without some slight fear. There is danger then, and that danger is increased in proportion to the amount of exposure and disturbance the peritoneal surfaces are subjected to.

By the abdominal route, even with the advantages of the Trendelenburg posture, and even though the greatest care is exercised, there necessarily must be more exposure and more handling of the intestines and other peritoneal surfaces than there could possibly be in the vaginal operation in the same class of cases.

With the greater amount of peritoneal surface exposed, and the lack of immediate and efficient drainage, there must be greater liability to infection and greater possibility of shock. With every source of danger from infection removed, the vaginal operation is borne far better than the abdominal. I have frequently seen a delicate and enfeebled woman go through a severe operation by the vagina that would probably have killed her from shock had it been done by the upper route. There is comparatively very little disturbance of sympathetic-nerve centres by the vaginal operation. It seems to be the more toilsome, though less dangerous route.

Besides the above-named objections to abdominal sections, there may be mentioned a number of other, though in comparison minor ones. The undesirable scar and the danger of ventral hernia should be named first. Then the discomfort and pain of the abdominal incision are no small items. They are in marked contrast, as I have before said, to those of vaginal section. These are the chief terrors to the woman who needs operation. I have often said to a patient: "It will not be necessary to cut open the abdomen. Your operation can be done from below." In nearly every instance this statement has made a marked impression and has been the deciding point in favor of an operation, even when life depended upon it.

I should not omit to mention here adhesions to intestines and omentum which usually follow the abdominal incision. They do sometimes follow vaginal section and may be of serious import. I have twice been obliged to break up adhesions several days after vaginal hysterectomy, in order to save my patient, but this is of the rarest occurrence and is probably due to faulty gauze packing.

To vaginal section the only positive objection that can be urged is that the surgeon must depend to a great extent on the sense of touch, while in abdominal section he has complete control of the whole operative field for both sight and touch. But the answer may be made that to the man skilled in this kind of work sight is not so necessary. The route possesses the great advantage of natural and perfect drainage, which the law of gravity gives to it. To my mind, in all operations in pelvic disease thorough drainage is one of the most important factors.

In regard to the wound in the vagina, it heals rapidly and most kindly and is not attended with the danger of hernia; or I should say, to be accurate, the danger is practically none.

In consequence of these facts, old theories and practices are giving way to new ideas and methods. Many are doing more work by the vagina than ever. There are, however, many others, and excellent operators too, who, with fixed habits of thought and action, uninfluenced by these ideas, are still doing most of these operations by the abdomen. They have learned to do their work well, and, having perfected their technique, are slow to change to methods they are not entirely familiar with. I speak of it here because they are the ones who are retarding the general acceptance of these ideas. They will be carried along, however, by a tendency which no individuality can long resist or greatly modify.

It is impossible to lay down any positive rule and say that such and such work should all be done in one particular way. Each case must be studied and judged according to its indications and merits. Each route will always have its uses.

To every man who has had an extensive experience with the diseases of women, and is skilled in both ways of operating, the question is ever uppermost in his mind: "Can this operation be done per vaginam; and, if so, can it best be done in this way?" The consideration of the upper route is always secondary in his thoughts, for the preponderance of reasons seems to favor the other.

There are but few operations in the pelvis that cannot be done per vaginam. It must be admitted, however, that there are many cases in which this route is not feasible, though naturally indicated.

It is my purpose to take up here, separately, the consideration of the different diseases for which these procedures are resorted to, and to present the histories of a few illustrative cases.

For ovarian and parovarian cysts the abdomen is almost invariably opened. It is my belief that for unilocular and broad-ligament cysts this is not necessary; that they can easily and with less danger to the patient be removed per vaginam. It must, of course, be always kept in mind that the presence of adhesions may interfere with the work, and this route may have to be abandoned for the other. But this can usually be done without hindrance or drawback. The following is an instructive case of the kind:

Case I.—Miss N——, twenty-five years of age. Menstruation regular, coming on every four weeks and lasting three days, and attended with no pain. At the age of twenty she first discovered an enlargement in the lower right side of the abdomen, which has grown steadily up to the present time, reaching several inches above the umbilicus, and filling and distending the whole lower portion of the abdomen. She has very little pain and complains merely of frequent micturition. This is her condition on entering the hospital, February 8th of this year:

Diagnosis, unilocular cyst, ovarian or intraligamentous.

Operation: Posterior vaginal section, uterus to the left and backward. The tumor could be reached with difficulty with the tip of the index finger. The cyst was then grasped with Jacob traction forceps, and a small opening made with blunt-pointed scissors. (I mention all these steps, because they are important.) It was found that an external sac was cut through, and the true cyst could be felt beyond. The external sac could, of course, be nothing but the lower surface of the broad ligament, and the cyst was therefore intraligamentous, either parovarian or intraligamentous ovarian. The contents of the cyst, a pale watery fluid, the true parovarian-cyst fluid, to the amount of about three gallons, were then evacuated. The cyst wall, with its covering, was then secured in the grasp of a forceps and drawn out. With very little difficulty the entire cyst was enucleated, it proving to be a true parovarian cyst. The broad-ligament covering, containing the ovary of the right side, was then clamped with the Skene electric clamp, beyond the ovary and as near to the uterus as possible. Six amperes of electricity were then applied, for a period of three and one-half minutes, and the external portion of the ligament was then cut away. Before the clamp was unlocked care was taken to grasp the stump just above with forceps. As there was no bleeding, after the clamp was cautiously removed the stump was allowed to slip back into the abdomen. Gauze was then packed in the opening. She recovered without incident.

From the experience gained in this case I have formed the belief that intraligamentous cysts can be more easily enucleated by beginning the process from below, where the ligamentous envelope is usually the thickest.

I would say here that I am making a thorough test of Dr. Skene's electric clamps, and, though they have not been entirely successful in every instance in sealing the arteries, still I feel encouraged to continue their use. I am confident that after I have learned thoroughly how to use them, how exactly to regulate the electricity, I shall be entirely satisfied with them. They possess many advantages over every other appliance for hæmostasis. As Dr. Skene says, they are not only hæmostatic—they are antiseptic and aseptic, as they close the lymphatics and by devitalizing the nerves prevent much of the pain caused by the ligatures upon the stumps.

The objection to vaginal ovariotomy, from the possible presence of adhesions, is not of much moment. Ovarian cysts, as we see them to-day, are not large and have not had time, as a rule, to acquire adhesions. Multilocular cysts of small size have been removed through the vagina. It is, however, a different matter with the larger variety, those which have been growing a number of years. Their walls are usually hypertrophic in many places and usually adherent to the abdominal wall, intestines, or omentum. Their removal through the vagina might be accomplished, but it would be a Herculean task and it would be better not to attempt it.

As a marked contrast to the one presented above, I will next relate a case of an immense multilocular cyst.

Case II.—Mrs. H——, aged fifty-six. Admitted to the Woman's Hospital, February 7, 1898. Her menstruation has continued without incident to the time of the menopause, three years ago. She has had one child, born twenty-seven years ago, and one miscarriage at the sixth month a year later. Since the menopause she has flowed at irregular intervals. Two years ago she observed a small tumor in the right inguinal region. This has continuously grown, and has reached its present enormous dimensions, greatly distending the abdomen and interfering with respiration. She has constant pain in the right side, where the tumor first appeared, which is somewhat relieved by lying upon the left side.

Diagnosis, multilocular ovarian cyst.

Operation, on the same afternoon as in the previous case. An abdominal incision large enough to admit the hand, was made and the cyst exposed. The patient was turned upon the left side and the cyst opened with a scalpel. About five gallons of dark grumous fluid was evacuated. The growth could not be removed till the cysts lining its wall had been evacuated by the hand, passed inside the main cyst. The greatest care was taken to prevent any of the fluid contents reaching the abdominal cavity. The cyst wall was hypertrophic at a number of points and adherent extensively to the omentum and intestines. These latter required time and patience in dissecting away and in ligating bleeding points. To the pedicle, which was twisted upon itself several times, the electric clamp was applied. This did not work well, even after two applications, and ligatures had to be resorted to. The patient made a rapid recovery.

This tumor it would have been hazardous and difficult to attempt to remove by way of the vagina. I present it as a type of those cysts for which the abdominal incision is required.

The dermoid cyst of the ovary is usually small, and contains a fluid which is highly dangerous. The rupture of a dermoid will produce fatal peritonitis, and death has followed even the aspiration of one. These cysts can and should be, whenever suspected, removed per vaginam. The following is a report of a case of the kind:

Case III.—Mrs. J——, aged thirty-five. Married ten years; had one abortion at the third month soon after marriage, but has had no children. She consulted me for pain in the pelvis and pressure symptoms. I found, on examination, what appeared to be a retroflexed uterus, the size of a pregnant uterus at three and one-half months. As she had passed over three menstrual periods, I felt sure I had to deal with a retrodisplaced pregnant uterus. It was impossible to replace the mass, even with the patient in the knee-chest position. I then decided to make the attempt under ether. This I proceeded later to do, and it shows what a difference an examination with ether and an examination without makes. With the muscles entirely relaxed, a somewhat enlarged uterus could be made out in front, distinct from a larger mass behind. The diagnosis of extra-uterine pregnancy was made, and later confirmed in consultation, and removal decided upon. Under ether posterior section was made.

The tumor proved to be a dermoid, the size of a cocoanut, which I evacuated and removed without difficulty. The pedicle was clamped. The patient recovered.

Fortunately this proved not to be extra-uterine pregnancy. I have operated many times for that condition through the abdominal incision, but believe it should not be attempted through the vagina. I have seen the attempt made, and the bleeding was so excessive that the patient nearly lost her life before the operator could successfully deal with the case from above. The danger of hemorrhage is so great by the vagina that the question no longer is one for argument.

Large myofibromata can be removed by the vagina. It requires great patience and persistence, and is very exhausting, moreover, to the operator. It is a very long process, and by the quickest operators can rarely be accomplished under two hours. It is of questionable advantage in the light of the perfected technique of abdominal hysterectomy. I have operated in both ways many times, and the result of my experience is that large fibroids, reaching above the umbilicus, are better removed through the abdominal incision; and the smaller ones, when advisable to operate at all, by morcellation from below. It rarely takes more than an hour and a half to remove even the largest fibroids through the abdomen, and that is the limit of time, as a rule, that a patient should be under ether. In cases in which it is possible to do myomectomy, the work should naturally be done from above. In removal of intraligamentous fibroids, the work should be done from above. The danger of hemorrhage is generally too great to admit of the attempt from below.

Case IV.—Miss S——, aged twenty-five. Admitted to the Woman's Hospital, February 25th. Menstruation of the twenty-eight days type, lasting two days and without marked pain. She complains of pain in the left side and left inguinal region, aggravated by exertion in walking or standing for any length of time. She complains also of pain and soreness low down in the pelvis. She has felt for some time a small mass in this locality. She has also had a discharge of blood and mucus from the rectum, and complains of weight, soreness, and pressure there.

Examination disclosed a hard tumor, the size of a large-sized orange, to the left and backward of the uterus, crowding the uterus forward and to the right. Above this and a little to the right of the median line was what appeared to be an oblong cyst. The tumor and uterus were bound firmly together and fixed in the pelvis; the cyst above was slightly movable.

Diagnosis, intraligamentous fibroid of the uterus, with possible hydrosalpinx.

Operation, February 28th. After thorough curettage the abdomen was opened; the omentum was found adherent to the parietal peritoneum and greatly thickened. A large, dense, fibrous band was encountered, firmly binding the parietal peritoneum to an oblong fluid tumor beneath and to the right. This tumor proved to be an ovarian cyst. Such a dense mass of organized exudates so covered the solid tumor, bladder, and uterus that it was impossible to make out at first just where the bladder and uterus were. A sound was first introduced into the bladder to indicate its position, and then into the uterus. By great care the bladder was stripped up from its attachment to the uterus. The internal junction of the broad ligament near to the uterus, on the right side, was then tied with catgut, and next the external extremity of the broad ligament. This was done to cut off the blood supply of the ovarian artery of that side. The upper border of this densely thickened broad ligament was then cut through, and, after an inch and a half of thickened cellular tissue was worked through the capsule of the tumor was reached. This was cut through and the fibroid enucleated as far as possible, then grasped with a volsellum and drawn out. It was found attached so thoroughly to the whole posterior surface of the uterus and so firmly that it would have been impossible to remove it without removing the uterus also. This was decided upon and with difficulty performed, but successfully. I think I have never met a case more difficult to deal with. The patient recovered.

Very small fibroids attached low down it is possible to remove through the vagina. I have removed successfully a small-sized fibroid, larger than an English walnut, that was attached to the anterior wall of the uterus, at about the level of the internal os. By anterior section, the bladder being separated from the uterus, it was readily reached and removed after ligation.

As regards cancer of the uterus, I can conceive of no circumstances which should favor abdominal hysterectomy. If a cancerous uterus cannot be removed per vaginam, it has reached a stage where operative interference is not justifiable. For operable cases fully as thorough and complete work can be done by the lower route. It is, I might say, inconceivable for a vagina to be found too small or too contracted to admit of the operation being done through that channel. When it is very small it is not a difficult or an objectionable practice to enlarge it by incision. The so-called sacral method, devised by Kraske, and the approach through a transverse incision of the perineum, the recto-vaginal septum being divided, are ingenious, but are rarely practised at the present day and are better relegated to oblivion.

With tuberculous conditions of the ovaries and tubes I have had too little experience to come to positive conclusions, but as far as it goes it is in favor of the abdominal route in dealing with them.

Cystic ovaries and small solid tumors of the ovary can easily be dealt with through the vagina.

We next come to the consideration of the treatment of suppurative diseases of the pelvic organs, which form the largest proportion of the diseases of women. It is in this field that the greatest advances have been made, and which began with our emancipation from the long-cherished theories regarding pelvic inflammation. It is my purpose here to trace a short outline of the predominant idea, which asserted itself successfully and shaped for years the study and treatment of pelvic diseases. It is hardly necessary for me to use the term cellulitis. It is understood before being spoken. It dominated every thought upon the subject. As I look back upon all the years during which we were in a state of stupor over the matter, our density seems inconceivable, when, with the light of the present, we can with such ease trace step by step, from beginning to end, all gradations in the advancement of pelvic inflammation. Many of us can remember case after case in which little or nothing was done, simply because we knew nothing to do for cellulitis.

As house surgeon to the Woman's Hospital in 1872, I was directed not to admit cases of the kind. Now they fill at least half our beds. The possibility of cure was rarely entertained. The hot-water douche was advised more as a palliative than from any hope of its permanent effectiveness. As a rule, when we had such a case, attempts were made by local treatment to cause absorption, but little was accomplished. Local treatment was kept up as a routine, in an aimless way, merely for the sake of doing something. The situation was puzzling and hopeless.

The solution of the problem came with the revelation of the fact that infection, beginning in a tube, passes through the fimbriated extremity to the peritoneum, and from there spreads to all the pelvic structures, and that the extent of the disease depends upon the progress and virulence of the poison. This reve-

lation at once opened a vista of grand possibilities, of which the end is not yet. The idea was taken up and acted upon with enthusiasm, and involved a recession along the whole line of surgical thought and procedure. The removal of tubes and ovaries became the popular fad of the day. Naturally surgical abuses would and did follow. But, in spite of the harm that has been done by unnecessary operations and the sacrifice of ovaries and tubes, great good has resulted. Great and permanent advances have been made both in knowledge and in treatment, great technical difficulties and perplexities have been overcome, and knotty questions have been settled. This could not have resulted except through the work of the vast army of operators. In passing judgment, therefore, we must not forget that it was an entirely new field, and that in the establishment of a new country the pioneer must precede the settler. Our knowledge of pelvic pathology is entirely from the work of the gynæcologist. Candid justice on the part of the general surgeon would grant a cordial recognition of this fact. The gynæcologist as such has not yet finished his work. He is still a necessity. The general surgeon, as a rule, is not at home with the vaginal management of pelvic disease, and it is by this route that the great bulk of pelvic surgery is being done to-day. That the general surgeon will become skilled in the vaginal method is to be expected and wished. Were I beginning my professional life now, I should strive to fit myself for the whole scope of surgical work, and this, I think, should be the aim of every young surgeon to-day. The time is likely to come when gynæcology and other surgical specialties are likely to be unknown as such. There are no new fields to conquer. Nothing but the perfecting of technique remains, with the sundering of fetters that bind to fixed methods, and the qualifying one's self to choose that which promises the greatest immediate and permanent good of each individual patient.

After our awakening from the long and restless night of pelvic cellulitis, when it was discovered that many cases of pelvic inflammation were cured by the removal of diseased ovaries and tubes, it was hoped that the problem had been solved. Experience, however, soon taught that there were many patients, with ovaries and tubes alone affected, who would be entirely cured; that others continued to suffer and were relieved only by removal of the uterus; that other cases were even made worse by operation, from leaving behind in the stump a portion of the septic tube or tubes which set up around them a secondary peritonitis. All who have been interested in pelvic surgery will remember such experiences.

Through the abdominal incision it is an easy matter to remove diseased ovaries and tubes that contain no pus. It is different when one has to deal with pyosalpinx, knowing that the spilling of a drop of pus may cost the patient her life. We have all had patients survive and patients die under such conditions. The pus may be sterile or it may not. It is a treacherous thing to enter the peritoneal cavity. I remember many cases in which pus was spilt, and after thorough washing out with decinormal salt solution the patients recovered. I remember others that died, even after thorough irrigation. I remember a case in which pus was spilt and several inches of the sigmoid removed on account of injury, and yet this patient recovered and is well to-day. I have records of cases in which primary operations were performed for the removal of ovaries and tubes, and secondary operations had to be performed at a later period for removal of the uterus. I also have lists of cases in which the abdomen has been opened for the removal of pus tubes, and, there being large abscesses on one or both sides, with all the pelvic organs thoroughly agglutinated and intestines firmly attached by dense adhesions, the abdomen was immediately closed and the abscess cavities were perforated and drained from below. All these add to our experience and teach the dangers of abdominal and the advantages of vaginal section. A short history of one or two here may be of some interest.

Case V.—Mrs. T——, married first at the age of twenty. Her menstrual life was uneventful up to this time. Several years after marriage she suffered from specific infection. She never had been pregnant. She lost her husband after four years of married life, and had been married for the second time a few months before I first saw her. She gave a history of pelvic abscess rupturing into the rectum several times. She was emaciated and a physical wreck. Examination disclosed a uterus somewhat enlarged, with masses on both sides fixed and firmly adherent in all directions. Her temperature was 104° F., and pulse above 100. I decided upon operation as soon as possible. The abdomen was opened and disclosed large tubo-ovarian abscesses on both sides, with the intestines bound to them with dense adhesions. I felt it would be death to attempt to enucleate these abscesses and break up the adhesions. I therefore closed the abdomen and drained both abscesses from below. This woman recovered after several months, and is now, five years after operation, apparently perfectly well. She menstruates regularly without pain, and the uterus is perfectly movable, all the exudates having apparently been absorbed.

I could repeat this picture many times, as I have had a large number of cases almost identically like it.

I have one still under my care now in which I attempted to remove an ovarian abscess by posterior vaginal section, and, finding the tumor high up and above the broad ligament, opened the abdomen to see what I could do in that direction. I found quite a large ovarian abscess with adherent intestines. I felt that I might possibly enucleate this tumor, but its walls seemed too thin for the attempt. Therefore the abdomen was closed, the sac perforated from below, and drained with a double drainage tube. About eight ounces of pus was evacuated. A culture was made, and a staphylococcus and a diplococcus which responded to the Gram stain were discovered. It is now four weeks since the operation, and the patient is continuing to do well. If possible to do so I keep in drainage tubes, as a rule, about six weeks, or as long as pus continues to flow in appreciable quantities. I feel that if I had not treated this patient in this way I should have lost her. I should have ruptured the cyst had I attempted its removal, and peritonitis would have undoubtedly followed.

Case VI.—Mrs. S——, aged twenty-eight. Married three and one-half years. Normal menstrual periods up to that time. One miscarriage at third month, several months after marriage. One year after marriage she had pelvic peritonitis, probably from specific infection, and was confined to bed for six weeks. Examination disclosed a large globular mass on the left, displacing the uterus to the right, and another smaller mass low down in the pelvis and to the right.

Diagnosis, double tubo-ovarian abscess.

Operation, February 23, 1898. The patient was placed under complete anæsthesia by Dr. Bennett in three minutes, beginning with nitrous oxide, followed by ether, with a Clover inhaler. Posterior section was made, and examination showed that both sides were hopelessly diseased and that total extirpation was the proper operation to perform. The bladder was separated from the cervix, the circular incision was made complete about the cervix, the uterine arteries were clamped, the cervix was cut away from the clamps and amputated high up, and the body of the uterus then drawn down with Jacob traction forceps. The large

pus sac on the left side was evacuated and its cavity thoroughly washed out with peroxide of hydrogen and salt solution. The body of the uterus was then bisected, to facilitate removal of the pus sac from the left side. This was treated with the Skene electric clamp, together with the left half of the uterus. The right tubo-ovarian abscess was removed entire, with the right half of the body of the uterus. It is now the ninth day since the operation, and the patient is recovering without incident.

Case VII.—Mrs. G——, aged twenty-six. Admitted to the Woman's Hospital, January 15th. Married one year and four months. Normal menstrual life up to that time. One child, born five months ago. Labor tedious and difficult. Instruments were applied under chloroform, and she has never been well since the birth of the child; she was in bed six weeks, and has lost about twenty-five pounds. The last eight weeks she has been having a temperature running from 102 to 103° F. She is thin, anæmic, and complains of constant pain in the left side and groin. Menstruation is at present regular and normal in amount. The sphincter ani was torn at the birth of the child, and she has no control over the movements of the bowels. Examination disclosed laceration of the cervix and complete laceration of the perineum. In the pelvis to the left of the uterus was a large globular mass, which was diagnosed as ovarian abscess.

Operation, January 17th. Posterior section was made after thorough curettage and packing of the uterus with gauze. An ovarian cyst was found upon the right side, thoroughly fixed by adhesions. The right ovary and tube were found to be healthy. Gauze was packed in the cavity backward and to the right; the cyst wall was then drawn down with a large hook as far as it was possible to do so, which was a very slight distance, and opened with a scalpel. About one pint of foul-smelling pus was evacuated. The cavity of the cyst was washed out with hydrogen peroxide and then with salt solution. The cyst wall was then grasped with forceps, the adhesions being broken away as the cyst was drawn out. The entire cyst wall was removed, together with an apparently perfectly healthy tube. A Jacob clamp was then applied and the tumor cut away. The pelvic cavity was then washed out with peroxide of hydrogen and salt solution, the cavity packed with iodoform gauze, and the patient put to bed in fair condition. She made a rapid recovery and left the hospital three weeks after operation, to return later for the necessary plastic work on the cervix and perineum. I was somewhat concerned for the other tube and ovary, fearing secondary infection. There was no evidence of trouble at the last accounts.

There is a class of cases which are frequently met with, that it is most puzzling to know just how to manage. I refer to tubal or tubo-ovarian abscess, that has opened into the rectum or some other portion of the intestine and is constantly discharging. There is great danger in performing hysterectomy by either route. I prefer to make posterior vaginal section and attempt to reach the abscess cavity, and in this way divert the drainage channel into the vagina, hoping either to cure the case by drainage alone or to prepare the way for a subsequent hysterectomy. The following case is a typical one of the kind. I give but a brief outline of the salient points.

Case VIII.—Mrs. H——, thirty-five years old, gave the history of about five years of pelvic disease, evidently from specific infection. An abscess opened into the rectum, and discharged at short intervals for more than a year. She was emaciated and in a wretched state of physical and mental ill health.

Examination disclosed a uterus fixed in the pelvis, with somewhat hardened globular masses in each broad ligament; there was a small fibroid in the right horn of the uterus, and all were enveloped in dense masses of exudate. There was an evening elevation of temperature, though not great, each day. She was losing ground rapidly, and it was evident that something must be done. I therefore decided to operate without delay. As it was a case in which I did not wish to take responsibility alone, I sought the counsel of a friend whose experience is large and for whose opinion I entertain the highest respect. Yielding to his advice, I opened the abdomen, with great misgiving, feeling satisfied in my own mind that it would not be the wisest plan to operate in that direction. I found just the condition I had expected—the whole pelvic contents fixed as in a vice, with intestines and omentum firmly adherent to them and shutting them off completely from the general peritoneal cavity. The opening of the abdomen served a good purpose in disclosing the fact that the abscess had undoubtedly opened into the rectum. I never under any circumstances disturb such a condition from the abdominal side. I therefore closed the incision at once, then placed the patient in the lithotomy position, and made posterior vaginal section, reaching and draining two pus cavities, one on either side, with a double rubber drainage tube. The patient recovered from the operation without any bad symptoms, and three months later had gained twenty-five pounds. For several weeks there was discharge of fæcal matter through the drainage tube, which gradually diminished till it ceased entirely. The drainage tube was removed at the end of six weeks. The vaginal opening was kept patulous by dilatation every few weeks, as long as there was any discharge of pus. The rectal fistula was opened twice by the dilatation, but closed immediately. At the end of six months the vaginal opening was closed and the patient was in apparently perfect health. It is ten months since the operation, and on examination very lately I found great changes in the pelvic condition. The uterus was still a little fixed. There had been a gradual absorption of the exudates, the masses on either side had entirely disappeared, and the infiltration in the broad ligaments was almost entirely gone. All the sensitiveness to pressure had disappeared. Moreover, she menstruated regularly and without pain, something she had not done for years. It is as complete a recovery as could have been expected from total ablation, and certainly more satisfactory to the patient.

In this connection I will mention another case with a similar history and a pelvic condition almost identical. It was treated in exactly the same manner, except that a secondary operation was subsequently required.

Case IX.—Mrs. M——. Every atom of pus was drained from the pelvis. She recovered from the operation, but did not improve so rapidly as the previous patient. She continued to suffer with pain in the pelvis and with pressure symptoms. At the end of a year examination showed marked absorption of exudates and disappearance of the mass upon the left side where the abscess cavity had been. The right broad ligament was still thickened and sensitive to the touch. It was decided that hysterectomy would be necessary to give her relief. Vaginal hysterectomy was therefore performed. The uterus, which was more or less fixed, was removed by morcellation, together with a large thickened tube from the right, which, however, contained no pus. There was no distinguishable trace of abscess cavity on the left. Complete relief and recovery followed.

I have selected the above cases as illustrations of types constantly met with and for the lessons they teach. True conservatism should certainly be our guide, and its principles should always be applied, when practicable, in the treatment of disease. Certainly no treatment could be simpler or more conser-

vative than the drainage of pelvic abscess of whatever kind, and no one will deny that, in several of the cases related above, the cure, when this method was employed, was as complete and as satisfactory as if the severest radical operation had been performed.

I would say here, by way of parenthesis, that in pelvic abscess, when it has been decided to perforate and drain through the vagina, it is safer to perforate directly through the vaginal vault, rather than first to make posterior section. This is specially advisable when there is disease on one side only. There is less danger of the spreading of infection to other parts of the pelvis.

If I were to lay down any fundamental rule, I am fully persuaded that in regard to pus tubes I should say: "Never open the abdomen for their removal." There are, of course, occasions when it may be advisable to open the abdomen, in cases of pyosalpinx, for the purpose of exploration; for example, when the complication with appendicitis is suspected, or when it is feared that a pus tube has opened into the intestine high up. Then, the abdomen having been opened, the question of "Which route?" assumes an entirely different aspect. Even then I would avoid every possible risk of spilling a drop of pus in the abdominal cavity, and would close the abdomen and operate through the vagina rather than run that risk. I have done so a number of times, and have never regretted it. I have very little faith in so-called conservative surgery, as applied to the removal of portions of ovaries and tubes, when there has been pus disease. I have known of many cases of secondary infection after abdominal section, due to this application of conservatism. This does not apply with the same force in posterior vaginal section, which has the advantage of perfect drainage.

In most of these pelvic diseases I believe the principles of conservatism can be applied with nearly as little difficulty by the vagina as by the abdomen. It can be decided by this route whether a tube is in a condition to be left or to be removed with almost as little difficulty. When it is decided to remove one and leave the other, it is safer to remove it per vaginam, and it lessens the risk of secondary infection.

In the large majority of cases there is no liquid pus. The tubes are enlarged and thickened by infiltration, and often firmly adherent to adjacent parts. These tubes are far more easily freed from their attachments through the vagina, even from their adhesions to intestines, and with less risk of injury to them. It may seem paradoxical, but I am satisfied by many trials that it is easier and safer to separate these adhesions by enucleation and traction from below, rather than by enucleation and traction upon intestines from above. And I have seldom failed to remove all of the diseased tubes and ovaries.

When a tube has opened into the rectum and is still discharging, it would not be advisable to remove it entire. When it cannot be reached and drained, it is best to do a hysterectomy and clamp off this tube as near as possible to its attachment to the gut, and leave the rest to nature. This I have lately done successfully. It could not have been done without too great a risk through the abdominal incision.

I think it is a mistake to say that as clean and thorough surgery cannot be done through the vagina. I do not think it necessary or wise to be indifferent as to leaving pus tubes to break down and come away after hysterectomy. I think that no portion should be left, but that the extirpation should be made as complete as possible; that when the vaginal vault closes there should be nothing left in the pelvis to produce future trouble. When it is possible to do so, I believe the uterus should always be saved. It is idle to say that as its function has ceased it is no longer necessary. Experience is teaching us that there are vasomotor disturbances that are prevented by its retention. I believe that often what appears to be a hopelessly diseased uterus can be cured by curettage and drainage, and even when the infection has been from gonorrhœa. Many are reporting such cases, and to substantiate the statement I need but to recall the history of the severe cases mentioned above, of double pelvic abscess with diseased uterus, that were cured by curettage and drainage.

My experience warrants me in asserting that for the surgical treatment of diseases of the pelvis due to infection it is rarely necessary to open the abdomen.

APPENDICITIS.[1]

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It is not my intention to-day to review the history and all the details concerning appendicitis, but to come at once to the important parts, *i.e.*, pathology, symptoms, diagnosis, and treatment.

For convenience we will divide appendicitis into:

1st. Simple inflammation of the mucous membrane of the appendix, resulting in resolution—so-called catarrhal appendicitis.

2d. The same with or without the formation of calculi, either resulting in resolution or going on to gangrene and perforation.

3d. A class of cases which rapidly within twelve or twenty-four hours goes on to gangrene and perforation, with peritonitis or septicæmia.

4th. A type characterized by rapid lymphatic poisoning, in which neither gangrene, nor perforation, nor peritonitis is present.

5th. Appendicitis abscesses.

6th. Chronic appendicitis.

In the first class of cases we have an inflammation of the mucous membrane with a proliferation of cells and leucocytes. The organ is swollen and congested, and its calibre, reduced in size, soon becomes filled with the products of inflammation. If the microbic infection is not severe and the position of the organ is favorable for producing drainage, the attack may result in resolution; if not, it passes into the second form.

In this the appendix, attempting to expel its contents, rolls up fæcal matter. The calculi as they increase in size produce pressure and gangrene, or the inflammation may subside and leave the appendix with the calculi in position to start up a second attack. Even if calculi are not present, the disease may go on to gangrene and perforation.

The third class of cases is very rapid in its course. The rapidity may be due to the microbic infection, to rapid gangrene and perforation resulting from previously formed calculi, to the twisting of the appendix, or to embolism of its only artery. As perforation occurs we have protective peritonitis, which walls off the septic appendix; but the infection may be so rapid and so virulent that adhesions are unable to form, when general septic peritonitis results. To illustrate:

Willie, aged ten years, fell while skating. The following day he had severe pain in the abdomen, and in the evening his physician was summoned. The following day I saw the case and confirmed the diagnosis of appendicitis. An operation was performed that afternoon. When the abdomen was opened pus and sero-pus welled up in large amount. The intestines were as red as beefsteak and were covered in places with lymph, white and glistening. Only one

[1] Read before the Rutland County Medical Society, July, 1897.

adhesion was present, where the appendix, resting against the omentum, had formed a little groove for itself. This adhesion was not strong enough, for the appendix had perforated itself and had emptied its contents into the abdominal cavity. The abdomen was full of sero-pus. After a thorough flushing and the removal of the appendix, a tube was carried into the pelvis and gauze was inserted in various directions. On

FIG. 1.—*a*, Perforation; *b*, position of calculus just below; *c*, calculus.

the second day these were removed. The external and deep wound granulated, and a slow recovery followed.

A case following a previously formed calculus is well illustrated by the following:

Mrs. W——, aged thirty-eight years, one year ago had a very mild attack of catarrhal appendicitis. When she was seen by me at that time I had some doubt regarding the diagnosis, but after hearing the history of the case I agreed with the attending physician, though I decided to defer the operation. She made a rapid recovery. One year later, while on a visit, she was seized with agonizing pain in the right iliac region, with other symptoms of appendicitis. Returning home by train, she summoned her physician, who called me the following day. An immediate operation was performed. Pus was everywhere in the pelvis—the abdomen and the intestines were bathed in it. In the search for the appendix, which was postcæcal and pointed upward, an abscess partly protected by adhesions was opened. The appendix was gangrenous in places and a large perforation was present. At the opening a large calculus was found (see Fig. 1). The abdomen was drained with gauze, most of which was removed after twenty-four hours. At the end of two weeks the patient was doing well. In the third week fever came on, associated with increasing swelling in the right side, which swelling corresponded in position to the outer and under surface of the ascending colon. The temperature rose to 105° F., the pulse to 110, where they remained for some ten days. At its height the swelling was the size of a kidney. Exploration failed to reveal pus. Finally the swelling subsided and the patient made a good recovery.

The next class, those in which rapid lymphatic poisoning follows, without perforation, gangrene, or peritonitis, is illustrated by the following. In considering this case let us remember that the lymphatics of the appendix empty directly into those of the mesentery of the small intestines.

Lizzie, aged seven years, was taken with severe pain in the abdomen, which soon became localized in the right iliac fossa. The temperature and pulse were accelerated, the face was anxious, the eyes were sunken; tenderness and pain were well marked over McBurney's point; there was tension of the right rectus muscle; the bowels were constipated and there was some vomiting. The bowels were moved by a laxative. An operation was advised after twenty-four hours, but was refused; finally consent was granted after forty-eight hours, on account of increasing symptoms. The appendix was found inflamed, tense, and congested. The lymphatics all through the mesentery of the small intestines were enlarged. No peritonitis, pus, or gangrene was present. After the removal of the appendix a small piece of gauze was carried over its stump. This was removed at the end of twenty-four hours. The patient seemed comfortable and appeared well, except for the facial expression, *i.e.*, sunken eyes, pinched nose and face. The pulse was good, from 90 to 100, and the temperature was normal. The patient rapidly failed and died that night.

Here there was acute lymphatic septicæmia. It was beyond the appendix and in all the lymphatic system. She died with apparently normal pulse and temperature. Examination of the appendix showed inflammation of its mucous membrane. The organ was distended and very tense. (Fig. 2 illustrates the appendix and a mesenteric gland.)

It is very important that we bear in mind the position of the appendix in the majority of cases. It is situated either postcæcal or below the cæcum; it may also be anterior to or to the right of the cæcum, sometimes occupying the pelvis or pointing to the opposite side. If it were always anterior to or to the outer side of the cæcum, we could delay operation until adhesions formed and pus gathered; but, since in the greater number of cases it is deeply seated, we are not safe in taking this stand. In a large number of cases McBurney's point is a reliable guide, but we do sometimes have cases when the pain is localized upon the left side. In these the appendix is long and its apex occupies the posterior cul-de-sac or opposite side.

John, aged twelve years, received a blow in the abdomen over the appendix. For two weeks after he had stomach disturbances and pain in the right side. While at a circus he was taken with severe abdominal pain and vomiting. Two days later I saw the boy, with his physician, and found the symptoms as follows: slight rigidity of the right rectus muscle, more in its upper half; iliac region free from swelling; and the usual symptoms of appendicitis, with but slight pain upon deep pressure. Occupying the posterior and outer part of the abdomen, just below the right kidney, was a swelling, with extreme rigidity of the posterior muscles. At a point two inches below the kidney a spot was present which was as sore as a boil. Diagnosis of appendicitis, with appendix pointing backward and upward, was made. Operation was performed at once, an anterior abdominal incision being made. The appendix was deep seated, surrounded by pus and by thickened tissue. The apex of the appendix corresponded exactly to the sensitive spot below the kidney. The appendix was split transversely and was gangrenous; at the opening a bean-shaped fæcal calculus was found. The tissues around were also gangrenous. After the removal of the appendix a gauze drain was carried down to the abscess cavity and to the stump of

FIG. 2.—*a*, Appendix; *b*, mesenteric lymphatic gland.

the appendix. The gauze was removed the third day. The following day a small fæcal fistula occurred. It was surprising to note the rapid improvement which followed the opening, with free intestinal drainage. The opening discharged for some weeks and finally closed. The patient made a good recovery. (Fig. 3 shows appendix and contents.)

The form of microbic infection also plays an impor-

tant part: the bacillus coli communis, which is found in the mucus of the colon, the streptococcus, and the staphylococcus seem to be the important agents. Why it is that we have in one case a mild infection, and in others a severe one resulting in death in a few days, we are unable to say. Even in mild cases, when recovery follows, we may have cicatricial contraction,

Fig. 3.—*a*, Position of calculus; *b*, perforation; *c*, calculus.

producing strictures, which favor the formation of calculi; or we may have calculi already formed. When these conditions are present, other attacks are almost sure to follow.

The three cardinal symptoms of appendicitis are pain, localized tenderness, and muscular rigidity. The pain, lancinating, colicky, and paroxysmal, is at first located in the umbilical or epigastric region, but soon becomes fixed in the right iliac reigon. Localized tenderness is always present and follows localization of pain. In the majority of cases it is located at McBurney's point, but occasionally it is over the under surface of the liver, posteriorly below the kidney, or in the left side. If the organ is seated deep, it may require deep palpation: and if pointing inward or toward the pelvis, it may require rectal examination.

Rigidity of the abdominal muscles follows localization of pain. As a rule, it is confined to the right rectus muscle, but also may affect others. Other symptoms of less importance are acceleration of pulse and rise of temperature. To illustrate what severe lesions may be present without these symptoms, I will state the following:

William, aged fifty-five years, had for a week attacks of colicky pain, mostly localized at the umbilicus. During this time he was working. At last the attacks became so severe that he went to bed. Tenderness was most marked over McBurney's point, and the pulse and temperature were normal. On the sixth day a swelling occurred, which disappeared on the eighth. I saw him on the eighth, when his symptoms were as follows: pulse and temperature normal; tenderness and rigidity on the right side; no tumor; stupor, with slight delirium. When the abdomen was opened there was a gush of pus and fæcal matter, the abdomen being filled. The appendix, located at the lower and inner side of the cæcum, looked like an angleworm after having been chewed by fish. Above in the cæcum was an opening nearly two inches in diameter. An abscess sac with adhesions was below the cæcum, and a second one was postcæcal. The abdomen was washed out and gauze drainage was carried to the pelvis, to each abscess, and to the free abdominal cavity. The opening in the cæcum was stitched to the external wound to form an artificial anus. The gauze was gradually removed, some remaining for a week. The wound granulated, and all that remained unhealed was the artificial opening. This opening was directly opposite the ileo-cæcal valve, and the valve pouted out through the folds of the cæcal mucous membrane. Several attempts were made soon afterward to close the opening, but so much cicatricial tissue was present and the current from the ileum came so directly against it that failure resulted. It is now two years since the operation, and the fæcal opening has contracted until it is now about three-fourths of an inch in diameter, and the tissues around it are soft. The patient refuses to have it closed, because he enjoys such good health.

In this case, just before the operation an enema was ordered to unload the intestines, but none of it returned. As was seen afterward, it passed through the opening in the cæcum into the general peritoneal cavity.

We may have perforation, gangrene, and even septicæmia, with but little acceleration of pulse or rise of temperature.

S——, aged thirty-four years, a bookkeeper, was taken with severe pain in the abdomen while at work. I saw the patient the same evening, and with his physician and other counsel advised an immediate operation. The symptoms were mild: temperature and pulse but little above normal, slight muscular rigidity, and little localized pain. It was thought advisable to defer an operation, and that it probably would not be needed. The family physician the following morning advised an operation, although the patient was no worse. When the abdomen was opened the appendix was found gangrenous and surrounded by pus; a perforation the size of the finger was present at the base, and a gangrenous area of one and one-half inches in diameter in the cæcum. This was excised and the opening in the intestine closed by three rows of fine silk suture (Lembert). A gauze drain was carried to the abscess sac and cæcum, and was removed in forty-eight hours. Rapid recovery followed. Fig. 4 shows the appendix.

D——, aged thirty-five years, was taken with severe abdominal pains. For thirty-six hours he walked the floor, thinking he had colic. At the end of that time his physician saw him and diagnosed appendicitis. The patient was ordered to bed and given large doses of morphine, which, after a while, controlled the pain. The following day I saw the case. The symptoms were: pulse, 130; temperature, 103° F.; respiration rapid; abdomen enormously distended, marked rigidity and localized tenderness. Upon opening the abdomen pus was found everywhere. The pelvis contained a quart or more, and the intestines were bathed in it. Below and posterior to the cæcum were circumscribed abscesses partly shut off. The appendix was gangrenous and perforated, and contained two calculi. The omentum and intestines in contact with the appendix were also gangrenous. The abdomen was flushed and packed with gauze. As soon as possible after the operation cathartics were given, but no action was obtained. The pulse was full and gradually fell in twenty-four hours to 80; the temperature was normal. This condition was followed in twelve hours by collapse and death.

This illustrates postoperative septicæmia with normal pulse and temperature. Acceleration of pulse and rise of temperature often indicate the severity of the attack, but too much security must not be placed upon their absence. Vomiting may or may not be present with the first symptoms. If it is present it generally subsides after localization of tenderness. If vomiting continues and becomes stercoraceous in character and is

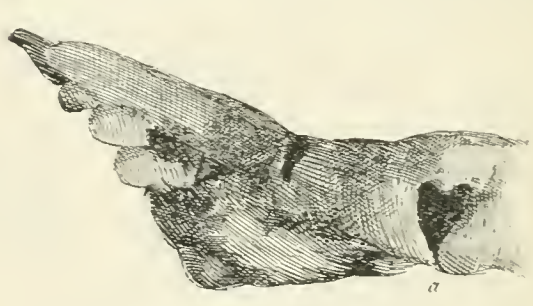

Fig. 4.—*a*, Perforation.

thrown off by regurgitation, such a state indicates a fatal termination. As a rule constipation is present, but diarrhœa may supervene. The abdomen may be distended, due to the retention of gas from constipation or paralysis of the intestines; or it may be flat, as in some septic cases. A tumor, if present, is of importance, but it is absent in a large proportion of the cases and should not be waited for. The tongue is furred and often red and coated; the respiration is hurried, and the face is anxious. The latter symptom is often of importance in septic cases, the eyes being sunken and the nose and mouth pinched.

Chronic appendicitis presents, as a rule, a clear history, and I will not enter upon its discussion.

Diagnosis.—The diagnosis of appendicitis, as a rule, is easy; still, mistakes may be made. In the female, tubal and ovarian trouble should be excluded, which can generally be determined by careful bimanual examination. To illustrate:

Miss N——, aged thirty-five years, had just finished her menstrual period. After taking a cool douche she was seized with severe pain in the abdomen. This was followed by a rise of temperature and an acceleration of the pulse. The pain and tenderness soon became localized. Her physician made the diagnosis of appendicitis and advised an operation, which was refused. Soon after the patient entered the hospital. She seemed to do well for four or five days, when the

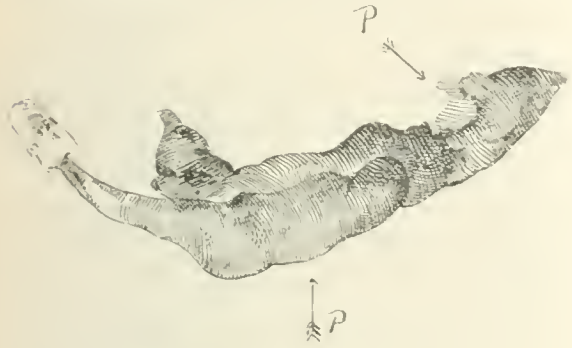

Fig. 5. Arrows indicate points of perforation.

temperature and pulse again increased. The question arose whether it could be pelvic trouble. The muscular rigidity was marked: localized tenderness was present: and induration could be made out above and about McBurney's point. A careful bimanual vaginal and rectal examination demonstrated an absence of pelvic disease. The uterus was retroflected and the tubes and ovaries were low down. An operation was performed that night. The appendix was postcæcal, pointing upward, and was surrounded by about three ounces of thick pus. The whole was matted together, and it was necessary to dig the appendix from the mass. The tissues around were thickened in places, forming masses as large as the hand. It appeared almost like a malignant disease, but after careful examination proved to be inflammatory. The pus was removed by dry sponging, and drainage was secured by gauze carried in different directions. While convalescence followed slowly, a good recovery was eventually made. Fig. 5 shows the appendix.

Other acute diseases may be mistaken for appendicitis; such as typhoid fever, articular rheumatism, extra-uterine pregnancy, ruptured gall bladder, tumors of various kinds, and cancer of the cæcum.

To illustrate ruptured gall bladder simulating appendicitis, I will state the following:

B——, aged forty-five years, while lifting a heavy weight, was taken with severe epigastric pain and collapse. His physician saw him soon after and made the diagnosis of appendicitis, which I confirmed the following day. He had but slight rise of temperature: pulse, 120: face anxious: pain was localized over McBurney's point, and tenderness was well marked. The right rectus muscle was rigid. When the abdomen was opened, a quart or more of bile gushed out. No adhesions were present and the appendix was soon exposed and removed. The abdominal cavity was flushed with a saline solution. A second incision was then made over the gall bladder, which was situated deep and near the spine, and was enlarged and distended. Search was made for gall stones, but none were found. Our patient now went into collapse, and it was expected that he would die before we could get him to bed. A column of gauze was carried down upon the gall bladder and the upper part of the wound sutured. The wound over the appendix was closed without drainage. The patient rallied with hypodermics and enemas. Large quantities of bile drained away during the next twenty-four hours. On the second day the gauze was removed, and the following day a fistula formed in the gall bladder. For several weeks this discharged large amounts of yellow and green ropy bile, and finally closed, and the patient made a good recovery.

To illustrate rheumatism simulating appendicitis:

X——, aged thirty-five years, was taken with all the symptoms of appendicitis. Pain, localized tenderness, and constipation were present. During the examination he spoke of his knee being sore, and upon inspection it was found to be filled with fluid. We decided to wait until morning before advising an operation, at which time the patient was found with acute inflammatory rheumatism.

Whenever we have a patient complaining of abdominal colic, we should not make light of it; that patient should be watched until no doubt remains as to its cause.

Prognosis.—If an operation is performed within the first twenty-four hours, the prognosis is good and recovery will follow in most cases. If opium is used the prognosis is bad, as it masks symptoms, delays operation, and constipates the bowels. From the patient's appearance we cannot give correct prognosis: for when all seems well the appendix may be about to perforate. Many recover without an operation. Many recover, and then die in the second or third attack. In a given case, how can we tell the lesion, the condition of the microbic infection, or the probable outcome? Until this question can be answered, no case of appendicitis, no matter how mild, is safe.

Treatment.—As soon as a diagnosis is made of appendicitis, no matter how mild the case may be, an immediate operation should be performed, unless a patient is in severe shock following sudden perforation. In such cases first overcome the shock. Any patient who will recover without an operation will recover with one, and many patients who subsequently die would get well if operated upon sufficiently early. If we were sure that our patient would get fully over the first attack, we could wait and operate during the interval. But how can we tell the lesion in the appendix, and at what moment it may start up rapid infection? I am well convinced that a large number of patients in the hands of the general country practitioner die during the first attack and are never recorded. I am also convinced that most of the so-called medical cures are subsequently followed by relapse. It is not safe for a country physician to defer an operation. He has not a large hospital and trained nurses at his elbow for an immediate operation, should it become necessary at any moment. I have seen a great many patients, sick from five to seven days, who either died or barely survived the operation, with the slow convalescence which will always accompany pus and gangrenous tissues. In some of these cases life could have been saved; and in others, months of suffering, had an early operation been performed.

The operation in an early stage of appendicitis, as a rule, is easy, and the danger from septicæmia is not great; while in advanced cases the operation is often difficult and the danger from septicæmia great, as is also that of subsequent hernia which often follows pus with necessary gauze packing.

The incision I have used a great deal has been

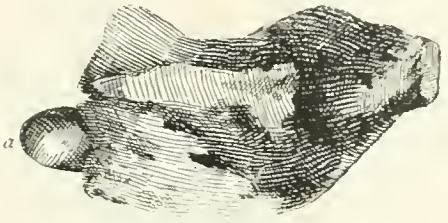

Fig. 6.—*a*, Calculus, perforated through whole circumference of appendix.

through the outer side of the right rectus muscle. After the fascia is divided, the rectus muscle is separated by the handle of the scalpel and then by the fingers to the length of the original incision. This exposes the peritoneum. In the majority of cases this gives us access to the appendix, even if it is deep seated; and in cases in which gauze packing is used hernia, as a rule, does not follow. I have not found that infection follows the exposure of the muscles in this situation; for the external wound has always healed kindly, and in pus cases has kept pace with the deeper wound.

While preparing for operation and in those cases in which an operation has been refused, the first thing to do is to give a dose of castor oil or calomel; an enema should also be given and the patient kept quiet. The diet should be liquid and an external application of ice used. Do not give opium in any form. It constipates the bowels, produces distention of the intestines, and masks the symptoms. The temptation to give a hypodermic of morphine to a patient suffering the agonizing pain of appendicitis is very great. Still, bear in mind that it is not safe. A cathartic to unload the intestines and to relieve the blood pressure will benefit your patient more than morphine.

Appendiceal abscesses often require great care in opening, to prevent general peritoneal infection. To illustrate:

B——, aged thirty-six years, had appendicitis of ten days' standing. A large abscess filled the right iliac region; an incision was made low, in the usual position, and the general abdominal cavity was opened about one-half inch to the inner side of the abscess sac, which was below and to the outer side. The peritoneum was closed with a few fine silk sutures, and the tissue pushed toward the right side until the abscess sac was found adherent to the parietal peritoneum. This was incised extraperitoneally. Had the abscess been opened at the first incision, pus would have escaped into the peritoneal cavity and peritonitis resulted. A rapid recovery followed and no sign of peritonitis was present.

Mac——, aged twenty-one years, strong and robust, was taken with abdominal pain, tenderness, etc. He was seen by me, on the seventh day, with the following conditions: pulse, 140; temperature, 104.5° F.; abdomen enormously distended and very sensitive, especially on the right side; bowels constipated; face anxious, eyes sunken; vomiting, delirious. The diagnosis was appendicitis, and little hope was offered from an operation. The family requesting surgical interference, the abdomen was opened. As soon as the peritoneum was incised pus welled out. Its odor was most offensive, having a peculiar sickening sweetness. The intestines were adherent throughout most of the abdomen. Pus filled the pelvis, and the intestines were bathed in it.

At this operation I had but one assistant, and the ether required most of his attention, which left me alone to handle instruments, etc. The appendix was dug out, found gangrenous to its base, and perforated. The cæcum was also gangrenous where the appendix joined. After removal and flushing with hot water, gauze was carried to the base of the appendix and also in other directions. The lower half of the wound was left open. During the operation the patient several times seemed dead. After he was got to bed enemas and hypodermics were used. He remained for the following twenty-four hours just alive and semiconscious; his pulse was very rapid, his temperature high, and he was delirious. At the end of thirty-six hours he was in about the same condition—bowels unable to move, abdomen enormously distended, sunken eyes, and pinched face. At this time I decided to remove the gauze and to make an artificial anus to relieve the distention. Upon removal of the gauze there was a gush of gas, followed by fæcal matter. During the next twenty-four hours a large amount of gas and fæcal matter passed, and the bowels also began to operate. From this time the patient gained and made a good recovery. The opening into the intestine, being postcæcal, closed in a few weeks. This illustrates that occasionally a patient whose case seems hopeless may recover.

A similar case was that of a boy, twenty-one years old, strong and robust. Several years before he had had a slight attack of appendicitis. While in good health he was taken suddenly with a second attack. When he was seen by me on the fifth day, his temperature was 104° F.; pulse, 140; skin moist; facial expression bad; abdomen enormously distended with constipation and opium; there was tenderness over most of the abdomen but it was most marked over the appendix. Little hope was offered, but the family desired an operation. When the abdomen was opened pus was found everywhere. The appendix was gangrenous and ruptured through out its entire circumference. At the side of the perforation a round fæcal calculus was found; the lumen of the appendix at its intestinal side was not one-tenth its normal calibre. For twenty-four hours the patient did well, after which paroxysmal vomiting occurred, and he died thirty-six hours after the operation. The bowels could not be moved. Fig. 6 shows the appendix.

Bessie, aged four and one-half years, was taken with abdominal pain and with other symptoms of appendicitis. When she was seen by me on the fourth day, her

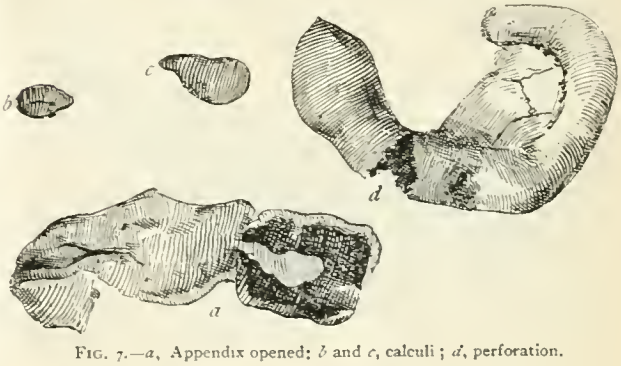

Fig. 7.—*a*, Appendix opened; *b* and *c*, calculi; *d*, perforation.

condition was as follows: temperature, 103.5° F.; pulse, 130; face anxious, eyes sunken; abdomen distended and tenderness well marked, especially over McBurney's point; rigidity of right rectus muscle. After the abdomen was opened a gush of pus followed, which was removed by dry sponging. The appendix, which was postcæcal, was found among adhesions with a pus.

sac around it. Pus was also free in the abdominal cavity. The appendix was gangrenous and perforated, and the opening extended nearly around its lumen. After irrigation of the abdomen gauze drains were used in the pelvis and around the cæcum. The upper half of the wound was closed: the patient reacted nicely and the bowels moved in twenty-four hours. Part of the gauze was removed on the second day, and the remainder on the third day. The abdomen was still enormously distended. During the third day a fæcal fistula formed, which discharged freely. The distention went down and the patient improved rapidly. After some weeks the fistula closed and the wound healed. Fig. 7 shows the appendix.

In each of the above cases a fistula was a benefit. It relieved distention and promoted drainage.

In bad cases of appendicitis, when the abdomen is filled with pus and the intestines are paralyzed by overdistention, morphine, and infection, an opening into the intestines to promote intestinal drainage will be a benefit. Four of the above-cited cases had fæcal openings and all showed marked improvement after its occurrence. I have cited these few cases simply to illustrate my stand in appendicitis.

MEGALONYCHOSIS.[1]

By E. L. KEYES, Jr., M.D.,

NEW YORK.

Gentlemen: The case which I present for your consideration this evening is of little importance except from the point of view of the diagnostician. To take the ordinary routine of the text-book—of its etiology I know nothing, of its pathology almost as little, and as for symptoms of a subjective nature there are none. Hence treatment is unnecessary, fortunately for the patient, for I cannot imagine a treatment that would be of the least value in checking a simple hypertrophy of the nail matrices, the condition in question, excepting only the surgical method of removing the offending members. But, coming now to the diagnosis, on this point, at least, I believe that

Fig. 1. Hands in Megalonychosis.

this nail hypertrophy merits attention, although not so much for what it is as for what it is not. I should not venture to make this sweeping statement from my own slight experience, had my opinion not been fortified by the inaccurate diagnoses of two eminent dermatologists to whom I have had the pleasure of showing

Fig. 2.—Left Foot in Megalonychosis.

this case. The one called it acromegaly, the other the so-called "Hippocratic finger," both of which diagnoses closer investigation seems to have refuted absolutely.

But what my case may lack in importance I trust it will make up in interest, for, as far as I have been able to ascertain, no such wide departure from the normal in the relative size of nail and finger has been reported, except perhaps in the condition named by Marie "hypertrophic pneumogenic osteo-arthropathy," a disease differing widely in its systemic character from the purely local condition of nail hypertrophy.

Yet the view of the case which is most prominent in my mind is the practical one—the importance of this very unusual condition of the nails as a third horn to the dilemma of differentiating the fingers of acromegaly from those of the pneumogenic osteo-arthropathy, or, again, the fingers of the scrofulous diathesis from those of chronic venous congestion of cardiac origin.

The more important data in the history of the case are as follows:

The patient is a Russian by birth. He is forty-eight years of age, married, and owner of a large wholesale tailoring establishment. He gives no history of hereditary disease in his parents, his nine brothers and sisters, or his six children.

His only serious illness occurred during his seventeenth year, when for six weeks he remained in bed with high fever, typhus he believes, although he recollects none of the circumstances. When convalescent and scarcely able to walk he was taken to a Russian bath about half a mile from his home. This was in the midst of winter, a Russian winter, with the thermometer many degrees below zero. The bath greatly weakened him and he had to be carried home, suffering intensely from the

[1] Read at a meeting of the Practitioners' Society, March 4, 1898.

cold. In fact, he believes that his finger tips were partially frozen, for he remembers that they remained blue and numb for some days, and when he resumed his work as a tailor a week later his fingers were exquisitely sensitive to the touch of the needle. Moreover, he says that since then his finger tips have always been rather large, although he noted no marked hypertrophy until seven years later, when at the age of twenty-four he came to this country and began work with the shears as a cutter in a tailoring-establishment of this city. Working with ceaseless energy, he frequently snatched only some three or four hours' sleep each night for months together. Then it

FIG. 3.—Skiagraph of Feet, showing Hypertrophied First Phalanx of Great Toes.

was that his finger tips attained within a few years their present dimensions (Fig. 1); his toes enlarged at the same time and with the same rapidity (Fig. 2). But although he attributes the condition of his fingers to the freezing and the use of the shears—to my mind most inadequate factors—he fails to offer any explanation for the hypertrophy of his toe nails. His present trouble is chronic dyspepsia and vesical spasm, which have been relieved in spite of his somewhat irregular observance of the details of treatment.

Physical examination reveals no departure from the normal excepting in the nails. These are normal in texture, thickness, and smoothness, but the matrices are so large as to curve around the ends of the digits on all sides, thus assuming an exaggerated convexity and giving rise to a seeming hypertrophy of the whole terminal phalanx. These (Fig. 3) skiagraphs,[1] however, show that the bones are absolutely normal, with the exception of those of the great toes, both of which show a distinct hypertrophy of the bones at the interphalangeal joint, and of the exostosis on the terminal phalanx, as compared with the normal foot.

The defect in the nail of the middle finger of the left hand is traumatic in origin. The patient affirms that none of his family have any deformities of the fingers or toes whatever.

Of the differential diagnosis between this nail hypertrophy and any of the onychiæ, onychauxes, onychogryphoses, little need be said. Hypertrophies heretofore described have all been in the development of thickenings or lengthenings, and invariably accompanied by such evidences of a pathological process as striations, brittleness, and a wide departure from the normal coloring and texture. Here on the contrary is what I might term a physiological overgrowth, chiefly lateral, and productive of no such structural change as would indicate a pathological process.

The perfect health and the lateral hypertrophy differ markedly enough from the friable, striated, elongated nails of the scrofulous subject, and equally from the talons produced by chronic congestion of cardiac origin, which talons are curved by a lumping up of the matrix *in situ*, rather than by its turning over the end of the finger from its very size. And the very extraordinary hypertrophy in my case, as well as the etiological factors, form very definite features of the diagnosis.

To the hands of an acromegalic, those of my patient present a marked contrast. He has no general enlargements of the hands and feet, nor are the bones hypertrophied—with the exception noted above; nor are the fingers "of even dimensions from tip to base"

[1] For the skiagraphs, taken at the House of Relief, I am indebted to the kindness of Dr. Lewis A. Stimson; for the photographs to Dr. George H. Fox.

—on the contrary, they are notably clubbed. But the most striking dissimilarity is in the nails themselves. In acromegaly "their development is not proportioned to that of the fingers; they are short and flattened and not in the least hypertrophied."[1] One could not ask for a greater contrast.

I know of but one other disease with which this nail hypertrophy might be confounded, namely, that described by Marie as hypertrophic pneumogenic osteo-arthropathy; for, although in this descriptive title the word hypertrophic is absolutely the only one wherein I can claim the slightest clew of resemblance, although my case be neither pneumogenic nor arthropathic, yet here alone are described nails of sufficiently generous proportions to be classed with those I have to show to-night. Here again, as in acromegaly, the appearance of the hands is distinctive enough, but it is interesting to note the description of the nails and fingers. Labadie-Lagrave[2] devotes a paragraph to them, as follows: "The fingers present the most marked lesions. They are especially enlarged at the tip of the last phalanx, assuming the shape of a bell clapper or a drumstick. The nails participate in the deformity, growing longer, broader, and more curved, with a tendency to hood the end of the finger. These organs tend to become circular, like a watch crystal; but the skin which limits their concavity, instead of prolonging approximately the posterior surface of the finger, turns sharply to form the anterior surface." Thus far the description exactly fits my patient; but the similarity vanishes when it goes on to speak of friability, striations, thinness, and abnormal flexibility, adding that there is hypertrophy of the finger pulp and of the bones, characteristics which my case does not possess. It is scarcely necessary to say that the joint and pulmonary lesions of themselves suffice to differentiate the arthropathy from the nail hypertrophy.

To sum up the characteristics of this case, apart from the bone hypertrophy of the great toes, which may be set aside as an indefinite element, we have a simple universal enlargement of the nails, physiological in character, as though a large man's nails had been transplanted to a small hand, with no accompanying constitutional or local change, and with no cause as yet discovered. It is a distinct condition and may be readily differentiated from any other. I have ventured to name it megalonychosis, meaning thereby to indicate its nature—a universal non-inflammatory enlargement of the nails.

129 East Thirty-Fourth Street.

Adenoid Vegetations at the Vault of the Pharynx, with Special Reference to Anæsthesia in Operating.—Lenzmann (*Therapeutische Monatshefte*, 1897, p. 9) is of the opinion that for a thorough, sure, and safe removal of the vegetations, narcosis is absolutely necessary. He operates on patients only in the sitting posture; children are held on the lap of a nurse. The operation is to be conducted in that stage of anæsthesia in which the sense of pain has disappeared but the reflexes are not abolished. A mouth gag is not recommended, since it renders swallowing difficult; to open the mouth an ordinary spatula is sufficient. First the tonsils are removed with the Mackenzie tonsillotome if necessary, then the adenoid vegetations are removed with Gottstein's curette. After the operation Lenzmann recommends rest in bed and fluid diet for a few days, nasal tampon, and finally swallowing of ice. Lenzmann has seen numerous cases of anorexia with hypertrophy of the pharyngeal tonsil; inasmuch as no cause for the anorexia could be found, he removed the adenoid growths with most excellent results.

[1] P. Marie Bulletin Médical, Paris, 1889, p. 1,579.
[2] "Médecine Clinique," vol. ix., p. 603.

Progress of Medical Science.

To Diagnosticate Gastroptosis.—Dr. Langerhans ("On Enteroptosis," *Archiv für Verdauungs-Krankheiten*, B. iii., Heft 3) employs an ordinary stomach tube, furnished at its end with a soft-rubber balloon; after introduction of the tube the balloon is distended with a measured quantity of air. In cases of true gastroptosis, at first a circumscribed portion of the abdominal wall arches forward, generally in the median line or to the left of the median line, at about the height of the umbilicus; this tumor soon takes the shape of a mass lying crosswise, from left to right, at the umbilical line, and from the left side a perpendicular portion arises and loses itself under the margin of the ribs. The important etiological factor of enteroptosis is the relaxation of the abdominal muscles (postpuerperal enteroptosis, "enteroptosis of Landau"), which physiologically hold the abdominal organs in their position in some unknown manner. Another cause of enteroptosis is a true chlorosis, which probably brings about the sinking of the hollow viscera by the dragging of the normal stomach and intestines upon the anæmic peritoneal ligaments, or by the overweighting of the anæmic stomach through stagnation of its contents, or in other unknown ways. This is the "enteroptosis of Meinert." Langerhans further believes that nervous dyspepsia may lead to gastroptosis; he acknowledges also a hereditary disposition to enteroptosis. The corset is not a factor in the above-described cases of gastroptosis. The enteroptosis of mild degree, caused by frequent parturition and consequent relaxation of the abdomen, when it is gradual is physiological and causes no symptoms. The "enteroptosis of Meinert" rarely runs its course without symptoms. The disease causes severe subjective and objective dyspeptic symptoms, with changes in secretion and motility of the stomach. The sinking *per se* of the hollow viscera produces a change in mechanical relations, causing "insults" by pressure on the unprotected kidneys, increased work in forcing out the stomach contents, and stretching of the mesenteric folds. The cumulative effect of these continued irritations is finally to affect the central nervous system; depending upon the individual, hysteria or neurasthenia will result, the abdominal symptoms being predominant. Enteroptosis is the most frequent cause of intestinal hysteria and neurasthenia. Abdominal bandages are of benefit only in the "enteroptosis of Landau;" in this form, abdominal massage with alcohol is also of advantage. Operative fixation of the kidney may be helpful in the few rare cases in which other organs are not at all or only slightly out of place. Massage of the lumbar muscles and faradization of the abdomen the writer considers of no use. He has had no results from the administration of beer yeast. Langerhans lays stress upon gymnastic exercises, particularly upon the bending backward and twisting of the lower portion of the body, both in sitting, standing, and lying-down postures. Careful observation and treatment of the nervous system are to be carried out.—*Centralblatt für innere Medicin*, No. 3, 1898.

Dyspeptic Asthma.—Boas (*Archiv für Verdauungs-Krankheiten*, 1896, B. ii., H. 4) says this is a condition in which the patients suffer from severe dyspnœa, sometimes almost to the point of suffocation, accompanied by symptoms of collapse, caused by disturbance of digestion, the symptoms disappearing after the irritation in the gastro-intestinal tract has been removed. He has observed eleven cases, four of which were mild, the remainder severe. Among the latter were three in which were also found changes in the lungs and heart, so that the gastro-intestinal irritation might be looked upon as the exciting cause of the

asthma; in the other cases gastric or intestinal symptoms alone were present. The attacks occurred at intervals of days or weeks. Several hours—rarely immediately—after meals, after the presence of mild dyspeptic symptoms (eructation, feeling of fulness of the stomach, etc.), there took place severe dyspnœa, accompanied by a feeling of fear, diffuse perspiration, and tympanitic distention of the abdomen; these symptoms lasted a few hours, sometimes all night, and usually disappeared after eructations of gas or vomiting. The examination of the stomach contents showed light secretory or motor disturbances in a few cases; in others the contents were normal. The writer believes that dyspeptic asthma is due to reflex irritation from the stomach causing insufficiency of the myocardium.

Neoplasms of the Brain and Insanity. — Among five hundred and eighty-eight cases of brain tumor occurring in a Roman institution for diseases of the mind and brain, Gianelli says (*Il Policlinico*, July, 1897) that two hundred and sixty-five had no mental disturbances; the remainder had. In those cases accompanied by mental disturbances, the site of the tumor was most often in the cerebrum, seventy-seven times in the frontal lobes, thirty-two times in the cerebellum and hypophysis. In those cases unaccompanied by mental disturbances the tumors, on the other hand, were found most frequently in the cerebellum, and next frequently in the pedunculus cerebri. Mental hallucinations cannot always be used as a basis in the localization of a new growth; they may result from a tumor remote from the zone of irritation. The most numerous tumors are the sarcomata, then the gliomata, next tubercle. Syphilitic new growths are much oftener accompanied by mental disturbances than are tuberculous. The nature and site of the tumor can influence the mental aberrations; yet it is often possible to have two cases of the same kind of tumor situated in the same locality, one of which may produce insanity while the other may not. The writer attributes this to the peculiar constitution of the individual and thus to the individual effect of a certain amount of cerebral irritation. Regarding the site of a tumor as determined by examination of the mental condition of the patient, the author has drawn the following inferences: 1, hallucinations point to irritation of the corresponding sensory cortical centre, though the tumor need not necessarily be in the immediate neighborhood of the latter; 2, the more often symptoms of torpor, slow intellection, and weakened memory occur in the beginning of the disease, the more probably is the tumor situated in the frontal lobe; 3, should the above-named symptoms occur late in the disease, the site of the tumor may be in other parts of the brain; 4, the psychical aberrations mentioned indicate simply a more or less marked morphological change of the cortex of the brain; 5, tumors of the corpus callosum appear always to be accompanied by mental aberrations; 6, a new growth, which runs its course like the classical picture of progressive paralysis, is very probably situated in the frontal lobes; 7, the tendency on the patient's part to spite and wittiness points to the frontal lobes as the site of the tumor, particularly to the right side; 8, again are the frontal lobes the probable sites when patients show change of character or tendency to become angry, to threaten, to insult, to become obscene. Attempts at tumor localization depending upon the above inferences have but a relative value, since the anatomical boundaries of cerebral functions cannot be sharply drawn.

Should We Drink at our Meals?—In an interesting and somewhat historical article, Dr. C. A. Ewald, of Berlin (*Zeitschrift für Krankenpflege*, January, 1898, No. 1), discusses this mooted question at some length. He considers soup, because of its small percentage of nourishing material, merely as fluid; he states that, aside from what is directly taken as drink, much fluid reaches the stomach during a meal, through the sauces and from the water percentage (both natural and by cooking) of the meats, vegetables, etc. Most persons feel the necessity of adding more fluid to the meal by drinking either ordinary water, carbonated waters, or alcoholic beverages. The more one eats, generally the more one drinks, and the greatest eaters are generally the greatest drinkers. If drink be prohibited, the amount eaten is less; indeed, on the above very greatly depends the secret of the "Schweininger cure" for obesity. It is a well-known fact that if the appetite is weak and the mind and nerves are somewhat relaxed, a drink of water will excite the appetite and stimulate both brain and nerves; and this is due directly to the fluid and not to alcohol contained, for we find these facts the same in abstainers. The more fluid in the way of drink is added to the gastric juice, the greater is the quantity secreted; hence the greater the tax upon the gastric glands. Under normal circumstances, however, the stomach, without detriment, accommodates itself to a range of large quantities of fluid. Ewald says that much of the fluid passes into the intestines, another portion is absorbed: hence there never is in the normal stomach a stagnation of large quantities of liquid. The widely accepted belief that alcoholic fluids (not taken to the point of toxicity) retard digestion does not seem to be borne out by the recent experiments of Chittenden. Not even whiskey and brandy seemed to retard digestion. The proteolytic power of the stomach and the power of the pancreatic juice are uninfluenced by small quantities of alcohol-containing fluids. The extraction of body warmth through cold drinks the writer considers as very much overrated. He attributes the bad effects of such drinks to irritation of the stomach mucosa, which becomes, therefore, a possible starting-point for acute or chronic inflammatory conditions. In the normal stomach, the author concludes that not only does drinking at meals, within certain limits, not interfere with digestion; it even aids this process. With patients suffering from stomach or other diseases, however, the case is different. Drinking *ad libitum* cannot be allowed. To the question, Shall patients drink nothing with their meals? Dr. Ewald answers that he sees no reason why small amounts of fluid should not be allowed, excepting to patients suffering from dilatation of the stomach. As above shown, fluids, and particularly alcoholic and carbonated fluids, will, even in limited amounts, aid digestion and increase the appetite, and will more than counterbalance the so-called ill effects of drinking at meals, viz., the possible slowing of digestion, the dilution of the solid constituents of the meal, the overburdening of the stomach, a very improbable lowering of body temperature, etc. Even admitting that such effects do occur, the question of drinking before, during, or after meals Dr. Ewald considers as belonging to the hokus-pokus of suggestion therapy: the physiological act is not influenced if fluid is taken one-half hour sooner or later. The fluid should not be very cold; further, we must follow the indications of the disease and, as far as possible, the wish of the patient. Naturally, alcoholic fluids that have a direct local irritating effect will be withheld, *e.g.*, in ulcer of the stomach, new inflammatory processes, necrosing neoplasms. Another question is, How far shall we allow abnormally increased thirst to be quenched, as in diabetes, fever, and some chronic diseases? The writer answers that the thirst should be quenched with as little liquid as possible. This is particularly true in cases of stomach dilatation, when the patients have the tendency to drink large quantities, partly because stomach absorption is very slow

and imperfect. Moreover, though this seems paradoxical, thirst may be lessened by forbidding water as a drink. Then, too, thirst very often depends upon dryness of the mouth and pharynx; hence frequent moistening of the mouth and gargling will often lessen thirst.

Syphilis and Yaws.—In discussing the question, "Is yaws syphilis?" in the October number of the *Indian Medical Gazette*, Arthur Powell brings forward many arguments and considerable evidence to combat Mr. Jonathan Hutchinson's belief in the identity of the two affections. There is a woodcut showing two cases—one with ringed lesions on the abdomen, but it is unfortunately too blurred to show the lesions so that a diagnosis could be ventured from its inspection. A long differential table closes the article, which will prove of interest to dermatologists and those practising in countries where "yaws" exists.

Meningeal Tuberculosis may so closely simulate opium coma that the former should be thought of in all doubtful cases, especially, as Belfield points out, if there be suspicious abdominal enlargement. Weber has recently written on the subject to *The Lancet*.

A Foreign Body in the Air Passages was reported by Dr. E. Peyrissac in the *Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, January 1, 1898, which was expelled without tracheotomy after intratracheal injection of cold water.

The Poison of Bees.—It is generally assumed that the poison of the sting of the bee is formic acid. Langer, however, finds that this is only partly true. The bee poison which he examined was a bitter-tasting liquid with an agreeable odor, which, although it contained formic acid, when diluted to a one-per-cent. solution, so that it no longer gave an acid reaction to litmus, still possessed appreciable physiological action. Moreover, when kept at a temperature of 100° F. for over six weeks, so that all the formic acid was entirely volatilized, the liquid still produced hyperæmia of the conjunctivæ when introduced into the sac. Langer has isolated the active principle, which he finds gives alkaloidal reactions and is unaffected by heat or cold or by acids. Injected into the veins of animals it produces effects similar to those of the venom of serpents.—*Public Health.*

The Limits of Nephrectomy. — P. Wagner (*Centralblatt fur Krankheiten der Harn- und Sexual-Organe*, 1897, Nos. 2 and 3) says that conservative surgery in other fields has finally narrowed the field of radical kidney operations. Though in cases of nephrectomy compensatory growth of the remaining kidney is the rule, yet in quite a respectable percentage of nephrectomies this compensation has not occurred and the one kidney has not been able properly to carry on the functions of both organs. Often such insufficiency of the remaining kidney comes on suddenly; in other cases, in which the disease is apt to be double-sided (*e.g.*, pyonephrosis, hydronephrosis, pyelitis calculosa, cystic degeneration of the kidney), the insufficiency is expected when the more diseased kidney is extirpated. Besides the danger of an insufficient compensation of the remaining organ, nephrectomy in itself is often a dangerous operation. Despite antiseptic and aseptic precautions and the careful observance of proper technique, the extirpation of a large adherent kidney tumor is at times one of the most dangerous and difficult of procedures, and may lead directly to a fatal termination. Moreover, because of the increased work thrown on the remaining kidney, this organ is more liable to become diseased; indeed, some authors claim that almost one-half of the patients on whom a nephrectomy has been done die from disease of the other kidney. All these observations have brought the writer to the conclusion that a kidney which is able to perform its healthy functions ought never to be extirpated; a kidney whose functions are diseased ought to be extirpated only when conservative measures fail. In operable cases, when nephrectomy might possibly have been indicated, less radical measures (nephrorrhaphy, nephrolithotomy, nephrotomy, kidney resection, resection of the ureter, ureter implantation) have often produced a cure. The indications for primary nephrectomy are: 1. Malignant tumors either of the kidney itself or of the kidney capsule. In recent years the above diagnosis has been made fairly early in the disease; hence the radical operation is followed by better results than formerly. Only those cases are to be considered cured in which there has been no recurrence for at least two years after the operation; the writer has found in the literature twenty-six such cured cases. 2. Tuberculosis of one kidney. In a number of cases of tuberculosis of the genito-urinary tract, the infection has been known to begin in the kidney, the disease spreading downward along the tract, but only after the kidney has been a long time tuberculous. In such cases nephrectomy is the only sure cure and proper operation, except in those who are in a very depressed condition and in whom there are tuberculous processes (particularly tuberculosis of the other kidney) in other parts of the body. In these latter patients a palliative operation (nephrotomy), with eventual secondary nephrectomy, is indicated. Cases are known in which extirpation of a tuberculous kidney has produced a cure for a number of years, even though symptoms of tuberculosis of the bladder or beginning tuberculosis of the other kidney were present; it seems that these latter processes come to a standstill, may perhaps even heal, when the chief source of infection is removed. 3. Primary nephrectomy is indicated in those cases in which the kidney is riddled with large and small abscesses, and in which the most radical nephrotomy cannot open all the pus cavities. Such patients may be saved by a timely nephrectomy; it is only when the functional ability of the remaining kidney is in doubt that a nephrotomy (with secondary nephrectomy) is indicated. 4. In certain cases of rupture of the kidney or of its hilus through injury, primary nephrectomy is indicated. Indications for secondary nephrectomy, besides those above mentioned under kidney tuberculosis, "pus kidney," and rupture of the kidney, may occur in cases of pyonephrosis and hydronephrosis.

Is New Splenic Tissue Formed after the Removal of the Spleen?—Tedeschi (*Gazzetta degli Ospedale*, No. 97) says that experiments upon animals favor an affirmative answer to the above question; in the case of man he again thinks the question can be answered affirmatively. He describes in full an autopsy made upon a fifteen-year-old girl who had died of meningitis. No spleen was found in the normal situation of that organ; instead, attached to one corner of the large omentum was found a nodular tumor, deeply furrowed, grayish in color, the size of a small apple; further, two small masses, of the size of hazelnuts, of pale red color, were found in the neighborhood of the gastro-colic ligament. Along the blood-vessels were found about twenty small bodies of various size, resembling the above in form and appearance. All these masses, macroscopically and microscopically, showed splenic tissue. Tedeschi has found but one other such case in literature. The author explains these aberrant splenic structures by a dislocation of the true spleen, with torsion of its pedicle; in this wise, most of the splenic structure would be destroyed, and its function would be replaced by the growth of these spleens arising from the peritoneum. Griffin and Tizzoni found

similar splenic tumors in dogs from which the spleen had been extirpated. Tizzoni describes one case in which from sixty to eighty of these nodules were found after the above operation. That these were not supernumerary spleens, but really spleens newly grown after the operation, the experimenter concludes from the fact that supernumerary spleens are generally only two or three in number; the latter organs, too, are found in the gastro-splenic ligament at the side of the true, normally located spleen, while those that grow after operation are found either in the great omentum or in duplications of the peritoneal folds.

On the Results of Bacteriological Examinations of the Blood.—Kühnan (*Zeitschrift fur Hygiene*, 1897, xxv., p. 492) gives the results of one hundred and ninety-two bacteriological blood examinations. In the majority of cases (one hundred and sixty-nine times) the blood was taken direct from the median vein. He extracted ten cubic centimetres of blood in each case, which was mixed with fifty cubic centimetres of bouillon, so that the mixture might be spread over many agar (and gelatin) culture plates. In forty-one fatal typhoid cases he discovered in eleven instances the typhoid bacillus, but no other bacteria except colonies of those cocci which exist in the air, due to defective cleanliness of the plates. In twenty-three cases of general sepsis and pyæmia, the writer found bacteria in the blood of three—twice the streptococcus pyogenes, and once streptococcus pyogenes aureus. The number of bacterial colonies was small in each case. In twelve cases of ulcerative endocarditis, he found in only one case the staphylococcus pyogenes aureus: in sixty-seven cases of benign endocarditis—of which seven cases later became malignant—he found but once a fairly virulent staphylococcus pyogenes aureus. In no case of localized purulent disease could the writer find the specific organism in the blood, though staphylococci often grew in the culture media, which he attributes to accidental uncleanliness of the culture plates.

Waterborne Typhoid.—At the Sanitary Institute in London on March 9th, Dr. Childs of University College read a paper on the above subject. After discussing the various causes of typhoid fever he pointed out that the protection of water supplies was the one measure calling for immediate action. The present law was quite inadequate. The first requirement was the thorough and systematic inspection of the water supplies from source to distribution, but the duty of taking action was thrown on the sanitary authorities, who had only enabling not compulsory power, and were themselves often the greatest polluters. The chief obstacle to reform was the ignorance and indifference of the public. He concluded by recommending: 1. That sanitary authorities should have free access to water supplies and should provide for their inspection and analysis. 2. That water companies should publish full information as to their water. 3. That they should be required to make regular inspection analyses and publish the reports. 4. That they should be made responsible for the consequences of pollution. 5. That wilful pollution of water should be made a penal offence. 6. That public authorities should be appointed for the care and protection of watersheds. Dr. Childs laid stress on the primary necessity of diffusing knowledge among the people.

Treatment of Chronic Ulcers of the Leg.—Von Langsdorf (*Centralblatt fur Chirurgie*, November 20, 1897) declares that the most important item in the treatment of such ulcers is a very thorough disinfection of the base of the ulcer and of the surrounding tissue. This is effected by first thoroughly scrubbing the leg with softsoap. The ulcer itself is then covered with a thick paste of calomel, the paste having been formed by mixing very little water with the powdered calomel; over this covering is spread some ordinary table salt; the leg is then dressed with a gauze and absorbent-cotton dressing. The nascent sublimate thus formed produces a burning sensation for about three or four hours. After twenty-four hours the dressing is removed and the ulcer washed. One finds at this time a healthy, dry wound surface, occasionally also small sloughs. The pain has now disappeared. The growth of epithelium is encouraged by the application of ointments containing turpentine; exuberant granulations are touched with copper sulphate. After the ulcer has healed, a zinc-ointment dressing should be used for about two weeks.

Negro Lethargy.—A bacillus has been found by Cagigal and Lepierre, of Coimbra, in the blood of a young negro who had suffered for three years from that curious disease—negro lethargy or sleeping-sickness—which is endemic on the west coast of Africa. Cultivations of the bacillus when inoculated into rabbits cause depression, paresis of the hind limbs, wasting, and death in from twenty to fifty days. Should these observations be confirmed, the disease will afford a most remarkable example of the latency of a pathogenic organism, for the symptoms in some cases do not develop until years after the patient has left the endemic area.—*British Medical Journal*, February 12, 1898.

Puerperal Infection.—Norris (Somerville Medical Society) sums up as follows: 1. Puerperal sepsis is caused most frequently by the physician or midwife. 2. In a parturient woman internal examinations should be made as infrequently as possible. 3. Antepartum and post-partum vaginal irrigations are to be omitted. 4. At the first symptom of puerperal sepsis, circumscribed pelvic inflammations should not be overlooked and operative interference should be undertaken at the proper time. 5. For the further treatment, energetic stimulation, intravenous, subcutaneous, and intrarectal injections of a decinormal salt solution, and nuclein play a most important part. 6. The use of antistreptococcus serum proves efficacious only in those cases in which a pure streptococcus infection exists.

The Detection and Clinical Significance of Mucus in the Excretions.—If we desire to determine whether a sputum is composed entirely of mucus or whether there is an admixture of albuminous bodies—a question that is often of importance in the differential diagnosis between croupous pneumonia on the one hand, and pleurisy and hemorrhagic infarct on the other—Schmidt, of Bonn, advises as the best method staining of the sputum with a neutral mixture of acid and alkaline aniline dyes—for example, the Biondi triacid mixture (acid fuchsin, methyl green, orange G). If the basis of the sputum be composed of mucin from the bronchial mucous membrane, it takes up the alkaline (green) stain; whereas if it be composed of nucleo-albumin and fibrin from the alveolar contents, it is attacked by the acid (red) stain. This method is also of service in the examination of the fæces for mucus. Gastric juice digests mucin twice as quickly as it does albumin; trypsin works even more quickly. The bacterium coli commune dissolves, though slowly, the mucus of the intestinal tract. Still more slowly do the typhoid bacilli act; anthrax is somewhat more rapid in its action. Even in the respiratory tract mucin-liquefying micro-organisms are undoubtedly found. In putrid bronchitis and bronchiectasis mucus is often entirely absent in the thin purulent sputum.—*Wiener klinische Rundschau.*

MEDICAL RECORD:

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ARE SPECIAL SURGICAL HOSPITALS NECESSARY?

IN connection with the signs of revolt against specialism in surgery, to which we have called attention in former issues of this journal, we note a growing disposition on the part of the laity, as well as of the profession, to question the usefulness of institutions devoted to the treatment of a single class of surgical affections. While there is no disposition on the part of the fair minded to belittle the admirable pioneer work that has been done by some of the older special hospitals, one frequently hears this question: "Is there any good reason for their continuance, now that the field of surgery has become so broadened and general hospitals present such excellent results in every department?"

We do not believe that the time is ripe for giving a negative reply without reservations. It may not be amiss, however, to seek the reasons for the criticisms which have been offered against certain of these institutions. The *raison d'être* of special hospitals, as usually expressed, is threefold, viz.: to offer superior advantages, by reason of the better facilities of the hospital and special skill of the attending staff, to patients suffering from a stated disease: to advance the scientific study of the disease in question by providing more clinical material: and last, but not least, to serve for the training of internes, who may themselves become experts in the treatment of the affections to which special attention is given.

The visible proof that these aims are accomplished appears in the statistics of the hospitals, the scientific papers published by its surgeons, and the character of its graduates. Judged by this standard, it must be confessed that at the present time few of the prominent special surgical hospitals, either here or abroad, occupy the place which they did, say, ten years ago. We grant that their position is a difficult one. From the very fact that they claim superior advantages, their work is subject to searching scrutiny and comparison with that of general hospitals, whose surgeons make no pretensions to unusual skill in a single line of work. It is the same condition which confronts the specialist. Having assumed a certain plane of superiority to the rank and file of the profession, he must make good his claims or his reputation suffers.

This applies particularly to gynæcologists, who seem to be forced to act more or less on the defensive. The conditions prevailing a few years ago, when practically all the gynæcological surgery was left to a few experts, have essentially changed. Now general surgeons perform all these operations, and even the recent graduate essays to open the abdominal cavity in cases which were formerly regarded as too hazardous even for practised hands. It is fair to assume that gynæcology as a lucrative specialty is on the wane.

If this is true (and it must be admitted by every candid observer who notes the "signs of the times"), one would naturally ask: "Is there any need of hospitals devoted exclusively to the treatment of diseases of women?" Of their value in the past there can be no question. The wonderful advances in gynæcology made in this country furnish a sufficient proof of this fact. The Woman's Hospital is yet a name to conjure by when linked with those of Sims, of Emmet, and of Thomas.

But are these institutions still making fresh discoveries and improvements in technique, or have they become stationary or even retrograded? Are they really devoted exclusively to women's diseases? An inspection of the last annual report of the special hospital in this city to which we have alluded shows that a considerable proportion of the operations were performed for conditions not even remotely connected with disease of the pelvic organs. *Per contra*, the reports of general hospitals (having no separate gynæcological divisions) indicate a decided leaning toward pelvic surgery. Comparisons of statistics are notoriously misleading, yet it must be admitted that in abdominal surgery at least the results obtained in the public hospitals, under conditions far more unfavorable than those which prevail in special institutions, as regards patients, environment, and apparatus, may well awaken unfavorable criticism of their more favored rivals.

But it has been rightly argued that it is in the field of minor surgery and the non-surgical treatment of pelvic diseases that the superior excellence of the special hospitals is seen. This cannot be denied. It is in plastic surgery that its most brilliant achievements have been recorded, and in this line fresh triumphs may be looked for. The far greater number of minor operations performed, as compared with the work in general hospitals, implies wider experience, greater skill, and a constant tendency to improved technique. Let hospitals for the treatment of diseases of women, then, if they continue to exist, cease to challenge comparison with general hospitals in the field of abdominal surgery, avoid the inevitable criticism which must follow the extension of their work to operations that have no connection with the pelvis, and follow the lines originally laid down by their founders. Unless this course is adopted, we prophesy that they will not merely lose their prestige, but will cease to be recognized as special hospitals.

Dr. Budin has been appointed as Tarnier's successor to the chair of obstetrics in Paris

VINDICATION OF A PHYSICIAN CHARGED WITH MALPRACTICE.

We are gratified to learn that the recent suit for malpractice against Dr. Frederick H. Wiggin, of this city, resulted in a complete victory for the defendant, the jury reaching a decision after only a few minutes' deliberation.

Since every case of this character must necessarily possess more than a local interest for the profession, we think it only proper to make a brief statement of the facts for the benefit of those of our readers who are not familiar with them.

Dr. Wiggin, whose high personal character and professional standing are well known in this community, performed anterior colpotomy and vagino-fixation of the uterus (Mackenrodt's operation) for retroflexion complicated with disease of the left ovary, the indications for surgical interference being unquestioned. It was shown that all the necessary aseptic precautions were observed; but nevertheless suppuration occurred (presumably at the site of the stump, which was secured with a silk ligature), and an abscess formed, which was incised and drained through the posterior vaginal fornix. The patient made a good recovery and returned home, the abscess opening having apparently closed. She at first reported herself as much improved, but subsequently it appeared that a small sinus still remained, which continued to discharge pus. Naturally inferring that the source of irritation was located at the site of the ligature, the doctor proposed that an attempt be made to reach and remove the silk. The patient re-entered the hospital, was anæsthetized, the vaginal opening was enlarged, and an unsuccessful effort was made to find the foreign body.

After consultation with the patient's family attendant (himself a well-known surgeon), it was deemed advisable to open the abdomen and remove the ligature. This was done with considerable difficulty, as the patient was quite stout and took the ether so badly that it was necessary to suspend its administration in order to resuscitate her. Indeed, the pulmonary symptoms were so threatening that Dr. Wiggin remained with the patient for several hours after the operation, until she was out of danger.

Recovery from the second operation was retarded by the development of a mural abscess, attributed to localized infection in a thick adipose layer, which was treated in the usual manner by irrigation and gauze packing.

In spite of the doctor's assiduous attention, over a period of several weeks, the wound refused to heal. The patient, who up to this time had been in a private hospital, desired to remove to a public institution for pecuniary reasons, after which she was no longer under his care.

Without entering into details, it is sufficient to state that several weeks after she entered the institution the sinus was enlarged under ether and a piece of gauze, "the size of the thumb," was removed from the bottom of the wound, after which it closed and the patient was subsequently restored to health. This fact coming to the knowledge of the patient and her husband (through whose agency is not certainly known), it was intimated to Dr. Wiggin that the matter might be compromised, provided that the fee (a very moderate one) should be remitted. This the doctor properly refused to do, believing that an important principle was at stake, which concerned the honor of the profession as well as his own; hence the suit, with damages fixed at $10,000.

It is pleasant to record that the defendant was generously supported by his professional brethren, who, whatever may be their personal differences, are always united when it comes to questions which affect the good name of a colleague.

The grounds on which the suit was brought were, not that suppuration followed the first operation, which was recognized as an accident that may occur in spite of all precautions, but that the piece of gauze which was finally removed from the abdominal wall had been carelessly left behind during the performance of cœliotomy. It was claimed by the defence that the gauze was introduced while the sinus in the wall was being dressed, and that the end, instead of being allowed to protrude from the wound, was pushed down out of sight. It should be borne in mind that for several weeks, or after Dr. Wiggin ceased to attend the patient, the wound was dressed by other parties, often by nurses. There was, therefore, not the slightest evidence that he had introduced the offending gauze.

Considerable stress was laid by the prosecution upon the fact that the gauze must have been inserted at the time of the cœliotomy; hence the development of the mural abscess. But it clearly appeared from the evidence that the patient had no febrile or other symptoms such as would have resulted from the presence of a foreign body in the peritoneal cavity, and the subsequent excursion of the same from the cavity into the external wound. Moreover, it was admitted that the foreign body was not a pad or serviette, but merely a small bit of gauze bandage (!).

On this flimsy evidence was based the charge of incompetence against a gentleman, in regard to whose skill, judgment, and conscientiousness numerous medical witnesses were present to testify.

The verdict was inevitable; but the fact that the trial was allowed to proceed at all is a striking evidence of the risks assumed by every surgeon, no matter how slight the operation or how high his standing.

The lessons from this case, though not new, are worth remembering. Any operator may through an unfortunate combination of circumstances have an unsuccessful case aired in a court of law. The financial question is not the only one. Who can compensate him for the mental anxiety and loss of time and reputation?

In such a position, if ever, the profession should rally to the support of a persecuted brother. His suffering is vicarious, but not from mere selfish motives should our assistance be proffered. If any surgeon, apparently secure in the possession of a flawless reputation, is indifferent to higher motives than those of self-interest, he will do well to recall the admonition: "Let him that thinketh he standeth, take heed lest he fall."

THE ADMINISTRATION OF CHLOROFORM FROM AN UNPROFESSIONAL POINT OF VIEW.

In *The Hospital* of a few months ago, attention was called to the frequency of deaths from anæsthesia. It was stated that in the year 1897 no less than eighty-eight inquests were held on persons who had died from anæsthetics, seventy-five of that number succumbing to the effects of chloroform. It is doubtful, too, if all the deaths that have occurred from this cause have ever obtained publicity. This large death rate has naturally given rise to feelings of alarm, and medical men even in England itself are beginning somewhat to distrust chloroform as a safe anæsthetic. The general public, however, regards the question in an apathetic manner, so that the opinions of a lay writer on the subject are interesting as well as possessing the merit of freshness. A Mrs. King, writing in the *Nineteenth Century* for March, deals with the matter from an unscientific standpoint. This lady does not discuss the much-vexed point as to whether chloroform, ether, or one of the various other anæsthetics now in use is the safest, but gives her views in regard to the manner of administering chloroform. She writes as follows: "I have myself been under chloroform twice in England and yet oftener in India, and it is my own personal and painful experience of the difference in the manner in which it is administered in India and England that impels me to write, in the hope of arousing sufficient interest to stir up a revolt against the method of administering chloroform too commonly practised in England, and thereby save others from suffering as I have done. . . . It is the custom of many practitioners in England (I speak only from my own experience) to administer chloroform in direct opposition to the principles laid down by the Hyderabad commission and in the way practised in India. There the primary consideration is that nothing shall in any way impede the patient's breathing, and the operator consequently takes care never to place the pad or handkerchief very close to the mouth, holding it invariably at a distance of some inches, so that the chloroform may be freely diluted with air. In this way I have taken it some dozen times, and, far from having experienced the slightest distress, I found the sensation exceedingly soothing and agreeable as long as consciousness lasted. In England my experience has been far otherwise, and my dread of taking chloroform is now almost as great as the dread of being smothered or drowned. Having suffered great distress the first time, I entreated the administrator on the last occasion to allow me air the whole time, telling him how greatly I dreaded the feeling of suffocation I had experienced. He merely answered somewhat testily that I must allow him to act as he thought best, and those present assured me in chorus that he was one of the best-known chloroformists in London. I was helpless and I submitted. At first he held the hollow pad some inches from my mouth, and I inhaled the fumes with perfect ease and comfort, drawing deep and regular inspirations; but no sooner was I half-unconscious than he clapped the pad over my nose and mouth in the way I had so dreaded. I struggled furiously for breath, but could inhale nothing but the burning, choking fumes of the chloroform, that felt as if pure alcohol was being poured down my throat, and made me gasp and choke in an agonizing manner. I became frantic in my efforts to obtain air, and the few moments that elapsed before unconsciousness came to my relief were to me a prolonged agony. I am perfectly certain that had I not been physically strong and my heart and lungs sound, I must have succumbed, in which case I should have furnished another paragraph to be headed 'Death Under Chloroform,' and the public would have heard that my death was owing to 'failure of the heart's action.'"

While this account is probably exaggerated and somewhat open to the suspicion of prejudice, it still contains the germs of truth. There can be no doubt that very many of the deaths occurring from the administration of chloroform are due to the methods of administering the anæsthetic. This is the case both in America and in England.

News of the Week.

A Hospital at Key West.—The mother superior of the Convent of Mary Immaculate, at Key West, has offered to place the convent and two school-buildings at the disposal of the United States government, to be used as a hospital in case of war with Spain, and has offered the services of the sisters as nurses. Captain Sampson, commanding the squadron, has accepted the offer in case a naval hospital becomes necessary.

Health-Board Appointments in Brooklyn.—The following appointments have been made in the department of health in the Borough of Brooklyn: Drs. James J. H. Blakeney, James T. Gallagher, Charles H. Ermentraut, and Eugene J. Kenney, medical inspectors, and Dr. Peter C. Hughes, diagnostician.

The Cornell Medical School.—It seems to be definitely determined as the result of the disagreement between the council of the University and its medical department that there will be another medical school established here. The donor of the medical college to Cornell is said to be Mr. Oliver H. Payne, whose ambition to establish a medical school second to none in the world will be gratified by an expenditure of from a half to one million dollars. The president of the university says that the new department, which is to be designated the Cornell University Medical College, is to be located in the city of New York, although the first half of the course, comprising the pure sciences upon which practical medical training rests, will be duplicated by the faculty of arts and sciences at Ithaca, will be open to women on the same terms as to men, and students appointed to State scholarships by the superintendents of public instruction may obtain free tuition. The following members of the present faculty of the University Medical College have already been appointed to professorships in

the Cornell University Medical College: W. M. Polk, Lewis A. Stimson, R. A. Witthaus, W. Gilman Thompson, George Woolsey, and H. P. Loomis. Dr. W. M. Polk has been appointed director and dean of the medical college. The executive committee was authorized to complete the staff, and it is expected that about fifty other appointments will be announced within a short time.

Obituary Notes.—Dr. George Hoppin Humphreys, an old physician of New York, died at his residence, in this city, on April 15th. He was born in Philadelphia in 1834, and was graduated from Jefferson Medical College in 1856. He completed his medical studies in Paris and Vienna, and came to New York in 1859. On the breaking out of the war he joined the ninth regiment as surgeon. After the war he returned to this city and entered general practice. He was a member of the Academy of Medicine and the County Medical Society, and also of the Loyal Legion, and the Century and Union League clubs.—Major Henry McElderry, chief surgeon of the Department of the Missouri, died at Hot Springs, Ark., on April 17th, of Bright's disease. He was born in Maryland, and served during the rebellion in the tenth Maryland infantry, and as medical cadet in the regular army. He was appointed assistant surgeon in 1866, given the rank of captain in 1869, and that of major in 1884.—Dr. Francis R. Brooks, of Chicago, died at Geneva on April 13th. He was thirty-one years old and was a graduate of Harvard College, the Chicago College of Law, the law department of the University of Virginia, and of the College of Physicians and Surgeons, Chicago.

New York Neurological Society.—At the meeting of April 5th, the following members were elected to serve the society as officers for the ensuing year: *President*, Dr. Frederick Peterson; *First Vice-President*, Dr. Joseph Collins; *Second Vice-President*, Dr. J. A. Booth; *Recording Secretary*, Dr. Pearce Bailey; *Corresponding Secretary*, Dr. L. Stieglitz; *Treasurer*, Dr. G. M. Hammond; *Councillors*, Drs. B. Sachs, M. A. Starr, George Jacoby, C. L. Dana, and M. P. Jacobi.

The Florida Medical Association.—The twenty-fifth annual meeting of this society will be held in the rooms of the board of trade, at Jacksonville, on Tuesday, April 26th, under the presidency of Dr. R. B. Burroughs, of Jacksonville. The secretary is Dr. J. D. Fernandez, and the chairman of the committee of arrangements Drs. Sollace Mitchell, both of Jacksonville.

Hotel Accommodations at Denver.—The *Colorado Medical Journal* says: "We regret that the editor of the Medical Record has had some misunderstanding with the Brown Palace Hotel management as regards rates; and the former, through his official position, has seen fit to criticise the Denver hotel business in general, and to make statements about the hotel rates that are to be in force during the meeting of the American Medical Association, which are greatly in error." The editor of the Medical Record has has no correspondence and no misunderstanding as regards rates with the manager of any hotel in Denver, and the above statement of our esteemed contemporary is wholly independent of facts. The item to which objection is taken by our colleague in Denver was as follows: "The hotel proprietors in Denver, with the usual shortsightedness of people of that class, are purposing to make it as uncomfortable as possible for those in attendance at the meeting of the American Medical Association in June, in order that the meeting may be made as profitable as possible to themselves. The manager of one of the leading hotels in that city has already refused to make any reservations unless two persons will consent to occupy a single room. How many he expects to put in a double room, we have not yet ascertained." We have since been informed by a physician in this city that this manager has thought better of his refusal to allow any of his guests to sleep alone, and has offered to reserve single rooms at the rate of $4.50 a day, European plan—that is to say, for the use of the room only, without meals.

Governor Black has signed the bill making an appropriation of $158,000 for the Craig Colony. One hundred thousand dollars of this amount will be used in the construction of cottages for patients; the capacity of the cottages ranging from ten to twenty-five patients each.

Arsenic for the Prevention of Cholera.—A memorial has been introduced into the United States senate from a Minneapolis physician, praying that a test be made of the "arsenization method" of treating cholera. The petitioner says he has had practical experience in yellow fever and small-pox, and now seeks an equally practical experience in Asiatic cholera. He suggests that the testing of this method will consume five years with an annual appropriation of $10,000.

The International Congress of Hygiene and Demography was formally opened in Madrid on Sunday last. The cable announced that one delegate from Salt Lake City delivered a brief address at the opening session, in which he expressed his faith in peace and the speedy establishment of improved relations between Spain and the United States. It is difficult to imagine what else he could have said, considering the time and place.

A Nurses' Club House.—The Nurses' Alumnæ Association of the Post-Graduate Hospital held a fair at the hospital on Wednesday, March 30th, the proceeds of which are to be used for a club-house. The proposed club-house is to be rented in a central part of the city, and is to be provided with everything that could add to the nurses' comfort or pleasure. The first floor is to be divided into an office, with its registry and telephone, a reception-room for the entertainment of the nurses' friends, a dining-room, a kitchen, and a reading-room. Lectures will be given from time to time to enable the graduate nurses to keep up with newer methods of work. The other rooms will be occupied by nurses off duty. One

room will be reserved for the use of sick nurses. It will be fitted up in as attractive a manner as possible, and will be kept ready for use at all times. The house is to be under the management of one of the graduates. The fair was very successful, but much is still needed to carry out all of the proposed plans. The secretary and treasurer of the association is Miss Mary E. Thornton, 162 East 37th Street, New York.

The Astoria Hospital, which was obliged to close its doors on April 1st because it could not exist without receiving assistance from the public treasury, may possibly be reopened. Representatives of a hospital in this city a week ago visited Astoria for the purpose of inspecting the hospital, with a view to converting it into a branch. The name of the institution is withheld, but it is supposed to be the New York Hospital, which enjoys the good fortune of being independent of municipal aid.

Sanarelli's Yellow-Fever Serum.—Dr. Sanarelli, who announced his intention to take part in the proceedings of the International Congress of Hygiene and Demography, held this past week in Madrid, has been experimenting during the past few months in Rio de Janeiro and instructing a committee of Brazilian physicians in the method of employing his yellow-fever antitoxin, or "serum anti-amaryl," as he calls it. The Rome correspondent of the *Lancet* gives a brief report of these experiments and instructions: "Good results," Dr. Sanarelli premises, "are difficult to obtain if the treatment be applied when the disease is already advanced, when the 'amaryllic' poison largely accumulated in the organism has already induced those grave anatomical and functional changes which the serum cannot undo and which of themselves suffice to cause death. We must for the present, therefore, restrict our application of the serum exclusively to the first period of the malady." It will be much if good results can be obtained by this early treatment. It will be still more if the indications then observed will enable us to utilize with success the "serum anti-amaryl" in further stages of the malady. The serum is asserted to be in no respect hurtful; it can be injected in any desired quantity up to the moment when all hope of success is not yet definitively abandoned. We begin with a dose of 20 c.c., and if appreciable improvement fail to set in we may inject a second, a third, and even further doses, always being guided by the patient's resisting-power, or his general condition, or the period of the malady, or the complications, and so on. The injections are to be practised in the region of the thighs or nates, but in urgent cases it is preferable to introduce the serum directly into the veins of the forearm, rendered prominent by a bandage placed below the elbow. The results of these experiments at Rio would seem to show that the serum is fatal to the microbe which causes yellow fever, while it is impotent against the toxins produced by that microbe. If previously to the diffusion of the toxins the microbe can be met by a good injection of the anti-amaryllic serum it is at once destroyed and the patient is put out of danger. To hit the opportune stage at which injection is efficacious, to surprise the organism at the period when incubation is not yet mature, and to kill it before its toxins have become diffused should be the practitioner's aim if the serum is to be successful in his hands. But there is no time to lose, since yellow fever often runs to a final issue in less than two days.

The Cartwright Lectures of the College of Physicians and Surgeons (medical department of Columbia University, New York) will be given in the hall of the Academy of Medicine, 17 West Forty-third Street, on Tuesdays, April 26th, May 3d and 10th, at 8:15 P.M., by W. W. Keen, M.D., professor of the principles of surgery and of clinical surgery in Jefferson Medical College, on "The Surgery of the Stomach." The first lecture will deal with gastrotomy and gastrostomy; the second with gastro-enterostomy, pylorectomy, pyloroplasty, gastroplication, and gastroplasty and gastro-gastrostomy for hour-glass stomach: and the third with tumors of the stomach, ulcers of the stomach, and gastrectomy. The committee is composed of Drs. F. P. Kinnicutt, A. J. McCosh, and W. K. Draper.

The New York Mycological Club.—The New York Mycological Club has been organized with a view to bring together all those interested scientifically and economically in the study of fungi. Its principal objects are the study of edible mushrooms and toadstools and those poisonous kinds which may be mistaken for them, and the arousing of a wider appreciation of the value of a cheap and abundant food supply which has been hitherto comparatively neglected in this country. The secretary is Miss C. C. Bedford, 16 East One Hundred and Thirty-first Street, New York City.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending April 16, 1898. April 9th.—Passed Assistant Surgeon L. L. Von Wedekind detached from the Naval Academy and ordered at once to the *Minneapolis*. Passed Assistant Surgeon L. L. Spratling detached from the Naval Hospital, Philadelphia, Pa., and ordered at once to the *Columbia*. Assistant Surgeon H. H. Haas detached from the *Vermont* and ordered at once to the *Texas*. Assistant Surgeon E. V. Armstrong commissioned assistant surgeon from April 5th. Assistant Surgeon W. H. Bucher commissioned assistant surgeon from April 5th. April 12th.—Medical Inspector D. Dickerson ordered to marine headquarters, Washington, D. C. Surgeon D. N. Bertolette detached from the marine headquarters, Washington, D. C., and ordered to the *Vermont*. Surgeon W. H. Rush ordered to the *Dixie* at once. Surgeon J. M. Edgar detached from the *Vermont* and ordered to the *Prairie*. Passed Assistant Surgeon J. M. Pickrell detached from the hospital, D. C., and ordered to the *Yosemite*. Passed Assistant Surgeon A. M. D. McCormick detached from the Naval Academy and ordered to the *Yankee*. Passed Assistant Surgeon M. R. Pigott ordered to the Naval Academy at once.

April 13th.—Surgeon L. G. Henneberger ordered to the bureau of medicine and surgery. April 15th.—Medical Inspector M. C. Drennan detached from the *New York* and ordered home to await orders. Medical Inspector C. U. Gravatt detached from the *San Francisco* and ordered at once to the *New York* as fleet surgeon. Surgeon A. C. H. Russell detached from the Naval Museum of Hygiene and ordered to the *San Francisco* at once. Surgeon F. J. B. Cardeiro detached from the *Michigan* and ordered to the *New Orleans* at once. Assistant Surgeon W. H. Bucher ordered to the *Vermont* temporarily. Assistant Surgeon E. V. Armstrong ordered to the *Scorpion*.

A Belligerent Doctor in Salzbrunn.—A cable despatch to *The Sun* from Berlin tells of an irate German physician who had rather fight than pay a bill. A servant girl employed in a hydropathic institution kept by a Dr. Pohl in Salzbrunn cut her hand last October in her master's absence. Dr. Oliviero was summoned to attend her, and, after the girl was cured, sent a bill to his colleague for five marks for his attendance. Dr. Pohl considered the bill an insult, and sent seconds to Dr. Oliviero to demand an explanation, and to challenge him to a duel if the explanation was unsatisfactory. Oliviero refused to fight, and had Pohl arrested and imprisoned for a week for violation of the duelling laws.

New York State Medical Association.—The fourteenth annual meeting of the third district branch of this association will be held at Syracuse on June 2, 1898. Members intending to present communications are requested to notify the secretary, Dr. F. W. Higgins, of Cortland, N. Y. The president of the branch is Dr. H. W. Carpenter, of Oneida.

The Care of the Insane in Rhode Island.—In May of last year the legislature of Rhode Island passed an enabling act whereby the State institutions of Rhode Island were divided and the State Asylum for the Incurable Insane was made an independent institution under a separate head, its name being changed to the Rhode Island State Hospital for the Insane. Of this hospital Dr. George F. Keene has been elected superintendent.

Section on Diseases of Children of the American Medical Association.—The preliminary programme of this section contains the titles of fifty-nine papers and the names of nineteen members who have promised communications, the titles of which are not known to the secretary. We would remind ambitious members of the association that the atmosphere of Denver is rarefied and it is necessary for unacclimated visitors to be sparing of their breath.

The Wisconsin Medical Law does not appear to be enforced with great rigor. The Chippewa Falls *Herald* says it has been in effect several months and one certificate only has thus far been filed. The law provides that all persons hereafter commencing the practice of medicine or surgery in any of their branches in Wisconsin shall apply to the board for a license and shall submit to an examination in the various branches of medicine and surgery, or present to said board his or her diploma from a medical college that requires after January 1, 1897, at least three courses of not less than six months each before graduation.

To Guard against Yellow Fever.—The health commissioners have directed the sanitary superintendent to exercise special vigilance in the inspection of all sailors' lodging-houses and other places where refugees from fever-infested regions usually congregate. It has been reported that the department has called for the names and addresses of all physicians who have ever served on the health board, in order to form an auxiliary reserve corps to combat yellow fever, smallpox, or other infectious diseases that might be brought here in case of an invasion of Cuba.

St. Mark's Hospital.—The trustees of St. Mark's Hospital, in this city, have purchased the adjoining building, which was formerly occupied by the Italian Home. They will tear it down and soon build an extension to the present hospital.

Vaccination in Abyssinia.—A newspaper of Milan announces that at the Paris meeting of the International Medical Congress, Dr. Mandon will present, on behalf of the Emperor Menelek of Abyssinia, a communication by that monarch on "Small-Pox and Preventive Vaccination as it has been Practised in Abyssinia for Two Centuries."

The Late Dr. Ennis I. Geraghty.—At the regular monthly meeting, held on March 4, 1898, at the New York Foundling Hospital, the following resolutions were read and adopted:

"The medical board has again within a little more than a month to express its feelings of sorrow at the early demise of the junior house surgeon of this hospital, Dr. Ennis I. Geraghty, on February 17, 1898, aged twenty-three years. It is very sad to be called on to pay tribute to the many good qualities of one so young. He was graduated from the medical department of Columbia University in this city. Afterward he served two years in St. Vincent's Hospital, with distinction. On the first of the present year he entered on his duties at the Foundling Hospital, where he gave every promise of a most useful career. He was kind and gentle in the extreme, and endeared himself to everybody. The arduous labors imposed by his medical studies and hospital work were too trying for him. It can be justly said of him that he was a martyr to the cause of medical science. He stood on the very threshold of his chosen career when the dark shadow of death flung its mantle over him.

"Let us hope that higher duties have called him hence; and at the same time express the wish that the wild thyme, the cowslip, and the violet will forever blossom o'er his grave.

"*Resolved*, That we sincerely sympathize with his afflicted family. Also that a copy of this preamble and resolutions be sent to them; that a copy of the same be entered on the minutes of this board, and published in the medical journals of this city."

Clinical Department.

PLACENTA PRÆVIA.

By CHARLES WHITE BERRY, M.D.,

BROOKLYN, N. Y.

Mrs. H——, aged thirty-four years, has had five children, three of whom are living. No miscarriages. She says that always (except with first child) she has more or less discharge from the vagina while carrying her children, until about the time she first feels life, when it stops. With this last child she had a thick, viscous discharge, of a whitish color, for thirty-five days after feeling life. All previous labors were normal, except the one before this, when the bladder was torn by the attending physician, during an attempt to rupture the membranes. This was repaired later in a hospital. She has always been regular in regard to menstruation, it coming every twenty-eight days and lasting five days. Her last normal period commenced May 15, 1897. She had what she called a "slight show" in June; it contained very little blood. In August she had quite a little hemorrhage, which was laid to "change of life;" she also had another in September, but from this time until I first saw her she had no further trouble.

On January 9, 1898, she had a slight hemorrhage, and I saw her for the first time. I was informed that the patient was having a miscarriage; she had had four or five hard pains about fifteen minutes apart; also a severe pain in the left side for two days, which had been continuous. With each one of her hard pains there had been a gush of blood from the vagina.

On examination I found that the child was alive, being able to hear the fœtal heart distinctly in the left iliac region, but I could not make out the parts by palpation. She was a good-sized woman, and her abdomen appeared very small for a pregnancy advanced as far as she thought. The fundus of the uterus was midway between the umbilicus and the ensiform. On vaginal examination I found the vagina full of blood; a small, pointed, hard cervix with a deep laceration up the left side, and dilated just enough to admit one finger; there seemed to be a fulness in the anterior, posterior, and lateral fornices of the vagina. On introducing my forefinger into the cervix, I could feel quite plainly a soft boggy mass, extending over the internal os. I could not feel any part of the child or anything resembling membranes.

From the history and results of the examination I made the diagnosis of placenta prævia. The patient had only one pain after I arrived, and the bleeding stopped of itself. I washed out the blood, after waiting a while, and as a precaution packed the vagina well up into the fornices with gauze soaked in a bichloride solution. I could not pack the cervix without going up into the uterus, on account of the lacerations. She was instructed to remain quiet and to notify me at once on the advent of any more pain or feeling of bleeding. I saw her again that night, and there were no signs of any more hemorrhage or pains. The tampon was left in the vagina and the patient told to keep her bed.

The next morning the tampon was removed, and no further hemorrhage had taken place. She was then allowed to get up and go about the house, being cautioned against any undue exertion.

The next night the same thing happened again, the pains coming on after she had been in bed some time, and with each pain a gush of blood from the vagina. Again the vagina was packed, and the pains ceased.

Her condition was then explained to the family and a termination of the pregnancy advised, more especially as she was likely to be alone a part of each day. This was agreed to, and the following morning Dr. Edward Ferris was called in consultation, he confirming the diagnosis and agreeing that the pregnancy ought to be terminated as soon as possible.

At three o'clock that afternoon the following operation was performed. The bowels and bladder were emptied, and the patient was anæsthetized, chloroform being used. The external genitals were scrubbed and washed off with a bichloride solution, and a vaginal douche of the same was given. The hand, after being made aseptic, was then introduced into the vagina and the cervix dilated with the fingers, they being used as a plug to control the hemorrhage. As soon as sufficient dilatation was accomplished, the hand was shoved up into the uterus, boring through the placenta, which was situated nearly directly over the os, and the membranes were ruptured. This was quite difficult, there being no resistance to the hand. A podalic version was then done, one hand assisting on the abdomen. A foot was caught and brought down, thus plugging the cervix with the half-breech. The foot was used as a tractor and the delivery hastened as much as possible, on account of the patient taking the anæsthetic badly. The placenta followed immediately after the child, and was entire with the membranes, the opening made by the hand being nearly in the centre.

The child lived only a few minutes after being born. It seemed to be of about six or seven months.

The uterus was followed down by the hand and good contraction secured, but in spite of this a very profuse hemorrhage started in. Ergotin was given hypodermically, one drachm of the fluid extract of ergot swallowed, and a hot intra-uterine douche given, but with little effect. The bleeding, as seen through the speculum, seemed to come from the lower part of the uterus, where the placenta had been, that part not seeming to contract with the rest of the uterus, which was hard and firm. The bleeding did not come from the circular artery of the cervix.

We at once proceeded to pack the cervix and vagina, using iodoform gauze and pellets of cotton soaked in bichloride solution and tied around with strips of gauze, the ends of which were left hanging out. Another hypodermic of ergotin was given, and the patient put to bed, the pulse being very weak and rapid. She was wrapped up in blankets, surrounded with hot bottles; whiskey was given hypodermically, a pint of hot coffee injected per rectum; the pillow was removed and the foot of the bed raised so that the head was quite low, and one drachm of hot beef tea and whiskey given as soon as she could swallow, this being repeated every few minutes until she had taken a cupful of the mixture. Under this treatment the pulse picked up a little and she commenced to take fluid well, hot beef tea and milk alternately in drachm doses.

After a steady gain for about two hours, there was a sudden change for the worse, the face and body in spite of the hot bottles becoming cold and moist, and the pulse so weak as to be hardly perceptible, the patient being in a stupor. The uterus was well contracted, but the tampon in the vagina was soaked through and the blood came away at an alarming rate.

It was a question if it should be taken out and repacked or not, we being afraid of a rush of blood that would end life at once; but, as things were getting worse each minute, we concluded that it was the only chance, and after getting everything in readiness the packing was removed, a speculum introduced, the posterior lip of the cervix caught with a tenaculum forceps, and a long thick mass of iodoform gauze seized with dressing forceps and forced right up to the fundus, and then packed in as solid as possible, the vagina being then filled up with balls of absorbent cotton soaked in bichloride solution and packed in as hard

as possible, without delay to fix each piece with a string or strip of gauze. A T bandage was then put on and the patient surrounded with hot bottles as before. She was also given a mixture of opium and ergot. Again she rallied and seemed to pick up, but in an hour the same symptoms appeared again; the pulse at the wrist could not be felt, and the patient lay as if dead, her face and body as cold as ice, and covered with sweat. Ammonia was injected and after a while she rallied a little, but was delirious throughout the night, the fluid and stimulants being kept up.

In the morning there was a pulse of 160 at the wrist and she was conscious. The tampon was soaked with blood as before, but as she seemed to be holding her own it was left in.

The pulse gradually went down below 100 in two days. Sleep was obtained the third night with a mixture of chloral, morphine, and sodium bromide, and the fourth day the tampon was removed and an intrauterine douche of bichloride solution given. The vagina was perfectly dry, and no bleeding beyond the ordinary discharge has come on since.

The patient gained strength each day. On the tenth day she had a fainting-spell, due to straining at stool, but promptly responded to treatment. At no time has she had a temperature of more than 100° F., and she is now up and about.

AN ATYPICAL CASE OF TYPHOID FEVER.

By A. ROBIN, M.D.,

ALLEGHENY, PA.

It is often claimed that typhoid fever is typical only in the text-books; that it may appear with any clinical physiognomy, present any set of symptoms; that the temperature and duration are very seldom sufficiently characteristic to aid one in the differential diagnosis—in short, when the patient has fever and we do not know what is the matter with him, we make a diagnosis of typhoid fever and pay no attention to the books; just as an old professor in a certain medical school used to teach: "If you do not know what the matter is with your man, who is afflicted with some chronic disease, take it for granted that he has syphilis and put him on iodide of potassium." The following case seems to prove this assertion.

Mr. M. S——, a robust, hard-working Irishman, thirty-three years of age, and a bricklayer by occupation, came to me on December 8th, complaining of chilliness, weakness, severe backache, pain in the back of his head, slight coryza, and cough. Temperature, 103° F. He had had a severe attack of typhoid eight years before. I made a probable diagnosis of influenza, prescribed Dover's powder and a calomel purge, and sent him home. On the following morning he had a temperature of 102.5° F., coated tongue, a pulse of 85, and the pain in his back, especially at the neck, was much worse. I gave phenacetin and caffeine, but on the next day there was no improvement. I tried antipyrin, with no better results, and finally resorted to morphine, which controlled the pain. The patient was growing weaker and became emaciated, although his heart was good; pulse, 85–90. The temperature was gradually coming down, and on the tenth day became normal. There were no abdominal symptoms, except two or three attacks of severe cramps, which were due to the constipation and subsided after his bowels had moved by the aid of a saline. His diet consisted of milk, beef tea, and broths. On the eleventh day the patient developed pain in the right inguinal region, which gradually diffused all over the abdomen, a violent diarrhœa, the stools containing curdled milk, and vomiting. Temperature, 102 F.; pulse, 100. I stopped the milk, which he was consuming rather too liberally, and gave him small doses of calomel and deodorized tincture of opium. The symptoms were somewhat ameliorated; he could retain some nourishment, and on the following day his temperature came down to 99° F., and to 98° F. in the evening. His cough and pain in the back were gone, but his debility was rapidly increasing and his heart became weak. Pulse, 100; abdomen distended and tympanitic; mind perfectly clear; expression somewhat anxious—feared that he was dying. On the following day (the thirteenth of the disease) his temperature was 96° F.; pulse, 100 and very weak. There was tenesmus; the stools were less frequent, liquid, but presented no other peculiarity. There was great distention of the abdomen, with frequent retching and occasional vomiting. He could retain milk, but water would make him vomit. Stimulation and other medication failed to improve his condition, and on the following day I found him greatly prostrated, with a temperature of 105° F. I called in consultation a well-known physician. After careful examination he eliminated typhoid fever, appendicitis, and peritonitis, ascribing the patient's condition to a gastro-intestinal catarrh following an attack of grippe. The patient growing gradually worse—temperature, 104° F.—I sent him to the hospital. Although very much exhausted, he was still able to sit up in bed until his clothes were changed by the nurse. He died on the following day, December 25th. The autopsy revealed extensive typhoid ulceration and perforation.

PERFORATING APPENDICITIS IN AN INFANT.

By THOMAS R. SAVAGE, M.D.,

NEW YORK.

On February 6, 1895, I was asked to operate for supposed strangulated inguinal hernia on a boy, sixty-one days old. This rupture existed at birth, and the bowel had steadily made its way to the scrotum. About a week before the operation the hernia became irreducible. Persistent daily taxis by the family physician for several days had failed to dislodge the gut, and finally the so-called "last chance" of an operation was invoked when the boy was moribund and markedly septic. The colon was found to have descended into the scrotum, where it was firmly adherent at the caput, but not strangulated, and a dirty fluid welled up into the abdomen through the abdominal ring, when pressure was made upon the hernia. The gut was loosened from its scrotal attachments and replaced, when the appendix was found to be inflamed and a round perforation was discovered, about one-eighth of an inch in diameter, a short distance from its tip and upon the upper surface. From this opening the fluid escaped. The appendix was then removed and the stump inverted. In spite of all efforts to stimulate him and prevent further infection, the child died next day of septic poisoning.

This case is especially interesting and instructive, as it demonstrates that appendicitis with perforation can result from trauma.

In the specimen, which I have preserved, there are two distinct areas of necrosis within the appendix, each surrounded by inflamed tissue—the first, about one-third inch from the tip, resulted in the perforation; the second, which was about one-half inch from the colon, had penetrated through the mucous coat to the muscular. The appendix, as might have been expected, contained no concretions, fæcal or otherwise.

113 East One Hundred and Sixteenth Street.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Thirty-Eighth Regular Meeting, Held on Friday, March 4, 1898.

W. Gilman Thompson, M.D., President, in the Chair.

Traumatic Rupture of the Spleen; Extirpation.—Dr. Charles McBurney presented a young man, thirty years old, who, early in November, 1896, fell from his horse, and as the horse went over him he was struck on the left side of the thorax low down in the axillary line by the animal's hind hoof. He was brought to Roosevelt Hospital in a state of shock, and an examination showed a distinct bruise over the left side of the lower ribs, rather toward the back. The patient complained of considerable pain in this region, and on account of his pallor and the feebleness of his pulse the house surgeon gave him an infusion of twelve hundred centimetres of sterile salt solution. This immediately produced a marked improvement in the patient's condition, which continued until the following day, when Dr. McBurney first saw him. The symptoms of internal injury were then apparent: the patient's countenance was pale; he vomited frequently; there were profuse sweating, restlessness, and great thirst, with increasing dulness over the left abdominal region. An operation was undertaken immediately. The incision was made along the outer edge of the left rectus muscle. The peritoneum, which was purplish in color, bulged forward, and when it was cut through the peritoneal cavity was found completely filled with blood clots and fluid blood. It was readily ascertained that a rupture of the spleen had taken place; the tear was on the outer aspect of the spleen, running at right angles to the long diameter of the organ, and extending deep down into its tissues. The spleen was rapidly tied off, the pedicle first being divided into two or three sections, and then removed, together with the numerous blood clots in the peritoneal cavity. As none of the other abdominal organs appeared to have sustained injury, the peritoneal cavity was washed out with hot sterile salt solution and the entire wound closed tight, without drainage. At this stage of the operation, Dr. McBurney said, the patient was in a moribund condition; his pupils were widely dilated, he was very pale, and his breathing was hardly perceptible. A vein in the arm was opened and a saline infusion of two thousand centimetres was given, making, in addition to the one given on the previous day, thirty-two hundred centimetres in all. During the administration of the salt solution, a marvellous change for the better occurred in the appearance of the patient; his pulse improved, his pupils contracted and by the time he had received fifteen hundred centimetres he looked like a healthy man asleep. From that time on his recovery was uneventful, with the exception that on the seventh day after the operation he developed a temperature of 101° F., without any local signs. This fever persisted irregularly for over a month, sometimes rising to 102.4° F., sometimes falling to 100° F.; during this period the patient was nervous and restless, but he took nourishment freely. The temperature finally fell to normal and remained so. An examination of the patient's blood, made by Dr. James Ewing soon after the operation, showed an enormous loss of red corpuscles and hæmoglobin; at the second examination nucleated blood corpuscles and many broken-down white cells were found. The speaker said that since the operation, which was performed about eighteen months ago, a slight hernia had developed at the site of the cicatrix, for which the man was wearing an abdominal bandage. There was also a noticeable paresis of the rectus muscle on the left side, which, Dr. McBurney said, was not infrequently observed after operations for appendicitis, and was doubtless due to the division of certain of the muscular nerves in this region. Dr. McBurney said that several years ago he had another case of extirpation of the spleen after traumatic rupture of the organ, and that patient also recovered. In a third case coming under his care recovery would probably have occurred had it not been for the fact that a coincident laceration of the liver existed.

Dr. Beverley Robinson inquired whether it would be of advantage to give a saline infusion just before commencing an operation of great gravity, like the one reported.

Dr. McBurney replied that that expedient was resorted to in some cases. Personally, however, he preferred to get through with the operation as quickly as possible and then throw in the salt solution. By filling up the blood-vessels beforehand, it was possible that greater hemorrhage might be excited.

Dr. Robert F. Weir said he had not had much experience with the infusion of saline solution previous to operating.

Dr. Clement Cleveland asked Dr. McBurney how he had closed his abdominal wound; whether he took any precautions against the occurrence of hernia by using buried sutures or other means. The speaker said he was in the habit of using a specially prepared catgut in these operations, which was supposed to last for forty days. He closed the peritoneum, including the muscles, with the catgut, then the fascia separately with the gut, and lastly the external wound with silkworm gut.

Dr. McBurney said that when he had the time, he always closed the tissues layer by layer, making as many layers as possible; but in some emergency cases, when every moment was of value, he closed the wound by means of a single layer of sutures, which was passed through the whole thickness of the abdominal wall.

Dr. Weir said that his experience with removal of the spleen after injury was limited to two cases, and in both those instances the rupture was associated with injuries of other abdominal organs. His first case was that of a man, aged twenty-seven years, who, on January 21, 1891, discharged a 32-calibre revolver into his left chest, the ball entering one inch below the nipple and stopping beneath the skin, just below the twelfth rib on the left side, and four inches from the vertebral spines. The patient complained of pain in his left hypochondrium. Friction sounds could be heard in the left chest. There was no blood in the urine. Dr. Weir saw the man eight hours after the receipt of the injury, and at once operated. A short incision was first made over the site of the bullet, which was extracted. This incision showed that the kidney on that side was uninjured. A second incision was made through the wound of entrance, which showed that the ball had perforated the chest and that the pleural cavity contained air. A third incision was made in the median line, above the umbilicus; the splenic flexure of the colon was found to be wounded in four places, and the spleen was badly torn in its lower and middle portion. The openings in the colon were clamped, the spleen was extirpated, and the splenic flexure was then lifted out of the abdomen; the peritoneal cavity was then flushed with hot borosalicylic solution. The condition of the patient was so critical that no attempt was made to restore the integrity of the colon, and the injured portion was supported with glass tubes outside the abdomen. The

patient was vigorously stimulated, but died in a short time. A further examination of the abdomen revealed that his death was due to the great hemorrhage which had taken place from the splenic vessels.

The second case reported by Dr. Weir was one of simultaneous extirpation of the spleen and one kidney. The patient was a child of eleven years, who, twenty hours before he saw her, had fallen a distance of about twenty feet, striking her left side against an area railing. The peritoneal cavity contained much extravasated blood. The left kidney was dislocated from its normal position to the level of the iliac crest; on incision of the kidney it was found that two of the renal veins had been torn across, only the artery being left. The kidney was thereupon removed. A further search revealed that the spleen was also deeply lacerated on its median aspect above the hilum, and its removal was necessary. Death occurred nine hours after the operation.

Dr. Weir also called attention to the experiments of Jordan, on dogs. These observations, which were but recently published in *The Lancet*, showed that the removal of the lower half of the spleen after the employment of a locked ligature was a comparatively safe procedure, but that excision of its upper portion was decidedly more dangerous, owing to the difficulty of controlling the gastric arterial anastomosing branches and other vessels, and involvement of the diaphragmatic nerve plexus.

Dr. Robert Abbe reported the case of a boy who was run over by a heavy wagon, with the result of a fracture of the right lower ribs. There were also symptoms of internal hemorrhage which pointed to the right kidney, and when the abdomen was opened by an antero-lateral incision the lower part of the spleen came into view; it was found that this portion of the spleen had been completely severed from the rest of the organ and forced to the right side of the abdomen. The right kidney was also so badly crushed that it had to be removed. A left lateral incision was then made and the remnant of the spleen removed. The boy died in twenty-four hours, and at the autopsy it was found that the left kidney had also been torn completely through.

Dr. Robinson inquired whether the administration of morphine was advisable in cases of great shock after injury—whether the surgeons would advise it under the same conditions as when they give a saline infusion.

Dr. McBurney replied that he thought the administration of morphine was indicated and proper in such cases. It subdued restlessness and had a favorable effect on the heart. It also quieted the stomach. The use of the drug, however, should not be continued, one or two hypodermics usually being sufficient.

Dr. W. Gilman Thompson said the rapidity with which this patient recovered from his extreme anæmia after the removal of the spleen showed that that organ had comparatively little to do with the elaboration of the blood, upon which function it was once supposed to have such an important bearing. Animal experimentation seemed to indicate that the removal of this organ produced certain changes in the temper and disposition of the animal. Such changes had not been noted in human beings after extirpation of the spleen. Another interesting point in Dr. McBurney's case was the long-continued elevation of the temperature. One would expect the temperature to be subnormal after such a loss of blood. The spleen was not supposed to have any heat-controlling function.

Dr. McBurney said that similar rises of temperature might be seen in connection with aseptic blood absorption when the quantity of blood was considerable.

The Choice of Routes, Abdominal or Vaginal, in Intrapelvic Surgery.—Dr. Clement Cleveland presented this paper (see page 577).

Dr. Abbe said he was interested in the statement made by Dr. Cleveland, that after simple incision and drainage of pus sacs in connection with the tubes and ovaries there was usually no further trouble. This would obviate the necessity of removing the tubes and ovaries in cases in which these organs were not too badly tied up in the pelvic parts. Dr. Abbe said he had drained in a number of such cases through the retro-uterine cul-de-sac, and had found this a very satisfactory method of curing a pyosalpinx. Personally he preferred the posterior route in many respects, and for exploratory purposes it should be resorted to in preference to the anterior abdominal incision.

Dr. W. M. Polk said that, while in the main he agreed with the views expressed by Dr. Cleveland, there were certain points in regard to which he differed. In the choice of a route for the removal of a uterine fibroid, the speaker said, the operator should be governed by the formation of the woman's pelvis, rather than by the size of the tumor. If the woman had a "male" pelvis, particularly if she was stout and muscular, it might prove very difficult to remove even a small fibroid by way of the vagina. As regarded the preferable method of operating in cases of extra-uterine pregnancy, Dr. Polk said that this depended largely on the condition of affairs one had to deal with. If the fœtus was dead and one simply had to evacuate a sac, the vaginal route possessed undoubted advantages, as that method did not involve the peritoneal cavity or weaken any of the structures that held in the contents of the abdomen. When the fœtus was alive, however, he was inclined to feel a little sceptical about attacking it from below, unless one first aspirated and let a sufficient amount of time elapse to make certain that atrophy of the vessels of the sac had taken place. In the removal of large ovarian tumors, Dr. Polk said he failed to see any great gain in operating from below, even in the more favorable cases, *i.e.*, those of women with the typical female pelvis, wide and shallow, and with a voluminous vagina, and who were not particularly fat or muscular. In cases in which the sac was intraligamentous and small, it could unquestionably be removed from below; but not infrequently these tumors had many adhesions, and by making a good, free, abdominal incision one could undoubtedly do a cleaner and more thorough operation than by entering through the vagina. The abdominal operation also offered better facilities for doing conservative work in the way of resecting diseased ovaries and tubes, which often rendered a sterile woman fruitful. The question of treating a case of pyosalpinx from below by incision and drainage was a very interesting one. The important point to determine was whether one had to deal with an abscess of the tube or ovary. An abscess of the tube was much less likely to heal of itself than was one of the ovary. The latter variety might heal spontaneously if properly drained; this was also true of abscesses in the peritoneal cavity, but it was not true of those in the tubes. It was questionable whether these would heal spontaneously, and those cases in which there was long-continued discharge probably belonged to this variety. The speaker said that in cases in which he undertook to remove a pus tube from below he preferred to remove the uterus first, thus giving ample space for manipulation and averting the possibility of injuring the intestines—an accident which he had known to occur more than once during colpotomy, both anterior and posterior. In dealing with a prolapsed ovary, and possibly in cases in which the pelvis was very shallow, one might be able to perform certain conservative operations on the ovary from below, but in the main such work could be done better from above. In conclusion, Dr. Polk said that his main reason for preferring the vaginal route in certain operations on

the uterus and its appendages was that after an abdominal operation it was impossible to put the abdominal wall into as good condition as it was before.

Dr. McBurney said he thought the question of sepsis had considerable bearing on the choice of routes in the performance of intrapelvic operations. In a case, for example, in which one had to deal with a septic tube or ovary, its removal through the vagina would be more favorable to the patient than its removal through an abdominal wound; but this rule would not apply to many of the other intrapelvic conditions which were mentioned in Dr. Cleveland's paper. On the contrary, the abdominal operation offered certain distinct advantages over the vaginal—such, for instance, as thorough inspection of the parts, the more ready control of hemorrhage, etc. In obscure cases the speaker said he would certainly prefer the abdominal route to the vaginal. In operating through the vagina, much of the work must be done in the dark, and unless it was in very careful hands harm might be done. Incompetent or inexperienced operators were not infrequently induced to undertake these operations, as many women would submit to them who would not consent to an abdominal operation.

Dr. Cleveland, in closing the discussion, said he was fully in accord with Drs. Polk and McBurney, that many intrapelvic operations must be done by the abdominal route. In certain instances, however, the vaginal method possessed distinct advantages, among them being the perfect drainage that was obtained. In reply to a question, Dr. Cleveland said he tried to prevent the occurrence of ventral hernia by sewing first the peritoneum and muscles together with a specially prepared chromicized catgut, then the fascia with catgut, and lastly the integument with silkworm gut.

Pyæmia, with Abscess of Heart and Abscesses in Lungs and Kidneys, following Grippe; Pneumonia.—Dr. George L. Peabody exhibited the heart of a boy, seventeen years of age, who had died of this disease. Early in January, 1898, he developed consolidation of the lower lobe of the right lung, without initial chill, and soon became delirious. He entered the New York Hospital five days after the onset of his symptoms, which included severe pleuritic pain and great prostration. His fever was high, his temperature during the first week of observation frequently passing 104° F. Under cold packs and mild hypnotics he slept, and his delirium disappeared. In about a week the consolidation gradually resolved, without crisis, and indeed without especial change in the character of his fever or in his general condition. Before the right lung became entirely free from lesion, consolidation developed in the lower lobe of the other lung, and when this gradually resolved in another week it was succeeded by an extensive serous exudation in the left pleural cavity. His pulse and respiration were rapid. He gradually failed, and his temperature began to make wide excursions without any antipyretic treatment, and he died after three weeks' stay in the hospital—not quite four weeks from the onset of symptoms. The autopsy revealed the presence of 900 c.c. of serum in the left pleural cavity and numerous small abscesses in both upper and lower lobes of the right lung, and also in both kidneys. The heart was normal in size and its valves were normal. There was recent lymph over the upper part of both layers of pericardium. In the auriculo-ventricular groove, on its posterior surface, was a prominent abscess containing blood and pus, whose diameter at its base was 2.5 cm., and whose height above the level of the heart wall was 2 cm. It had ruptured at its summit. The pericardium contained 200 c.c. of bloody pus. Cultures from abscesses in all the affected organs, which Dr. Peabody also exhibited, showed pure growths of staphylococcus pyogenes aureus.

Orexin as a Stomachic Tonic.—Dr. Peabody also reported upon the use of orexin as a stomachic tonic and appetizer. He presented a tabulated statement of his experience with it in twenty cases of anorexia and malnutrition due to a large variety of causes. Among the conditions treated were the following: chronic endocarditis, senility with syncope, acute phthisis, malignant endocarditis, chronic phthisis with colitis, specific cerebral endarteritis, influenza, cirrhosis, pneumothorax, dry pleurisy, rheumatism, carcinoma of stomach, inanition, and several others. In sixteen cases the appetite and digestion were distinctly improved; in three cases it caused nausea; in one case it produced no effect. On the average, five days elapsed before beneficial effects were pronounced. Orexin, the speaker said, was a white powder, one of the coal-tar derivatives. If it be put into a mouth whose secretions were acid, it was then soluble and could cause much irritation, with a peppery taste. The hydrochlorate of orexin was always an irritant in the mouth, from its ready solubility. It was well, therefore, to administer the drug either in wafers or in capsules, in doses of three grains, shortly before each meal. It was not a good plan to administer it if there was much fever; but in anorexia from any other cause it was well worth a trial, it being distinctly superior to all the vegetable bitters.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, April 11, 1898.

W. W. Van Arsdale, M.D., Chairman.

Thyroidectomy for Calcified Cyst.—Dr. B. Farquhar Curtis presented a woman, forty years of age, who had been troubled for many years with a thyroid tumor. Twelve years ago it became very large, and was treated with injections by some physician. It contracted and gave no further trouble until last July, when it again enlarged until it caused paralysis of the left vocal cord. The tumor was about four times the size of the normal thyroid, and presented an uneven surface. From its history one would expect a benign growth, but from its hardness and general appearance malignancy was suspected. About two months ago he had removed the tumor. It being exposed, its hardness was explained. It was one of those rather rare tumors of the thyroid of the adenomatous type. One portion only was cystic. The tumor was calcified, and running down into the interior were septa which were also calcified. A thyroidectomy was performed in the usual way, and the wound healed satisfactorily. The wound was united by subdermal sutures of fine silk. The deformity now was very slight, there being very little scarring and none of the usual sinking in of the neck after the removal of a tumor of this size. As the gap was largely filled in with blood clot it was probable that there would be some depression later. The transverse incision passed only through the skin and subcutaneous tissue. The muscles that were divided in the operation were united again by sutures.

Fracture of the Neck of the Femur in a Child Treated by Operation.—Dr. Royal Whitman said that his first interest in fracture of the neck of the femur in childhood arose from the fact that it was not mentioned in the text-books as a possible fracture. These cases were peculiar in that the little patients could often move around for a few days before the nature of the injury was discovered. Since his attention had first been directed to this subject in 1890, he had seen thirteen cases of this kind in chil-

dren ranging in age from two and one-fourth to eight years.

Dr. Whitman presented a little boy who had fallen from a sixth story and had been treated for the contusions received, but in whom the injury of the hip had been overlooked. After six or seven weeks the child had been brought to the Hospital for Ruptured and Crippled for supposed hip-joint disease. As a result of such a fracture in children, a depression of the neck of the femur was produced. It had occurred to him that by a cuneiform osteotomy this depression could be corrected. This was the procedure that had been adopted in one of the cases presented. Being unable to control the upper part of the bone, he found it necessary completely to sever the bone at the point of operation. The condition had some points of resemblance to hip disease. There was marked limitation of abduction, but practically no restriction of extension. He thought that in all these cases the fracture was not complete, and thus the ability of the child to walk shortly after the accident was explained. If the limb was carefully measured and examined, the correct diagnosis should be made.

Dr. A. M. Phelps said that the cases presented were interesting because of the similarity to true coxa vara, and the operation performed was identical with one he had just done for the relief of a double coxa vara. He had passed a chisel into the bone at the lesser trochanter and taken out a wedge of bone. He had divided the bone completely, and during his endeavor to place the bone in proper position it was pulled out of place by the muscles. He had not succeeded in getting the cut surfaces together until he had divided most of the adductors. He believed in all the long-standing cases this contracted condition of the adductors would be found, and this operation seemed to him the only one likely to be of service in such a case.

Dr. Whitman said that in the ordinary type of coxa vara simple linear osteotomy was the better operation. He had operated in two cases, one patient being seventeen and the other eighteen years of age, according to this plan, and had found the operation simple and satisfactory. Cuneiform osteotomy had been done previously by others at the junction of the neck of the bone and the shaft, the base of the wedge being upward and forward, the idea being to rotate it forward.

Pistol-Shot Wound of the Diaphragm, Liver, and Stomach.—Dr. Irving S. Haynes presented a young man who had been admitted to the Harlem Hospital with a pistol-shot wound located between the cartilages of the fifth and sixth ribs. The bullet had passed through the diaphragm about three inches from the costal margin, then through the liver and into the stomach, entering that viscus close to the base of the œsophagus and to the left. At the operation, the lesser peritoneal cavity having been entered, the wound of exit was discovered and sutured. The patient was then in a condition of rather severe shock, so the wound was sutured rather hurriedly. As a result a supra-umbilical hernia developed. As twelve hours had elapsed between the time of the injury and that of the operation, it had been thought best to insert a strip of iodoform gauze for drainage. The patient did well up to the eighteenth day. At this time an abscess developed above the pubes. It was opened and drained, but no sinus could be found leading up to the probable location of the bullet in the back. It was found impossible for a long time to remove the gauze drain, but this was at last accomplished by the aid of a blunt curette having an eye three-eighths of an inch in diameter. The gauze was caught in this and twisted into a string, and so removed.

Forcible Correction of the Deformity of Pott's Disease of the Spine.—Dr. A. M. Phelps described this comparatively new method of treatment, and, after showing two patients who had been so treated, demonstrated the operation on a third patient. First was presented a girl of seven years who, four years and a half ago, had had a plaster-of-Paris corset adjusted for a spinal curvature. With all the force that he had dared exert he could not get the spine perfectly straight. There was no rise of temperature after the operation, and the child was up and around in a few days. The application of great force to a tuberculous spine, he said, was entirely at variance with the old teachings, which warned against the great danger of using much force. This newer and apparently heroic method nevertheless resulted in a rapid straightening of the spine, and was attended with little or no reaction. The second patient presented was a boy of five years, who had been first noticed by the mother to have a kyphos and a limp about one month before. It was probable, however, that the kyphos had existed for at least four months. The limp was due to marked flexion, yet a careful examination failed to show an abscess burrowing down through the muscles. The little patient upon whom the method was demonstrated having been etherized, he was placed in the prone position, and while assistants made powerful traction on the upper and lower extremities Dr. Phelps pressed forcibly downward upon the kyphos until the part had yielded perceptibly. A plaster-of-Paris corset was then applied under traction, care being taken to place a large pad on either side of the kyphos so that the plaster would not touch it. Unless the child developed fever he would be allowed out of bed in the course of three or four days; if fever supervened, he would be kept in bed until the temperature had dropped to the normal. In commenting upon the operation, Dr. Phelps said that no doubt all who had witnessed it felt as he had at first, *i.e.*, uncomfortable and fearful as to the outcome. He had approached the subject with much hesitancy and with many misgivings, and had not entirely gotten over them. The practice had been in vogue in the time of Hippocrates, and had been revived by Ambrose Paré. Once more it had been revived in our own time. Dr. B. E. Hadra, of Galveston, Tex., practised and advocated the method in 1891. He straightened a fractured spine and wired together the spinous processes in 1890. It was evident, therefore, that the modern revival of this very ancient operation should not be credited to France, as some had, but to America—to Hadra, of Texas. The speaker then proceeded to read descriptions and show pictures illustrative of the treatment as employed by Hippocrates and Paré. The method of Paré was almost identical with that used this evening. Dr. John Ridlon, who had been the first to do the operation in this country, had operated in seven cases, and had published his results. The operation was certainly not a dangerous one, metastases did not occur, and paralysis was extremely rare. The operation would certainly relieve paralysis due to bone pressure, and the method seemed to him comparable to that now employed by surgeons for the rapid reduction of the deformity of hip-joint disease. The operation should be avoided in cases of ankylosed spine with a large kyphos, also in cases with large abscessess. Good results should be expected in cases of beginning kyphosis, and in cases of recent origin without abscess, or in which the abscess had already discharged and a small kyphos still remained. Cases of lumbar disease were more favorable than those of dorsal disease, and dorsal more favorable than cervical. He felt sure that the operation would be found a useful one, but its indiscriminate employment by those unable properly to select their cases would probably again relegate it to that oblivion in which it had slumbered for over twenty-four hundred years.

Dr. Wilson, of Montreal, said he had never been able to convince himself that the breaking down of a kyphos which had been buttressed up was warrantable, but, being open to conviction, he had come here with the idea of observing the work done in this direction. He had been impressed with what he had seen, but was not yet a convert to it.

Dr. Whitman thought that too much credit had been given to Dr. Hadra, for his object had been to wire the spines so as to hold them together and obviate the use of a brace. He was not aware that Hadra had advocated forcible correction of the kyphos. Of course, the point was not whether or not we could straighten the spine in these cases, for it was well known that that could be done; the point to be determined was whether or not any permanently good results could be secured. He could not see how there could help being a relapse in cases in which there had been much destruction of bone. Cases of middorsal disease coming under observation in the early stage might, he thought, be greatly benefited in this way.

Dr. Curtis said that in watching the demonstration this evening he had noticed that very little change had taken place at the apex of the kyphos. This seemed to bear out the suggestion that had been made, that the deformity was apparently reduced by increasing the compensatory curves above and below the kyphos. He would like to hear further from Dr. Phelps on this point in connection with the case in which operation had just been performed.

Dr. J. A. Wyeth thought this operation would be a justifiable experiment in cases of paralysis from pressure due to acute deformity, and before any changes had occurred as a result of pressure. Such an undertaking seemed to him warranted, even though it resulted in injury to the cord. In the patient operated upon this evening he doubted very much if the deformity would be reduced as a result of the operation. Personally, he would feel more disposed to cut down upon the kyphos and chisel off the spines, if he desired in such a case to reduce the deformity. His objections were, of course, made at the present time solely on theoretical grounds.

Dr. Phelps said that he believed that unless the spinous processes were wired, the majority of cases would relapse. If the processes were wired they would rest firmly on the bodies, the two transverse processes and the articular processes, and hence he believed the wiring would be found necessary to secure permanent results. In the case operated upon this evening, he could distinctly feel the deformity give way under his hand. In justification of the position that he had taken regarding the credit due Hadra, a passage from Hadra's writings was quoted, showing that he had advocated forcible correction of the spine.

An Open Safety Pin Swallowed.—Dr. B. F. Curtis exhibited a safety pin which while open had been swallowed forty-eight hours before by a baby of six months. The infant had been brought to the babies' wards of the Post-Graduate Hospital the next morning. An *x*-ray photograph taken this day showed the pin lying just within the anus. The case was interesting, because a moderately small safety pin had been swallowed while open and had caused only slight reaction. The temperature had not risen above 101 F. The parents gave no purgatives, but fed the child freely on bread. Another point of interest was the very rapid passage of the pin through the alimentary canal. It was an excellent rule in practice, whenever a child was brought with the statement that it was supposed to have swallowed a pin, to examine the pharynx with the finger, as the foreign body would not infrequently be found within reach of the finger. In the present case it was shown that it was also desirable to examine the rectum even within twenty-four hours.

Dr. Van Arsdale emphasized the importance of giving these little patients solid food, such as potatoes, with a little milk, whenever there was reason to believe a foreign body had been swallowed. A diet of sweet potatoes was especially suitable.

Dr. John B. Walker referred to a case in which a nickel five-cent piece had been embedded in the œsophagus for five months. He had been fortunate then in seizing and extracting it with a "coin catcher."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOUSE OF COMMONS: CONCESSION TO ARMY SURGEONS, SEPARATE CORPS GRANTED — ASTHMA, VAGUS HYPOTHESIS—INTERSCAPULO-THORACIC AMPUTATIONS—ABDOMINAL SECTION THREE TIMES ON ONE PATIENT—ILEO-SIGMOIDOSTOMY—ACUTE ASCENDING PARALYSIS—MEDICAL COUNCIL—SMALL-POX—RECENT FATALITIES: DRS. LUCUS, BRETT, FAED.

London, April 1, 1898.

The government has given way and promised that a "medical army corps" shall be forthwith established, and that the ridiculous compound titles shall be abolished. The announcement was made when the estimates for the medical staff of the army were brought forward. Dr. Farquharson asked for the decision at which the war minister had arrived. Sir William Priestley made a capital speech, which cannot fail to increase his influence with his numerous medical constituents, for he is the representative of the University of Edinburgh. He congratulated the government on the concessions made, and then pointed out that their success must depend partly on the tact and wisdom of commanding officers. If it depended solely on them, I should not join very heartily in the congratulations that are being freely expressed. It ought not to be forgotten that one in high command declared an army surgeon had no more right to be called colonel than archbishop. As long ago as 1857 Lord Dalhousie showed a royal commission how absurd it was to call medical officers non-combatants, but ever since the impertinence has gone on. Sir William Priestley told the house that there are now forty medical officers who hold the Victoria cross, and that medical men go through a more thorough education than the combatants. Howbeit, this government is committed to a change. The war minister has promised the corps and the ordinary rank up to that of colonel. Above that he has not finally decided. The under-secretary said the title of major-general implied command. The objection is absurd, in face of the fact that surgeon-major-generals have heretofore exercised only limited command and other departments none, *e.g.*, education and fortification inspector-generals.

Non-medical members addressed the house from both sides, military men too, and all spoke highly of the medical department and urged that full justice should be done. The war minister, Lord Lansdowne, may therefore well act up to his own expressed opinion and insist on all grievances being removed, in spite of the grudging obstruction of the combatants.

Asthma naturally lends itself to speculation on the one hand and dogmatism on the other. This might perhaps be said of any disease of which the origin is more or less obscure. But asthma has such striking features, the fits are so distressing and provoked by such opposite causes, that the attention of the public as well as of the profession is strongly arrested. On Monday Dr. Kingscote read a paper before the Medical

Society, on the "Vagus Origin of Asthma," in which he blamed an enlarged heart for setting up the disease. He brought forward cases to show that asthma of long standing is often associated with enlarged heart—a fact that hardly required proof; but certainly such enlargement is not constant and therefore cannot be essential. Dr. Kingscote attributes the malady to pressure on the vagi by an enlarged heart, between which and the spinal vertebræ the nerves are, as it were, between an anvil and hammer. In support of this hypothesis he said treatment directed to reduction of the cardiac dilatation benefits the asthma.

Dr. Williams held that asthma is not so incurable as many represent, and extolled the value of iodide of potassium.

Sir F. Lemon mentioned a case in which he had cauterized the nose and Dr. Kingscote had treated the heart, and the patient recovered; but he confessed himself quite unable to decide what had done good.

Dr. Robert Maguire could not admit that an enlarged heart accounted for the symptoms of asthma, and he had no confidence in any form of the vagus theory. He had had many cases of asthma in which the heart was not at all enlarged. If pressure was present, we might be sure other effects would be observed. Neither could Dr. Maguire admit the theory of contraction of the bronchioles, which was opposed to the clinical course of the disease. He rather favored the view of a rapidly occurring congestion or inflammation of the mucous membranes, relieved by secretion, such a condition as he thought existed in false croup.

Dr. Morrison gathered from the narrative of the cases that they were most of them not asthma at all, but cases of cardiac dyspnœa. He thought a rise in endocardial pressure might set up the neurosis.

Other speakers offered suggestions, the president's contribution being that it is conceivable that the heart might be so greatly dilated as to put the pericardium on the stretch, and thus excite a reflex neurosis.

At the last meeting of the Clinical Society Mr. Barling read an account of two cases of interscapulothoracic amputation, both resulting in recovery. The operations were undertaken for sarcoma of the humerus. In one case, when first seen, a huge growth occupied the upper two-thirds of the right arm, overlapping the shoulder-joint, the outer end of the clavicle and spine of the scapula, filling the axilla and stretching under the pectoral muscles. Secondary growths appeared after six months. In the other case the patient had had a severe attack of pneumonia after the operation, performed sixteen months ago, but he quite recovered and was shown to the society. In both cases Berger's operation was done, except that the vein was tied through the anterior flap. Mr. Barling said that this operation had been performed at the Birmingham hospitals eight times during the last ten years, and all the patients had recovered. As nineteen cases of recovery had been recorded, it seemed likely that the mortality might prove less than had been supposed, but some fatal cases were probably not reported.

Mr. Stanley Boyd mentioned a case in which he operated a week previously. An axillary operation had been performed earlier, but the vein and nerves were found embedded in the sarcoma, so the wound was closed. Later on he did a modified Berger. He had to cut away the pectoralis minor close to the thoracic wall.

Mr. Spencer also contributed a case. In this the suprascapular artery came off from the third part of the subclavian. Nearly all the clavicle had to be removed. The case did well. Mr. Spencer said textbooks were wrong in continuing the statement that sarcoma did not affect glands. In a case of periosteal sarcoma of the knee-joint, he found a mass of enlarged glands in Scarpa's triangle. He amputated above the middle third of the thigh and cleared out the triangle ten months ago, and now awaited the result. Such cases usually were fatal within six months.

Next Mr. Bidwell read a paper on ileo-sigmoidostomy founded on a case in which he had resorted to it in order to close an artificial anus at the umbilicus. This had been made for supposed malignant tumor which could not be removed, but the patient was anxious for its closure. The abdomen was opened again and the ileum united to the sigmoid by the Halsted method. Still about half the fæces escaped by the colotomy opening, and two months later the abdomen was opened the third time, the portion of ileum between the cæcum and the anastomosis was divided transversely, and the two ends were invaginated on themselves. The patient was now well and the growth in the splenic flexure less, and therefore it was probably not malignant after all. Mr. Bidwell thought that as the patient's comfort was so much greater after ileo-sigmoidostomy than after colotomy, the former might well be preferred in irremovable tumors of the ascending or transverse colon. He had lately performed it on a lady of sixty-six, with a most satisfactory result.

After this the neurologists listened to a careful record of a case of "Acute Ascending Paralysis with the Bacteriological Examination"—a man, aged thirty-six, admitted under Dr. Buzzard, who said all the merit of the observation was Dr. Risien Russell's. These two observers regard the case as due to some infective agent. The cord was found at the post-mortem greatly engorged, softened, and with numerous hemorrhagic extravasations. Subsequent microscopical examination confirmed the existence of pronounced meningomyelitis. A diplococcus was also found in the exudation of the meninges and in the substance of the cord. Pure cultures of this organism were obtained, and proved fatal to mice and guinea-pigs in twenty-four hours, but a cat survived for a week and was then killed by an overdose of chloroform. This diplococcus seems to differ in several particulars from similar organisms.

A special meeting of the Medical Council is to be held on Tuesday. This is on account of the vacancy in the presidency and also because, the midwives bill being down for discussion in the commons on May 11th, it is important for the council to be able to reply to the government on any points referring to this or other measures.

There have been fewer cases of small-pox at Middlesborough this week, but the epidemic is by no means over.

Dr. Lucas, deputy-inspector-general of hospitals and fleets, met with a fatal accident on Friday last. When passing along the corridor of a train, he lost his footing, fell on the metals, and was killed by an approaching train. He served in the navy from 1857 to 1881, when he retired. He was a justice of the peace for Meath County and one of the directors of the Dublin Apothecaries' Hall.

Another fatal accident. Dr. Brett died on Friday at Bridlington Hospital, from injuries sustained by being thrown from his gig on the previous Wednesday. He had practised at Bridlington some thirty years, and reached the age of fifty-three.

Another fatality is reported. Mr. Faed, in a fit of acute melancholia, threw himself from the window of a hotel at Nice, in which he was staying.

Hydrophobia.—Some eminent medical men now declare that there is no such disease as hydrophobia. They claim that it is nothing more or less than a nervous terror which takes possession of the patient, who in reality dies of pure fright.

SCHLEICH'S MIXTURES FOR GENERAL ANÆSTHESIA.

To the Editor of the Medical Record.

Sir: Once more I would trespass upon your kindness by asking that you grant space in the columns of your esteemed journal, under the heading of "Correspondence," to the following preliminary remarks with reference to Schleich's mixtures for general anæsthesia.

Since reading my paper, entitled "The Improvement of General Anæsthesia by Adapting the Boiling-Point of the Narcotic to the Temperature of the Body (Schleich)," before the Medical Society of the County of New York, on December 27, 1897, I have purposely refrained from publishing the same. Up to that time I had conscientiously tried for almost four months the new anæsthetic mixtures of Schleich in all my hospital and private operations, accepting Schleich's publications in his book, "Schmerzlose Operationen," ed. ii., Jules Springer, Berlin, 1897, as indisputable facts. I read my paper with the sole intention of informing the profession of my personal experience with the mixtures in upward of one hundred cases. I then stated that I was delighted with the improvement in general anæsthesia by means of these mixtures, and tried to induce my colleagues also to make use of the same for the sake of their patients. That so extensive a report as appeared in the columns of the Medical Record of January 8, 1898, was made, I could not help. The stenographer of the Medical Record, known for his admirable accuracy, is responsible for it.

Thus it will appear that it is not correct to say, as a recent writer on "The Perils of Anæsthetic Mixtures," in your issue of April 2, 1898 ("Correspondence"), maintains, that I "published" my article. Before doing this, I wanted to await the results of the chemical analysis of Schleich's mixtures for general anæsthesia, which my friend, Dr. H. P. Weidig, had then just commenced. I also wanted to know more of the physiologic action of petrolic ether when inhaled into the lungs. Dr. Weidig soon found that Schleich's mixture No. 1 contains 53.76 per cent. in volume of free ether; No. 2, 46.64 per cent.; and No. 3, 36.96 per cent.

Having learned this to be a fact, I considered it my duty to make it known to the medical profession. I did so shortly afterward, on February 16th (Medical Record, March 5, 1898, "Correspondence"), stating at the same time that I was then using the "M. S." (molecular solution of ether and chloroform), which, by the help of a petrolic ether of a lower boiling-point (20° C. = 69.8° F.), could also be adapted to the temperature of the body.

On January 18, 1898, Dr. Weidig wrote me: "If there is, as Schleich claims to have established—and about which I have little doubt—a chemical or physical combination of ether and chloroform, he ought to have gone to the point of properly mixing both, *i.e.*, in their molecular proportion. Chloroform, $CHCl_3$, has the molecular weight 119.5; sulphuric ether, $(C_2H_5)_2O$, has the molecular weight 74; 119.5 grams of chemically pure chloroform and 74 grams of absolute sulphuric ether (or, the same expressed in volume, 43.25 per cent. of chloroform and 56.75 per cent. of ether), mixed together, should therefore give the proper molecular mixture to base experiments on."

To repeat: M. S. is the molecular chemical combination of chloroform and sulphuric ether = 43.25 per cent. (in volume) of chloroform and 56.75 per cent. of ether. It is not a mixture, but a real solution, a new anæsthetic of agreeable odor with a boiling-point of its own: 52° C. = 125.6° F. It contains neither free ether nor free chloroform; it is a "straight drink." It forms a part of Schleich's original anæsthetic mixtures.

By adding 3 parts of sulphuric ether to 1 part of M. S., we can reduce the boiling-point of M. S. to 42° C.; by adding 3.5 parts of sulphuric ether to 1 part of M. S., we can reduce the boiling-point of M. S. to 40° C.; by adding 5 parts of sulphuric ether to 1 part of M. S., we can reduce the boiling-point of M. S. to 38° C.

Were we to administer such a mixture (M. S.+ether) to our patients, the first part of the narcosis would then be a mixed anæsthesia of free ether plus M. S. After the ether with its lower boiling-point had evaporated, the anæsthesia would continue by means of pure M. S. alone.

In 1895, when making his first report to the twenty-fourth congress of German surgeons at Berlin, Schleich said: "With the air that leaves the alveoli during expiration, the sulphuric ether is evacuated in chemical combination with the chloroform and the petrolic ether. This combination is exactly the same as it takes place within the test tube. None of the three ethereal substances is evacuated at its partial boiling-point. Continually the same amounts of sulphuric ether, of chloroform, and of petrolic ether are evacuated during expiration, as had been absorbed during inspiration" ("Verhandlung der deutschen Gesellschaft für Chirurgie," 1895, i., p. 150). In Schleich's book, page 66, we find the following remark: "These ethereal substances, mixed with each other, do not evaporate separately; they represent a 'real chemical combination.'"

On the strength of these words, which I took to be correct, I proposed, when reading my paper above referred to, to call the new "anæsthetic mixtures" "Schleich's solutions for general anæsthesia," in contradistinction to the well-known "Schleich's solutions for local anæsthesia." (Schleich himself has always made use of the word "mixture.")

In the light of our present knowledge, however, we have no longer a right to call them thus. The anæsthetics made up according to Schleich's formulæ are mixtures, and not solutions. They contain the fixed molecular solution of chloroform and ether, the M. S., plus 36–53 per cent. in volume of free ether, plus petrolic ether. They contain, however, not a drop of free chloroform. Whether the petrolic ether is in total or partial chemical combination within the mixture, I am unable to say as yet. According to Dr. Weidig, the petrolic ether is, in all probability, not in chemical combination.

Therefore, our patients, when subjected to general anæsthesia by means of Schleich's mixtures, in the beginning of the narcosis inhale pure ether plus M. S. plus petrolic ether. As soon as the ether and petrolic ether which are not in chemical combination have evaporated—and this will probably soon be the case—the narcosis continues with M. S. In other words, in the administration of Schleich's anæsthetic mixtures in their present state, the anæsthetic is adapted to the temperature of the body in the beginning of the narcosis only; after a while the latter is continued with one of a higher boiling-point—52° C. (125.6° F.).

Since I have learned these facts, I personally have discontinued adapting M. S. to the temperature of the body, for the reason that, in the first place, I did not know anything with reference to the physiologic effect upon the human system of a petrolic ether of a boiling-point of 20° C.; and secondly, because of this petrolic ether, six times the quantity of that found in the original Schleich mixtures is needed to reduce the boiling-point of the M. S. from 52° C. = 125.6° F. to 38° C. = 100.4° F.

However, Mr. Editor, my purpose in addressing you to-day is not to state the facts just related: it is rather

to emphasize the fact that we shall most probably have to throw the petrolic ether out of Schleich's new mixtures, and direct our efforts toward finding something better to take its place.

Schleich, in his book, "Schmerzlose Operationen," page 68, says: "I gave this petrolic ether the preference, because I had seen in my experiments on animals that a by far greater amount of it could be administered hypodermically without producing serious disturbances than of any other ethereal substance known. Petrolic ether is a means of reducing the effect of the chloroform within the mixtures; it dilutes."

At my solicitation, Dr. S. J. Meltzer, of this city, has been good enough to narcotize a number of animals (rabbits and guinea-pigs) with pure petrolic ether of 60°–65° C. boiling-point, the kind we are wont to use for Schleich's mixtures. According to his communications of April 3d and April 13th, Dr. Meltzer found petrolic ether, when inhaled pure and not mixed with any other ethereal substance by mouth and nose or by tracheal cannula, to be not at all such an indifferent hydrocarbon as Schleich has stated; but to act, in these animals at least, as a real poison. Without becoming cyanosed, the animals, after a few whiffs, were seized with a tremor which soon increased to convulsions, later to tetanus and episthotonos, as we are used to seeing it in strychnine poisoning. The hind legs are the first affected; later the anterior portion of the body also succumbs. If the inhalation is interrupted, the animals slowly recuperate; if it is continued, they die with symptoms of tetanus. Petrolic ether has no narcotizing effects. If it be inhaled in combination with sulphuric ether, convulsions are absent, but the resulting paralysis remains unchanged. Hence the conclusion is justified that, if this mixed narcosis could be sufficiently extended, such animals would most probably die from paralysis of the respiratory muscles.

Dr. Weidig, when narcotizing a cat with petrolic ether of boiling-point 60°–65° C., some time ago, had a similar experience.

Whether the same phenomena would be found in the human subject, if made to inhale pure petrolic ether of 60°–65° C. boiling-point, cannot be said; it is probable, however.

That the physicians who have made use of Schleich's anæsthetic mixtures did not have deplorable accidents with some of their patients finds its explanation, it seems to me, in the fact that the percentage of petrolic ether is so very small—one-eighth to one-sixteenth part of the entire volume. That the results obtained by most observers with this new narcotic have, on the contrary, been rather good and encouraging, despite the dangerous nature of the inhalation of pure petrolic ether, clearly proves, on the other hand, that Schleich is on the right track in his investigations; that is to say, he is correct in that the question of finding a drug for general anæsthesia that is least poisonous to the human system—an absolutely non-poisonous substance will and can never be found—can be solved on a physical basis only, viz., by adapting the boiling-point of the narcotic to the temperature of the body.

It would certainly be a great step backward, if, on the strength of our latest discoveries, we were now to discard Schleich's mixtures entirely, ignore the truths brought to light by his investigations, and return to the administration of pure ether and pure chloroform. On the contrary, having found by our own researches what is good and what is bad in Schleich's anæsthetic mixtures, in a chemical as well as in a physiologic sense, we must continue our efforts and try to find that anæsthetic substance which, when added to M. S., will enter into a true chemical combination with the same and reduce its boiling-point of 52° C. to 38°–42° C. Chemists and physiologists must help in these researches.

I, for my part, am satisfied for the present with the pure M. S., the nucleus of Schleich's mixtures, which, when administered by the drop method, will be found to be a most excellent narcotic.

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GLOVES FOR ASEPTIC SURGERY.

To the Editor of the Medical Record.

Sir: Gloves for employment in aseptic surgical work have been recently advocated on theoretical grounds by so many prominent surgeons that many of the younger men feel in duty bound to use such gloves in order to be up to date. To all such younger men who have misgivings prompted by natural sense, I wish to state that one surgeon at least can be depended upon to fortify them by his example in refusing to adopt anything that will injure the surgeon's most precious possession—the sense of touch. I have been much interested in everything that seemed to be in the nature of progress in surgery, and have given close attention to the matter of gloves for aseptic surgical work, but have arrived at the conclusion that the practical disadvantages of gloves counterbalance their theoretical advantages. Surgeons who were doing first-class work three years ago seem to me to be doing second or third rate work now on account of the interference made by their gloves. The greatest danger to be feared is that the younger generation of surgeons may fail to develop the sense of touch to the highest degree, and we shall have much second-rate work done, particularly in abdominal surgery. If any one employs gloves in peritoneal work—in removing adherent appendices and pus tubes, for instance—he is liable to obtain statistics which are believed by his rivals, and he must make long incisions and do slow work that shocks the patient, and he must do much incomplete work when he is forced to depend upon the coarse, commonplace sense of sight.

I have watched various European and American operators at work with gloves, and have asked about their statistics. I will choose Weir's nascent-chlorine skin sterilization and untrammelled fingers that are quick to work deftly in doing neat, accurate work. My statistics will always be at the disposal of men who wish them for comparison with glove statistics. To the younger generation of surgeons, I say, fight with your might against the idea of using a means that will damage your most precious possession—the sense of touch. Put aside the temptation to be up to date theoretically, at the cost of adopting a destructive agent in your work. As a test of skill palpate a normal appendix instead of trying to secure a pediculus pubis with the aid of a pair of boxing-gloves.

Robert T. Morris, M.D.

49 West Thirty-Ninth Street, New York,
April 8, 1898.

Municipal Board of Health for Berlin.—The *British Medical Journal* says the question of a proposed separate municipal board of health for Berlin has been discussed at two meetings of the magistrates. There are difficulties in the way, for the head officials of the sanitary police are very much against transferring any part of their power to the municipal authorities. Still pourparlers have begun and will probably lead to victory for the Berlin municipality, which has proved itself such a brilliant organizer and successful director of its sanitary operations.

New Instruments.

A NEW FIELD TOURNIQUET.

By OLIVER D. NORTON, M.D.,

SURGEON, UNITED STATES NAVY.

THERE has been devised as an improvement on the present field tourniquet used in the navy, known as the United States army tourniquet, a substitute, which

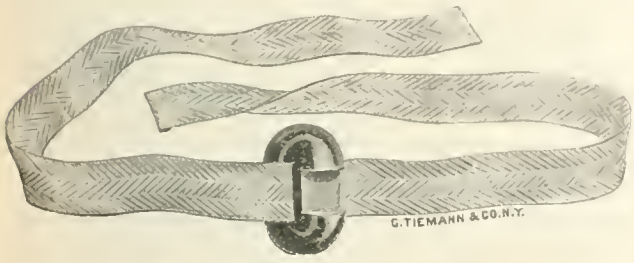

FIG. 1.—Tourniquet Complete and Ready for Use.

has among its advantages efficiency, readiness, and ease of application, the absence of buckle or screw, its size and weight, and its cheapness. The tourniquet consists of a hard-rubber pad, ovoid in shape, somewhat smaller in size than a hen's egg; the diameters are two and one-eighth inches by one and one-half inches; its weight complete is two and one-half ounces. A slot, one inch in width, is cut in the upper third at right angles to the long axis of the pad; through this slot passes the webbing. The webbing consists of a strip, sixty inches in length by one inch in width. The simplicity of the tourniquet is in its favor, for any layman can apply it. The traction is made on both sides of the pad equally by the downward pressure of the webbing, thereby preventing the displacement of the pad. The ends of the webbing, being brought around the limb, are tied directly over the pad with a square knot. The tourniquet can be sterilized without fear of injury or oxidation.

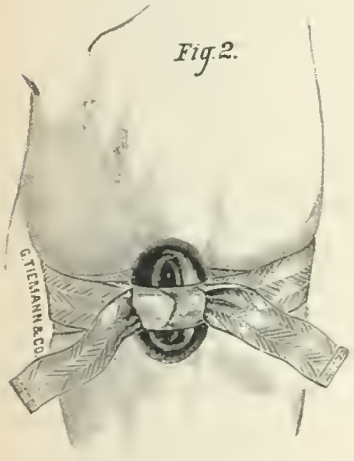

FIG. 2.—Tourniquet Applied, the Square Knot Resting in the Groove of the Hard-Rubber Pad.

It is made by George Tiemann & Co., of New York, and has been adopted for use in the navy.

U. S. NAVAL LABORATORY AND DEPARTMENT OF INSTRUCTION, BROOKLYN, N. Y.

Chronic Glandular Gastritis.—By means of the gyromele we brush off all the vitiated secretions and immediately wash them out of the stomach; if necessary, as suggested by Turck, using one drachm of tincture of green soap to one pint of water. This may be passed through the gyromele while it is revolving. After the stomach has been thoroughly cleansed, it is sprayed through a double tube by means of a nebulizer. The spray consists of oil of cinnamon, 2 parts; oil of cloves, 2 parts; menthol, 1 part; olive oil, 10 parts. By this means the finely divided essential oils are made to reach every portion of the mucous surfaces. —DR. E. P. HERSHEY, *The Colorado Medical Journal*, August, 1897.

Medical Items.

A River of Death.—The Yellow River, which has been named the "Sorrow of China," is probably the most destructive stream on the face of the earth. In less than a hundred years it has changed its channel four times, and the point where it empties into the sea has from time to time been moved up and down the coast a distance of three hundred miles. It runs through a vast alluvial plain, and is fed by streams from a great system of mountains in the north. When the snow melting on the range comes at a time of heavy rains, the result is sure to be a terrible flood. It has been estimated that in the past three centuries over ten million human beings have perished in the floods of the Yellow River. For destructiveness of both life and property this stream is unparalleled, and the sobriquet bestowed on it is amply justified by its history.—*St. Louis Globe-Democrat.*

Town without Dogs.—It is stated that Tisek, Bohemia, is probably the only dogless town in the world. In consequence of a death from hydrophobia, the authorities ordered every dog in the place to be killed.

Women who Smoke.—The *London Daily Telegraph* says that "the great middle class is smoking the cigarette as unconstrainedly as the aristocratic order, and working womanhood is taking it up to an extent which is certain ere long to attract the attention of those stern moralists who see in even the purchase of a pennyworth of sweets a growing tendency to self-indulgence. Inquiries among doctors, district visitors, tobacconists, and others who are most capable of expressing an opinion on the subject, have brought forward some very curious facts. Nowhere are to be found more inveterate female smokers than in those long streets in the less considered suburbs of 'genteel' residences, rented at from £24 to £30 a year. The clerk or the shopman marries the typist or waitress, and two such couples share one of these houses. The women soon fulfil their modest household duties, they have slight resources in themselves for reading or artistic work, and have very little, indeed, to spend on amusements. And so, alone or in company, they turn to the cheap cigarette, finding in it something at least to deaden the craving for more exciting pleasure. The low price, too, of the cigarette accounts largely for the increase of smoking among factory and servant girls. Thanks to exquisitely ingenious mechanism, by which one cigarette-making machine can do as much in a day as one hundred and fifty girls could turn out, and can produce five hundred finished cigarettes a minute, these are now within reach, not only of the man in the street, but also the boy, who begins to puff them while still in the infant classes at school. His small sister tries them also. The West End shop-girls 'living in,' on the other hand, scarcely ever smoke, probably because indoors it would be absolutely forbidden, and outside custom is still strong against it. Most convincing proof, however, of all, that smoking is on the increase among the sex, is that the great wholesale manufacturers are beginning to find it necessary to cater especially for female demands. Women, when they smoke for their enjoyment and not merely to puff a cigarette because it is Bohemian and daring to do so, have remarkably fastidious palates, and in the high-class West End shops demand the most delicate and refined cigarettes, when they do not call for cigars."

Test of Death.—The statement is made, in a well-known English weekly journal, that an eminent American oculist has discovered means whereby it can be

ascertained whether a person be really dead. This knowledge is said to be arrived at by an examination of the veins of the eye. The discovery referred to is doubtless that of Dr. Chalmers Prentice, of Chicago, who claims to have found a true and unfailing test of death, and which was heralded in the Chicago *Tribune* of a recent date in the following words: "Dr. Chalmers Prentice, of this city, is about to communicate to the medical world a discovery that he believes bound to prove a boon to humanity, and to rob death of this one of its terrors. He has found how, he says, to read death in the human eye, to tell by the appearance of veins and arteries whether life has departed or a spark yet remains, and to tell it with absolute certainty." It is said that the doctor's experiments began some twenty years ago. He had observed that in life the veins and arteries of the retina have distinct differences in color. The veins contain a dark, blackish blood, while the arteries contain bright crimson. At the back part of the eyeball these two shades of blood may be seen under the light of the ophthalmoscope, dividing the retina. Even in the case of the blind this distinction in shade may be seen, unless, of course, an opaque film has formed over the injured eyes or the eyes have been entirely destroyed. In death, however, the shade distinction entirely disappears. The blood in both arteries and veins is transformed into a pinkish color of uniform shade. An exhaustive examination has been made, and this simple test has never failed. In the case of suspended animation, when others had pronounced death, he has observed the shade distinction and saved the man from being buried alive.

Way to Kill Mosquitoes.—Two and one-half hours are required for a mosquito to develop from its first stage, a speck resembling cholera bacteria, to its active and venomous maturity. The insect in all its phases may be instantly killed by contact with minute quantities of permanganate of potassium. It is claimed that one part of this substance in fifteen hundred of solution distributed in mosquito marshes will render the development of larvæ impossible; that a handful of permanganate will oxidize a ten-acre swamp, kill its embryo insects, and keep it free from organic matter for thirty days at a cost of twenty-five cents; that with care a whole State may be kept free of insect pests at a small cost. An efficacious method is to scatter a few crystals widely apart. A single pinch of permanganate has killed all the germs in a thousand-gallon tank.—*The Public Health Journal.*

Anger a Disease.—An English journal thus comments on the injurious effects of anger: "Anger serves the unhappy mortal who indulges in it much the same as intoxicants constantly taken do the inebriate. It grows into a sort of disease which has various and terrible results. Sir Richard Quain said, not long ago: 'He is a man very rich indeed in physical power who can afford to be angry.' This is true. Every time a man becomes 'white' or red with anger, he is in danger of his life. The heart and brain are the organs mostly affected when fits of passion are indulged in. Not only does anger cause partial paralysis of the small blood-vessels, but the heart's action becomes intermittent; that is, every now and then it drops a beat—much the same thing as is experienced by excessive smokers."

A Prime Minister and his Wooden Leg.—The rapid progress made by the Japanese in adopting the arts and manufactures of the West has been watched in recent years with something like dismay by many traders, who fear that a profitable market may be lost to them by the development of native industry. There are still a few things, however, which the native of Japan who wishes for a superior article has to procure abroad. One of these is guns; another—not altogether unconnected with the first—is wooden legs. An American journal recently announced with natural patriotic pride that Count Okuma, the prime minister of Japan, had instructed the Japanese minister to the United States to order a wooden leg for him in that country. The artificial limb, which we are considerately informed cost $100, was shipped to Japan in two weeks. This is said to be the second wooden leg which the Japanese prime minister has bought in the United States. In 1890 a Japanese fanatic, named Hunekt Karushima, threw a bomb into the foreign office where Count Okuma was at work, the result being the destruction of the prime minister's right leg. A native cabinetmaker made for him an artificial limb, finely lacquered and inlaid with mother-of-pearl. This thing of beauty, however, did not prove a joy forever, and when Count Okuma visited the United States in 1894 he procured a wooden leg which, if less artistic, was more serviceable. The American article was recently—to use the expression of an ex-prime minister of England—smashed, shattered, and pulverized in a street accident. Hence the necessity of a further patronage of American manufactures on the part of the Japanese statesman.—*British Medical Journal.*

PERITYPHLITIS.

BY A MAN WHO HAS HAD IT.

Of human inflictions, and woes, and diseases,
From tuberculosis to innocent sneezes,
From strength-sapping typhoid to plain indigestion,
From tabes to toothache, there can be no question,
Though bad in their way, yet not one of them quite is
So utterly horrid as perityphlitis.

They've altered its name now, and so it thought right is
To know this affliction as appendicitis
(It matters not two rows of pins what its name is);
All those who affirm that "whatever is right is"
Can never have suffered from perityphlitis.

It comes not in stages; 'tis all one long stage on—
What's called by the doctors a "sudden invasion."
You feel like a worm; all at once, I affirm, you
Are limp as chewed string is or even chewed worm, too;
Your legs are like canes and your walk quite a sight is,
When six weeks you've had of this perityphlitis

What's worse than the pain and the weakness and fright is
The heartsick delay of this perityphlitis,
And when it is over the worst part perhaps is
The spending your hours looking out for relapses
My prayer then at noonday and morning and night is,
Oh, spare all my friends from this perityphlitis!

The Practice of Medicine in Turkey.—An English weekly is responsible for the following statement: "It is not generally known that medical science has made no progress whatever in Turkey, and that the poorer classes of that country have no skill at all in the treatment of disease. The popular belief among these people is that disease is God's will, and to attempt to cure disease would be to interfere with the divine judgment. Missionaries have frequently found people, ill from small-pox, entirely neglected, in order that the divine will should have its own way. The so-called cures that are practised show an equally unenlightened spirit. When, for example, a baby is suffering from croup, the following prescription is considered infallible: A hen's egg is obtained and seven round holes are made in the shell. The contents are poured into a bowl and the perforated shell is dipped into some water and lifted quickly over the basin so that the water will stream into the basin. This operation is repeated thirty-nine times. The contents of the basin may then be used for washing the little sufferer. The few doctors who have administered to the natives have been received as if they were

gods. Whenever travellers go into the interior of Turkey they are appealed to as if every one of them were a doctor. The average Turk or Armenian seems to believe that any man wearing a European hat is competent to treat all bodily ailments.

True Gratitude.—The following recently appeared among the obituary notices of the *Dublin Independent:*

"SMIT.—On the 28th inst., Amy Jane Mary Smit, eldest daughter of John and Wilhelmina Smit, aged one day, two and one-half hours.

"The bereaved and heartbroken parents beg to tender their hearty thanks to Dr. Jones for his unremitting attention during the illness of the deceased, and for the moderate brevity of his bill. Also to Mr. Wilson for running for the doctor, and to Mr. Robinson for recommending mustard plaster."

An Invidious Association.—In advancing arguments for a non-meat diet, the London *Vegetarian* says, among other things: "Your carnivorous gentleman is afraid of everything, including doctors, dogs, disease, and death." Too strong a protest cannot be made by the medical press against the use of the doctor's name in such uncongenial company.

Excessive Use of Hashish.—The reports of the asylum at Cairo as to the native patients there exhibiting the nature of the mental disturbance associated with the excessive use of hashish show some remarkable facts. It appears that in forty-one per cent. of all the male patients hashish alone or in combination with alcohol caused the mental symptoms, while this was the case with only seven per cent. of the females. As to whether there is a special recognizable form of mental disturbance produced by hashish, authorities conclude that in a considerable number of cases in Egypt the hashish is the chief if not the only cause of such mental disease. The usual types of the disease are hashish intoxication, that is, an elated and reckless swaggering state with optical illusions and hallucinations. Acute mania is another form of hashish insanity, involving terrifying hallucinations, restlessness, sleeplessness, incoherence, and exhaustion. Again this kind of insanity takes on the form of weak-mindedness, the patients being quiet and well behaved but overtalkative, easily pleased, excitable about small things, and unconcerned as to the future.

Opium Trade in America.—Some time ago, according to the *Scientific American*, an attempt to raise the opium poppy in California was made during a period of several years. The hot days seemed altogether favorable for the production of the plant and drug, but the accompanying cold nights and the absence of cheap labor proved fatal to the project, and it has been given up as a failure. In the very oldest books of the Arabs the poppy is mentioned, showing that the use of the gum is one of the most ancient of practices. The poppy used for the purpose is Papaver somniferum, a plant discovered in all probability by the Arabs and carried from Arabia by man over large portions of the globe. At first opium was used as a medicine. Theophrastus was familiar with it and Dioscorides in 77 A.D. wrote a learned paper on its properties. Up to the twelfth century Asia Minor was the source of supply, and from then on it was gradually distributed over the globe. The Chinese first obtained the drug in the thirteenth century, it being used purely as a medicine; but gradually its insidious effects were realized and it became so important a drug that in 1757 the great monopoly was secured in India by the East India Company. Nearly all the opium smoked by the Chinese in this country comes from the Fook Hing Company of Hong Kong, which pays the government $300,000 per year for the privilege of carrying on the business. The opium is packed in five-tael tins, which bring in San Francisco $8 each. Some excessive smokers use from $4 to $8 worth a week.

Novel Reading and Disease.—The writer of the London literary letter in the New York *Times* of March 5th says: "So far as can be ascertained influenza is the only disease that promotes the sale of novels. Consumption probably stimulates the sale of semireligious stories, and it is possible that prolonged indigestion, accompanied by nausea, tempts people of the homœopathic faith to read Sarah Grand's physiological novels; but as an aid to the spread of general novel reading there is nothing to be compared to influenza.

The Herpetomonas.—Prof. Ray Lankaster, in a lecture at the Royal Institution on the simplest living things, referred to the herpetomonas, a small and simple species of Flagellate belonging to the group Corticata. The professor said that these parasitic algæ had been sometimes noticed in the blood of rats, to which they did not seem to do any harm. Then the blood of animals affected with surra, a deadly form of cattle disease occurring in India, was found to contain a similar form, and later it was discovered in nagana, the disease supposed to be produced by the tsetse fly. Some three years ago the opinion was started that the fly was not the true cause of the disease, and experiment proved the bite of a newly hatched fly to be harmless, though the blood of an animal bitten in the open was found to be swarming with herpetomonas. It could not be discovered that the organism produced any poison, nor was anything like an antitoxin obtainable, but it was certainly the cause of the disease, which could be transmitted without the fly. It appeared that certain wild animals could have the organism in their blood without ill effects, and a fly which had bitten one of these could convey the disease to domesticated animals.—*London Times.*

Insanity.—Dr. Peper M. Wise, in an article entitled "The Past, Present, and Prospective Methods of the Treatment of Insanity in the State of New York," says: "It now seems incomprehensible that a symptom of disease as common as insanity, affecting at least one in four hundred and fifty of the population, should have received scarcely any attention from physicians and scientists. I cannot find that any medical school in the State gave special instruction upon this subject at a time when the proportion of the insane reached one per cent. of the entire population. Even at the present time, when one in every two hundred of the community is insane, and when the insane diathesis so permeates society that we dare not estimate its extent numerically in fear of scepticism, the schools dismiss the subject in almost a flippant manner."

Scurvy.—Captain Cook's name is associated with the suppression of the once prevalent disease, scurvy—a disease which, up to the latter half of the eighteenth century, decimated our armies and fleets, and often proved terribly fatal among the civil population. In Anson's famous expedition, some thirty years previous to that of Captain Cook, out of a total of nine hundred hands six hundred died before the expedition returned, and chiefly from scurvy. Captain Cook, in his first voyage of discovery round the world, from 1772 to 1775, proved beyond a doubt that the disease could be banished from every ship's crew, and that it could be entirely eradicated on land and sea. Captain Cook thus earned for himself a foremost place among the sanitary reformers of the eighteenth century. —Dr. George Wilson, "Handbook of Hygiene and Sanitary Science," page 10.

Long Dresses the Vehicles of Disease. — Trains or trailing street gowns are coming in, in spite of increasing knowledge of germs and the virtues—or vices—of a long gown as a germ catcher. It is a ball dress that a Detroit journal describes "as perfectly killing," but it might as well be a street gown.

A narrow waist, a neck cut low,
A heavy dragging train wears she.
Dressed to kill? Well, I don't know—
Dressed to kill herself maybe.

—*New York Times.*

Eating at Night.—A writer in the *Italia Termale* declares in favor of late suppers. He says that many people who remain thin and weakly in spite of all precautions in regard to diet, etc., owe the fact largely to habitual abstemiousness at night. He remarks that physiology teaches us that in sleeping as in waking there is a perpetual waste going on in the tissues of the body, and it seems but logical that nourishment should be continuous as well. The digestion of the food taken at dinner or in the early evening is finished as a usual thing before or by bedtime, yet the activity of the process of assimilation, etc., continues for hours afterward; and when one retires with an empty stomach the result of this activity is sleeplessness and an undue wasting of the system. All other creatures, says the writer, outside of man, are governed by a natural instinct which leads those having a stomach to eat before lying down for the night. The infant, guided by the same instinct, takes the breast frequently in the night as well as in the day, and if its stomach is allowed to remain empty too long it shows its discomfort by crying. The digestive organs have no need for repose, provided always that the quantity of nourishment taken within the twenty-four hours does not go beyond the normal limit. The fact that the intervals between meals is short works no inconvenience, but on the contrary tends to the avoidance of feebleness which is the natural result of an interval extended to too great a length. Feeble persons, lean and emaciated persons, and above all those suffering from insomnia, owe it to themselves not to retire without taking some nourishment into the stomach—bread and butter, a glass of rich milk, a few biscuits, or even a bit of juicy cold meat for instance.

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended April 15, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Mobile	April 8th	1	
Kentucky, Middlesborough	March 29th to April 7th	5	
Ohio, Fairfield	April 1st to 8th	..	1

SMALL-POX—FOREIGN.

Bohemia, Prague	March 12th to 19th	6	
Cuba, Cienfuegos	March 27th to April 3d	..	3
Havana	March 24th to 31st	..	9
Regla	March 24th to 31st	..	1
Sagua la Grande	March 26th to April 2d	59	1
England, Gibraltar	March 13th to 27th	3	
London	March 13th to 26th	2	
Sunderland	March 19th to 26th	1	
India, Bombay	February 24th to March 15th	..	6
Calcutta	February 19th to March 5th	..	5
Italy, Messina	March 19th to 26th	..	1
Norway, Christiania	March 19th to 26th	4	
Russia, Moscow	March 12th to 26th	12	2
Odessa	March 5th to 19th	13	3
St. Petersburg	March 12th to 19th	..	9
Warsaw	March 12th to 19th	2	2

CHOLERA—FOREIGN.

India, Bombay	February 24th to March 15th	..	10
Calcutta	February 19th to March 5th	..	43

YELLOW FEVER—FOREIGN.

Brazil, Ceara	December 1st to February 28th	..	4
Rio de Janeiro	March 4th to 11th	65	44

PLAGUE—FOREIGN.

India, Bombay	February 26th to March 15th	..	3439

The Rapidity of Thought.—To illustrate the rapidity of thought, a distinguished scientist says that if the skin be touched repeatedly with light blows from a small hammer, the brain will distinguish the fact that the blows are separate and not continuous pressure, even when they follow one another as rapidly as one thousand in a second.

Causes of Death.—According to an English weekly journal it is estimated by a competent foreign authority that only 900 persons out of every 1,000,000 die from old age, while 1,200 succumb to gout, 18,400 to measles, 2,700 to apoplexy, 7,000 to erysipelas, 7,500 to consumption, 48,000 to scarlet fever, 25,000 to whooping-cough, 30,000 to typhoid and typhus, and 7,000 to rheumatism. The averages vary according to locality, but these are considered accurate as regards the population of the globe as a whole.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

CARE OF THE SICK. By Dr. Th. Billroth. Translated by J. B. Endean. Fourth Edition, 333 pages. Illustrated. Sampson, Low, Marston & Co., Ltd., London. Price, $1.50.

THE INTERNATIONAL MEDICAL ANNUAL. 1898. E. B. Treat & Co., New York City.

DAYDREAMS OF A DOCTOR. By Dr. C. Barlow. 8vo, 251 pages. Illustrated. The Peter Paul Book Company, New York.

THE PURIFICATION OF PUBLIC WATER SUPPLIES. By J. W. Hill. 8vo, 304 pages. Illustrated. D. Van Nostrand Company, New York.

MAMMALIAN ANATOMY. Part I. The Skeleton of the Cat. By Dr. Horace Jayne. Royal 8vo, 816 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

SURGICAL COMPLICATIONS AND SEQUELS OF TYPHOID FEVER. By Dr. W. W. Keen and Dr. G. E. de Schweinitz. 8vo, 386 pages. Illustrated. W. B. Saunders, Philadelphia. Price, $3.00 net.

INVESTIGATION, DIAGNOSIS, AND TREATMENT OF INTERNAL DISEASES. By Dr. C. Jakob. Edited by Dr. A. A. Eshner. 8vo, 259 pages. Illustrated. W. B. Saunders Philadelphia.

A COMPENDIUM OF INSANITY. By Dr. J. B. Chapin. 8vo, 234 pages. Illustrated. W. B. Saunders, Philadelphia. Price, $1.25 net.

SANITARY ENGINEERING. By W. P. Gerhard, C. E. 8vo, 132 pages. Published by the Author, 36 Union Square, E., New York.

INDEX TO THE TRANSACTIONS OF THE CLINICAL SOCIETY OF LONDON. Vols. I.–XXX. 8vo, 206 pages. Longmans, Green, & Co., London.

A LABORATORY GUIDE IN PHYSIOLOGY. By Dr. W. S. Hall. 8vo, 359 pages. Illustrated. Chicago Medical Book Company, Chicago, Ill. Price, $2.50 net.

THE NERVOUS SYSTEM AND ITS DISEASES. By Dr. C. K. Mills. Royal 8vo, 1,056 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

TEXT-BOOK OF PHYSIOLOGY. By E. A. Shäfer, LL.D., F.R.S. Vol. I. Royal 8vo, 1,036 pages. The Macmillan Company, New York. Price $8.00.

DOCTOR AND PATIENT: HINTS TO BOTH. By Dr. R. Gersuny. Translated by A. S. Levetus. Preface by Dr. D. J. Leech. 8vo, 79 pages. John Wright & Co., Bristol. 2s.

HOSPITAL FORMULARY OF THE DEPARTMENT OF PUBLIC CHARITIES OF THE CITY OF NEW YORK. Fifth edition. 8vo, 95 pages.

THE ANATOMY AND FUNCTIONS OF THE MUSCLES OF THE HAND. By Dr. J. F. Walsh. 8vo, 51 pages. Illustrated. Charles H. Walsh, Philadelphia.

Medical Record

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Original Articles.

SOME INTERESTING CASES OF BRAIN INJURY, WITH A STATEMENT OF THE MECHANISM OF THE PRODUCTION OF CEREBRAL LESIONS BY BLUNT VIOLENCE AND A BRIEF SUMMARY OF THE PATHOLOGY AND SYMPTOMATOLOGY OF ACUTE CEREBRAL TRAUMA.[1]

BY R. VAN SANTVOORD, M.D.,

NEW YORK

TRAUMATIC lesions of the brain are so common and important that they are of as much practical interest to the physician as to the surgeon. It has seemed to me profitable to present for your consideration the following cases which have recently occurred in the services of my colleagues, Drs. Haynes and Hanbold, and in my own at the Harlem Hospital.

CASE I.—M. J——, female, aged nineteen, fell from a trolley car, presumably striking her head upon the pavement. She was picked up unconscious and bleeding from the left ear, nose, and mouth. This unconsciousness continued until her death a week later, some evidently voluntary movements of the hands made when her mouth was forcibly opened being the only indication that it was not complete. The right pupil was dilated and immobile; the left normal and responsive to light. There was a moderate amount of chemosis of the ocular conjunctiva of both sides, and later a line of opacity of both corneæ corresponding to the surface left exposed by imperfect closure of the lids. The right globe was slightly protuberant. Both eyeballs moved on irritation. On admission all the limbs were rigid. On the two occasions on which I examined her this rigidity was confined to the arms, but most of the time it was said to include the legs also. It continued until death. Swallowing was possible when liquids were placed in the pharynx, but rectal feeding was relied on. She was incontinent of both urine and fæces. The temperature was 102.8° F. on admission, and varied but little from 103° F. until the morning of her death, when it sank gradually to 100.8° F. The pulse varied from 110 to 146 irregularly; respirations from 18 to 40. About six hours before death clonic convulsions occurred, confined to the left side, including the face, at first only about a minute apart, later less frequently, and finally ceasing about three hours before death from gradual asthenia.

Autopsy: Small amount of blood effused under the scalp above the left ear. A lineal fracture extended from the apex of the petrous portion of the left temporal bone along its anterior surface, parallel to and about one inch below its upper border, and extending upward on the side of the vault as far as the temporal ridge. A second fine fissure was found, a little to the right of the median line of the body of the sphenoid, extending backward through the base of its greater wing. In a line with this was a third fissure, extending through the middle of the petrous portion of the right temporal. The sphenoidal sinus was filled with blood. A small amount of blood was found around the right optic nerve. A large epidural clot was found on the left side, extending from the base to a line about corresponding to the temporal ridge, and three fourths inch in thickness at its lower part. The surface of the right hemisphere was covered with a layer of partly clotted blood, thick below, thin above. The vessels of the pia were generally dilated, but more markedly so over the right hemisphere. A deep laceration with a cavity about the size of a pigeon's egg was found at the middle of the third left temporal convolution. A small superficial laceration existed at the apex of the same lobe and at the posterior part of the left third frontal convolution. Scattered areas of hemorrhage, varying from slight contusions to masses from the size of a pea to that of a five-cent piece and involving the cortex to varying depths, were found on both hemispheres, but principally on the right. The right first and second temporal convolutions were extensively lacerated and infiltrated with blood. The spinal cord showed a small amount of hemorrhagic effusion into the pia in the upper dorsal region chiefly.

No operative interference was considered advisable, because the symptoms pointed to lesions so extensive as to render such interference futile. Failure to recover consciousness after the accident, in the opinion of some authorities, indicates too grave lesions to warrant surgical interference, though in the experience of Phelps[1] some patients who have remained unconscious for several days have ultimately recovered, and the gravity of this factor in his opinion is to be estimated by coincident conditions. Elevation of temperature, as indicative of cortical lesions, is especially significant. Cases in which the temperature exceeds 105° F., in the experience of Phelps, never end in recovery. Cases in which the symptoms of compression are produced by pressure from blood clot alone are characterized by the absence of elevation of temperature. In the case under consideration the temperature of 102.8° F. shortly after the injury was symptomatic of grave cortical lesion. The only thing that the surgeon can do for such cases is to remove effused blood from between the dura and the skull when it exists. When a patient, after recovering from the primary unconsciousness due to the shock of injury, or after trauma without immediate insensibility, becomes gradually unconscious, the occurrence of hemorrhage is probable, and its site is frequently indicated by localized paralysis. Such hemorrhages, if epidural, are usually at the site of the external wound if one exists, and are due as a rule to lacerations of meningeal arteries, produced by the temporary displacement at the time of injury, or to splinters of the internal tables. Such clots have been removed with apparent benefit to the patient. Such a clot existed in the case cited above, but the coincident lesions rendered diagnosis impossible, and its removal would have been obviously useless. Hemorrhage under the dura occurs most frequently from cerebral laceration, and, as the more extensive of these lacerations occur on the side opposite to the injury, the more extensive of these

[1] A paper read before the Harlem Medical Association, December 13, 1897.

[1] "Traumatic Injuries of the Brain and its Membranes."

hemorrhages will also be found on this opposite side. It is not possible to remove these hemorrhages without unjustifiable manipulation of the cerebral cortex (Phelps).

Dilatation of one pupil, according to Phelps, bears no constant relation to deeper lesions, and is of no value as a localizing symptom. In twenty-four cases Weismann noted the pupillary dilatation on the side of the extravasation in twenty. Concomitant paralysis of the other ocular nerves was rare. The definite lesions with which it has been associated are epidural hemorrhage pressing on the third nerve and lesions of the optic nerve. In the case under discussion the symptom was manifest in the eye corresponding to the subdural hemorrhage.

The muscular rigidity was due probably to cortical irritation from the clots. The terminal left-side convulsions were due probably to cortical irritation produced by secondary hemorrhage from the lacerated brain, and it was the pressure from this hemorrhage which is to be regarded as the ultimately fatal factor, because the temperature fell during the last hours of life, instead of rising, as it probably would have done had an increase of meningeal inflammation occurred; and because the blood over the right side was largely fluid at the autopsy, showing that it was a recent effusion.

As I have never seen any adequate statement in general works on surgery of the most widely accepted theory of the production of cerebral lesions by blunt violence to the skull, it may not be unprofitable to give the following explanation, taken from Denet's monograph,[1] with certain amplifications which I found it necessary to formulate in order to make the matter perfectly clear and convincing to my own mind.

The skull is a hollow, elastic ovoid, whose cavity is completely filled by a soft, friable mass, permeated by systems of vessels containing fluid. The small arteries of the brain are surrounded by sheaths filled with fluid, which empty into larger trunks situated in the fissures between the convolutions, these all finally terminating in the subarachnoid spaces at the base of the brain, from which the lymph may find its way into the corresponding space of the spinal canal. Into this same space the fluid from the ventricles has access by way of the foramen of Magendie at the lower end of the fourth ventricle. The cerebro-spinal fluid serves to maintain the uniformity of the intracranial pressure by passing into the spinal canal, or the reverse, according as the amount of blood in the brain increases or diminishes with the varying phases of respiration, cardiac action, muscular effort, etc. The amount of this fluid was estimated by Magendie as sixty-four grams. Longet believed that this estimate, made from examination of the cadaver, was too low, and calculated that in life the amount was from two hundred to two hundred and fifty grams.

The observation which lead Duret to experiment on this subject was the following. As a result of suddenly forcing a considerable amount of fluid into the cranial cavity of a dog, he found the aqueduct of Sylvius widely distended, with hemorrhagic infiltration into its walls and into those of the fourth ventricle, distention and ecchymosis of the central canal of the spinal cord, and similar lesions about the great arachnoid spaces at the base of the brain. The obvious explanation was that the sudden increase of the cranial contents had squeezed the fluid contained in the lymph cavities of the brain in the direction of least resistance and into the only available outlet—the spinal canal—and that this sudden distention of the lower portions of these channels had caused the observed lesions. Moreover, this distention affects not only the main streams, but also the small tributaries entering into them, so that small hemorrhages are caused in the parenchyma of the pons, medulla, etc. Exactly similar lesions were caused by blows on the vault of the cranium, the lessened capacity of the skull due to its flattening under the blow acting exactly as did the sudden injection of fluid in forcing out the cerebro-spinal lymph.

When the skull is violently struck at some point of its middle zone, what happens is as follows: The skull at the point of impact is flattened or depressed, forming what Duret calls the cone of depression. The force of the blow is transmitted through the inelastic brain largely in the direction of its delivery, this line being called the axis of percussion. On reaching the opposite side of the skull, the elastic vault is driven out at this spot, thus forming Duret's cone of elevation. Now the effect of this is to diminish the size of the cranial cavity on the side of the blow, and, by rendering the surface of the opposite side of the skull more nearly spherical, to cause a sensible increase on that side. This increase produces a vacuum. The mobile fluid contents of the compressed hemisphere, lymph and blood, are forced out in the direction of least resistance, which is, of course, toward the expanded opposite side, their ingress being still further facilitated by the aspiration due to the changed shape above described.

The most marked effect will be produced by the forcing back of the fluid from the large spaces at the base into the smaller peripheral lymph sheaths. The major effect will be produced at the apex of the cone of elevation. The force of the blow, transmitted through the inelastic brain, springs out the cranial vault most extensively at this point, the effect being, as Duret states, comparable to that of a cupping-glass. The mobile fluids, especially the cerebro-spinal, rush in, and cause a more or less extensive laceration of tissue at that point by overdistention of their channels. The same mechanism is obviously operative, though less powerfully, in points remote from the axis of percussion in the expanded side of the skull. It is obvious, furthermore, that when the skull resumes its shape a reverse current is caused, and so minor lesions on the side of impact which cannot be explained by direct violence may thus be accounted for.

When, as in the experiments cited, the blow is delivered on the vertex, the force being expended wholly on the elastic vault, the cone of depression is more marked than when the force of the blow is in part broken by the inelastic base. Moreover, owing to this inelasticity of the base and its support by the spinal column, no cone of elevation is formed. On the contrary, the spinal column may be forced into the brain, owing to extensive fracture of the base, the cerebral contents being compressed between two forces. The cerebral contents will thus be placed under great pressure, and the fluids will tend to escape either into the spinal canal or possibly through some rupture of the skull caused by the excessive tension.

In injuries of the skull produced by violence applied to its median zone, the line of fracture in general will be found in an approximately vertical plane, extending most extensively into the base, less extensively toward the vertex. The bones of the base break because they cannot bend, and the fracture spreads more or less extensively by radiation toward the vertex. Fissures in a horizontal plane are not apt to occur, on account of the elasticity of the bones of the vault. Fractures occur also on the side opposite to that of impact. The bones on this side are impinged upon by the force transmitted through the brain, and may be broken when not able to bend. The case above quoted was an illustration. The body of the sphenoid and the petrous portion of the temporal bone were fissured.

[1] "Traumatismes Cérébraux."

I will now cite briefly a few other cases illustrating interesting phases of cerebral injury.

Case II.—J. K——, male, about forty years old, while intoxicated, fell, striking first on his buttocks, his head then coming in contact with the floor. He remained unconscious for twelve hours after admission, and on regaining consciousness passed into a state of noisy muttering delirium, without tremor. Two days before death coma followed. Slight right hemiplegia was noted. The temperature varied from 101° or 102° F. to normal, until the last two days of life, during which it rose gradually from 100° to 105.6° F. Death in ten days.

Autopsy disclosed a subdural clot over the left occipital and parietal lobes, large enough markedly to flatten those portions of the brain. There was no fracture. A laceration, the size of a pigeon's egg, was noted in the under surface of the left frontal lobe, which was diagonally opposite to a slight contused wound of the right side of the occiput. There was some effusion of blood under the dura on the left side. Minor lesions were noted elsewhere upon the cortex. There was general congestion of the meninges, with thickening of the pia.

This man evidently had a chronic alcoholic meningitis before his injury. The essential factor in his case was apparently a traumatic exacerbation of this disease.

Case III.—J. P——, male, aged twenty-five, was knocked down by a blow in the head from a timber, and brought into the hospital unconscious and bleeding from both ears and from the nose. He recovered consciousness next day, and never had any cerebral symptoms or fever after that. He had partial paralysis of the right facial nerve of the peripheral type, *i.e.*, the forehead being involved. Both sixth nerves were involved. Later the paralysis extended to all the motor muscles of the left eye and the fourth nerve of the right. It is possible that the latter was involved from the beginning; it was not at first noted. No other nerves were involved. He was discharged thirty days after admission, in apparently perfect general condition, but with no improvement in his above-narrated symptoms.

In this case certainly a fracture of the base existed, as proved by the bleeding from both ears, this bleeding being too profuse to have resulted from rupture of the drum membranes without fracture. The facial paralysis was due probably to pressure from a blood clot in the facial canal, that canal being involved in a fracture of the petrous portion of the right temporal bone. An epidural clot over the body of the sphenoid, with compression and subsequent neuritis of the ocular nerves, would most reasonably explain these lesions, as a central lesion was hardly possible, considering the absence of other symptoms. According to Phelps, while numerous instances have occurred in which each of the cranial nerves has been implicated in injuries of the kind under discussion, it is only in the cases of the second and the seventh that interference with function has been demonstrably due to lesions in the line of fracture; *i.e.*, central lesions are more probable. This case therefore is unusual.

Case IV.—A man, aged forty, was arrested in the evening after a fight when drunk, and was brought before a magistrate next morning. He was able to stand with difficulty. On admission to the hospital, at 6:30 P.M. of the same day, he was able to walk, but was stupid and not able to answer questions. The next day he was fully unconscious, and died comatose less than forty-eight hours after the injury. The autopsy showed a basal fracture and extensive laceration of the left temporal lobe, with subdural hemorrhage. His temperature was 101° F. on admission, fell to 99° F. the next day, and was 100° F. on the day of his death.

This case is cited as an example of the many in which the earlier symptoms of a fatal lesion are confused with those of alcoholism, and in which diagnosis is often very difficult. It shows also the combination of consciousness, continuing or recurring after the shock of an injury (it was not known whether or not there was primary unconsciousness), with subsequent lapse into coma, due probably to the occurrence of hemorrhage.

Phelps states that elevation of temperature is prominent in cases with laceration, in striking contrast with what has been observed in simple hemorrhages (in which the temperature is not elevated). In this case and the one following hemorrhage was the dominant factor and due to cerebral laceration. The absence of elevation or marked elevation of temperature did not exclude laceration. The fact is also illustrated that a return of consciousness after the shock of the accident is far from excluding the possibility of a very grave lesion.

Case V.—A young man was found in the early morning trying in a bewildered way to get into his house, having been well the day before. He appeared stupid, answered all questions by a single monosyllable, seemed to be in pain, judging from his expression and his groans, and would point to his head when asked where his pain was. A small scalp wound existed over his occiput. It was subsequently learned that he was injured in a fight. His temperature was never above 100.8° F. Pulse and respiration were normal. He died in coma on the sixth day after admission, general clonic convulsions having occurred during the last two days of life. Autopsy disclosed a fracture involving the left occipital and parietal region, a large subdural clot over the cerebellum, extensive laceration of the under surface of the right frontal extending backward into the temporal lobe, extensive subdural hemorrhage at the site of laceration, and minor lesions elsewhere.

Here again we have mental apathy and motor aphasia, the only symptoms of a very grave lesion. The terminal convulsion and coma were due probably to secondary hemorrhage from the lacerated cortex. Phelps states that injuries to the left frontal lobe are attended with marked mental symptoms in almost every case. Apathy results from subcortical lesions; perverted memory, lack of attention and mental control, incoherence, delusions, or stupor from confusion rather than from paucity of ideas, from cortical lacerations. In only four of two hundred and twenty-five such cases coming to autopsy were such mental deficiencies or derangements of mind present in which the right frontal lobe was not lacerated. Of these, in one a previous psychosis existed, in two there were general hyperæmia and œdema, and in one the frontal lobes were compressed by large subarachnoid serous effusions. Cases of stupor, coma, or delirium from general compression or meningeal inflammation were of course not included in this number. Lesions of the right frontal lobe were latent as far as any influence upon mental manifestations was concerned.

In conclusion, I will briefly summarize the prominent features of the pathology and symptomatology of the lesions under discussion, as follows:

Primary unconsciousness after an injury to the brain may be due entirely to shock, *i.e.*, reflex contraction of the cerebral arteries. This is rarely fatal, and if uncomplicated is recovered from in a few moments or hours. Apparent complete recovery, however, does not exclude the possibility of the existence of latent lesions, which may manifest their existence later. Sudden or rapid insensibility after recovery of consciousness indicates hemorrhage. Prolonged unconsciousness without elevation of temperature means compression from hemorrhage, either epidural or sub-

dural. The absence of fever does not necessarily exclude laceration. Prolonged unconsciousness with elevation of temperature indicates grave lesion of the brain substance with or without considerable hemorrhage. The suppression of the function of a limited portion of the brain by laceration, unless involving some vital spot, such as the medulla, is not a serious matter, as regards life at least. Such lacerated portions may, however, when undergoing secondary softening, give rise to grave or fatal secondary hemorrhages, or may be the point of departure of secondary inflammation. In these latter cases the multiple minor lesions scattered widely through the brain, comprehended under the term diffuse cerebral contusion, are often pathologically of more importance than the few or isolated foci of extensive laceration. The elevation of temperature associated with these lesions has been attributed to injury to the thermic centres. On this supposition it is difficult to account for the continued rise of temperature post mortem, so frequently observed. In one of Phelps' cases the temperature was 98.6° F. at death, and 109° F. thirty minutes after death. The diffuse cerebral hyperæmia with or without œdema found after death was not, in Phelps' experience, associated with cellular infiltration. Judging from symptoms, it must be regarded as indicative of grave alterations of nutrition of the cortex, which we may call "inflammation" or not, according to the definition we choose to give to that word. McEwen, in his work on infectious inflammations of the brain, describes an acute serous meningitis, due to bacterial infection, in which, as observed through a trephine opening, the vessels of the pia are seen floating in an extensive serous infiltration of that membrane. Post mortem much of this fluid was found to have drained away after the skull was opened, and nothing more than a slight hyperæmia remained. In the MEDICAL RECORD for December 4, 1897, Dana, under the heading "Acute Serous Meningitis," describes a similar process associated with degenerative processes of the nerve cells as due to alcohol, which is probably a factor in a large percentage of cases in our hospitals. Secondary bacterial infection plays its part in some cases, doubtless, but in one such as that described at the beginning of this paper, in which the temperature was 102.8° F. within an hour of the injury, this must surely be excluded. Gross lesions of vital centres, compression from primary or secondary hemorrhage, and the secondary effects of diffuse cerebral contusion and inflammation from infection, may be stated as the causes of death in cerebral injuries. It is the second of these only, when occurring between the dura and the skull, which is certainly susceptible of surgical relief, though it is possible that withdrawal of cerebro-spinal fluid by lumbar puncture of the spinal canal may be of service in cases in which serous effusion is an important pathological factor.

Treatment of Itch.—The treatment consists, first, in friction for half an hour of the whole body, except the head, with black soap, and it is continued by the patient himself during an hour while in a tepid bath. When he leaves the bath he is given to apply:

R Lard ..... 64 parts.
Sulphur..... 20 "
Potassium subcarbonate,
Water.....āā 8 "
M. S. Externally.

The patient then dresses, without wiping off the ointment, for the contact of this is necessary for the destruction of any remaining acari, and of any that might remain in the garments. Of 37,429 persons so treated at St. Louis Hospital in ten years, only 535 required a second application.—HARDY.

A CONSIDERATION OF AMPUTATION AT THE SHOULDER-JOINT FOR SARCOMA OF THE HUMERUS, WITH A REPORT OF THREE CASES—OPERATION AND RECOVERY.[1]

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WITHIN the last fifteen months I have removed the entire upper extremity three times for sarcoma of the humerus; in two of the cases I exarticulated the arm at the shoulder-joint, and in the third I resected about one-third the clavicle with the acromion process of the

FIG. 1.

scapula and disarticulated the joint. All three patients recovered excellently from the operation, and, inasmuch as each of the cases has features of interest, I present them collectively for your consideration this evening.

CASE I.—Barbara ——, German woman, aged sixty-seven years. Some time during May, 1896, she had occasionally pain in the left arm, which gradually became more severe and constant. She was given antirheumatic treatment without any benefit. In the latter part of September she was referred to me by a physician who had had her under observation for a few weeks.

At that time there was a very slight increase in the size of the left arm about the lower third. At this site there was a false point of motion in the shaft of

[1] Read at the meeting of the Hospital Graduates' Club, March 24, 1898.

the humerus, above and below which there was felt evident thickness of the bone. Manipulation was not painful and there were no glands palpable in the axilla. Mindful of the possibility of this being malignant disease of the bone, even though I could not obtain any

Fig. 2.

history of a distinct injury, still, considering the condition of the woman, her habits, and her intelligence, which were much lower than the average, I could but think that she had fallen when under the influence of alcohol, thus fracturing the humerus, which had not united in consequence of her age and some possible constitutional disease. Therefore I put the arm in plaster of Paris, which extended from the axilla to the wrist, the elbow being bent at a right angle. In addition I gave her large and increasing doses of the iodide of potassium.

Under this treatment there occurred a distinct improvement, both local and constitutional. The pain absolutely subsided, the swelling diminished, and motion at the point of fracture became less and less, until finally, the last of November, there was firm union.

This sequence of events made me believe that I was dealing with a fracture rather than with malignant disease. Early in December I had this *x*-ray photograph taken (Fig. 1), which shows beautifully the disease of the bone. I sent her into my service at Trinity Hospital, where I made an exploratory incision under ether and removed some of the growth for examination.

This is Dr. E. K. Dunham's report: "The specimen from the humerus on microscopical examination consists of bits of bone and of highly vascularized cellular tissue, containing round and short spindle-shaped cells, separated by only a very small amount of intercellular substance. The appearance of this tissue leads me to the diagnosis of sarcoma."

Three days after obtaining this report, January 1, 1897, I amputated the arm at the shoulder-joint, using Wyeth's pins with the Esmarch bandage and Racquet incision. The only blood lost was that contained in the amputated arm, which I had not exsanguinated by the application of the Esmarch bandage before the operation, because I did not think that it was wise to risk forcing any of the disease on into the general circulation, thus causing metastasis. The woman came out of ether quickly and without shock. The wound healed primarily, and on the fifth day she was dressed and sitting up. I examined her carefully on March 19, 1898, and there was absolutely no sign of any recurrence.

Case II.—B. C——, male, aged thirty-nine years. Had the grippe in January, 1897. Following upon this he suffered with pain in his left shoulder, which gradually increased in its severity. At the same time the shoulder began to increase in size. Internal medicine gave no relief. In June he was obliged to give up business because of his intense suffering. The last day of August he entered Dr. Abbe's service at the Cancer Hospital. The left arm he carried on a pillow, which he held either with the right or rested on his knees. The muscles of the left arm had atrophied greatly, and at the shoulder there was a large smooth elastic tumor, which extended down the arm as far as the insertion of the deltoid muscle. Manipulation was very painful, also the mere weight of the arm when unsupported. The man was greatly emaciated, and his face and pallor showed evidences of long and intense suffering. Aspiration of the tumor gave a dark red fluid. There were no palpable axillary glands. The examination of the heart, lungs, and kidneys was negative.

Dr. Abbe kindly gave me the operation, and on September 11th assisted me. Ether was administered. An incision was made on the outer side of the arm over the tumor, from the tip of the acromion process to the insertion of the deltoid muscle. The fibres of the muscle were separated so as to expose the tumor, which was found to run well up beneath the clavicle and acromion process. The incision was therefore carried higher up, so as to uncover the outer third of the clavicle and the acromion process. Through this incision the axillary artery was tied. The trapezius was cut from the clavicle and acromion process; both were then sawed through, and the shoulder was disarticulated. The wound was rapidly and loosely closed, and a dry aseptic dressing put on, because of the shock from which the man was suffering, and from

Fig. 3.

which he did not quickly rally. The wound healed slowly by granulation.

Dr. Buxton, the pathologist of the hospital, found that the tumor was a sarcoma showing myxomatous degeneration.

A few days after the operation the patient com-

plained of pain in the left side of the chest and of a persistent cough, which I thought must indicate a pulmonary metastasis with involvement of the pleura. Examination of the chest showed abundant moist râles; these, with the character of the sputum which he coughed up, led me to have this examined, and much to my surprise tubercle bacilli were found by Dr. Buxton. As soon as possible I had him wrapped up warmly and carried out of doors each pleasant day; and from that time on he made rapid improvement, so that on October 18th he was discharged. The wound was entirely healed, he had gained in weight, and coughed very little.

I have been unable to learn the outcome in this case. My letters fail to bring any response.

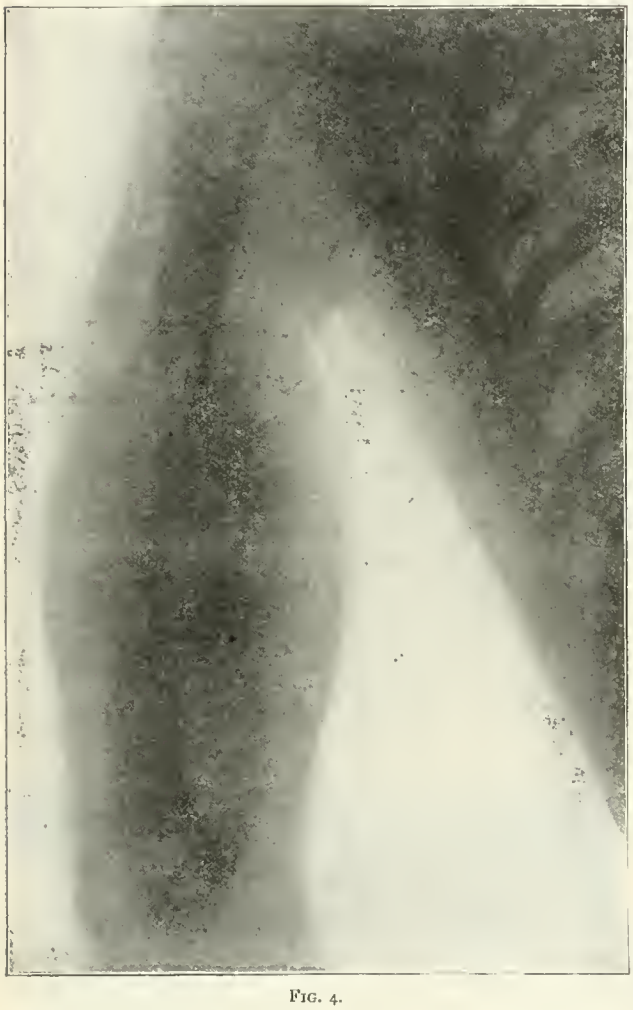

Fig. 4.

This *x*-ray (Fig. 2) shows the shadow of the tumor and enables a positive differential diagnosis between subperiosteal and central sarcoma to be made. The shaft and head of the humerus show no structural changes.

Case III.—Daniel ——, male, aged thirty-five years. While he was attempting to jump upon a lumber truck in April, 1897, something snapped in his left arm which made it powerless. Four days later, when he was trying to break a broomstick across his knee, there was a decided crack, after which he could not move his arm. The physician called said that the bone was broken; and the following day it was incased in plaster of Paris at Bellevue Hospital, which is presumptive evidence that no tumor was present at that time.

The last of October he was sent to me by Dr. Forbes. Then there was a large fusiform swelling of the left arm from the axillary fold to the bend of the elbow. The skin over this was normal and the tissues were firm and smooth. About the centre of the shaft of the humerus was a false point of motion. Manipulation was not painful. No enlarged glands existed. On the 8th of November, at Trinity Hospital, I amputated the arm at the shoulder by the same method as in my first case. The operation took less than an hour and there was no shock following it. The wound healed primarily; the patient was about within a week and discharged at the end of two weeks.

The specimen was examined by Dr. F. M. Jeffries, of the Carnegie Laboratory, who reported: "A melanotic mixed-celled sarcoma with fibro-sarcomatous portions."

I saw the man in January and then there were no signs of recurrence.

This photograph (Fig. 3) gives the appearance of the arm; the *x*-ray (Fig. 4) shows the involvement of the shaft of the bone, and the photograph of the specimen (Fig. 5) that the centre of the shaft has been entirely replaced by the neoplasm.

The three cases illustrate the two varieties, central and subperiosteal, of sarcoma which occur in the long bones. The surgical treatment of these, especially in the humerus, together with the mortality following the operation, I wish to set before you this evening.

Butlin[1] writes: "In considering and estimating the various methods of dealing with sarcoma of central origin, it must be borne in mind that in many instances there is a great difference in the relation which the tumor bears to the bone. Some of the growths are inclosed in cavities in the interior of the bones, which are smooth walled, clearly defined, and from which they can be shelled out without the slightest difficulty. Other central growths are certainly well defined, but are separable with difficulty from the surrounding bone." Therefore three operations have been practised for the removal of central tumors: (*a*) enucleation of the tumor; (*b*) resection of the affected portion of the bone; and (*c*) amputation of the limb. Attempts to enucleate central sarcoma of the humerus are not favorable and in many instances resection cannot be performed. The only treatment which offers a reasonable prospect of success is amputation at the shoulder-joint.

In the subperiosteal sarcoma of the humerus, his opinion is that in almost every case amputation must be at the shoulder-joint, because the disease often is primarily seated at the upper end of the bone; also because of the rapidity of extension when the origin of the disease is upon the shaft—in other words, that in no other way can there be any reasonable expectation of getting beyond the disease.

Senn[2] is of the opinion that a conservative operation is justifiable in small myeloid sarcoma of the long bones when the disease is limited to the bone, but that the cases adapted for this treatment are few and far between, and the conservative operation of enucleation and resection must be limited to the radius, ulna, clavicle, and ribs. Therefore, when the fibula, tibia, femur, or humerus is the seat of the disease, there is nothing to be done short of amputation.

Dennis[3] is more and more impressed with the fact that amputation is the only operation which should be contemplated in sarcoma of long bones. Excision and enucleation are not to be recommended, because the disease is not as a rule radically removed by these methods.

Jacobson,[4] in writing of excision of the shoulder-joint in cases of growth connected with the upper extremity of the humerus, says: "While the priceless

[1] "Operative Surgery of Malignant Disease."
[2] "Pathology and Surgical Treatment of Tumors."
[3] Dennis: "System of Surgery."
[4] Jacobson: "The Operations of Surgery," third edition.

value of the hand fully justifies the attempt in some instances, such cases must be extremely rare," and cites the cases reported by Mitchell Banks, Southam, and J. Hutchinson. Banks endeavored to excise the upper portion of the humerus, sawing though the shaft one inch below the insertion of the deltoid, for recurrent sarcoma in a man of fifty-six years, but he was compelled to give that up and quickly to amputate the arm because of the profound shock in which the patient was. This case certainly is rather positive evidence against excision in such cases.

Southam's case is certainly one of successful resection of the upper end of the right humerus for an endosteal (mixed-cell) sarcoma. The head and four inches of the shaft were removed. Six months later the woman could raise her hand to the mouth or use her arm for household duties and in operating a small sewing-machine.

Hutchinson's case was one of resection of the upper third of the humerus and removal of the diseased glands in a woman of twenty-seven years. There was recovery with a useful arm, but rapid reproduction of the disease occurred, with secondary growths connected with the bone, axilla, cervical glands, and lung, and death ensued within five months.

I find in Butlin's tables that the one case in which resection was done for subperiosteal sarcoma death resulted from the operation, and the one death from causes connected with the operation in eight cases of central growth was in one in which resection was performed. There cannot be much doubt, therefore, that the most conservative, surest, and safest treatment of sarcoma connected with the humerus is amputation. There are less hemorrhage and shock, less risk of sepsis, because of better drainage, and decidedly greater probability of radically removing the disease.

The mortality following amputation of the shoulder for disease has been very much reduced of late years.

Butlin, from the statistics of Schede and the reports of St. Bartholomew's Hospital for the twenty years previous to 1887, collected twenty-four cases with sixteen recoveries, which gives a mortality of 33⅓ per cent., but this includes the operations which were done before antiseptic methods were used. These same statistics for the ten years from 1877 to 1887 give fourteen cases with ten recoveries, which reduces the mortality to 28.5 per cent. The mortality in twenty cases collected by himself, which go back of the introduction of antiseptic surgery, and in which amputation was done, with five deaths resulting from the operation, was twenty-five per cent.

Wyeth has collected thirty-five cases of complete removal of the arm and of the shoulder girdle or a portion of this. To these I can add two cases, my second and a case reported by E. T. Elliot,[1] in which he removed the entire upper extremity in a woman of seventy-six years, for recurrent myxosarcoma of the scapula. This makes a total of thirty-seven cases; of this number eight were fatal from the effects of the operation, which gives a mortality of 21.5 per cent. In *The Lancet* of March 21, 1896, Frederick Page states that the number of major operations from April 1, 1878, to December 31, 1895, in the Royal Infirmary, performed antiseptically, was nine hundred and thirty-eight; of these forty were amputations of the shoulder. Seventeen of the forty were performed for disease, and of these seventeen but one was fatal—a mortality of 5.8 per cent. This great decrease in the mortality of shoulder amputations is in consequence of the aseptic technique, of the prevention of hemorrhage either by preliminary tying of the subclavian artery, which should be done in all cases in which the disease involves the shoulder girdle, or by some method such as was used in my first and third cases, and by the treatment of shock by intravenous infusion of decinormal salt solution. The control of the hemorrhage in the two cases was absolute, and the objection which Jacobson raises, of the possible harm which the pins may do, was not experienced in either case. When the technique is perfect the fear of infection cannot be an objection.

Before concluding I wish to call your attention to the improvement in my first case under the administration of the large doses of the iodide of potassium, whereby I was led into the belief that I had not a sarcoma of the bone; in the second case to the occurrence in the same individual of tuberculosis and sarcoma; and finally in my last case to what is evidently primary melanotic sarcoma of the humerus. The three skiagraphs demonstrate the great value of the *x*-rays as an aid in differential diagnosis.

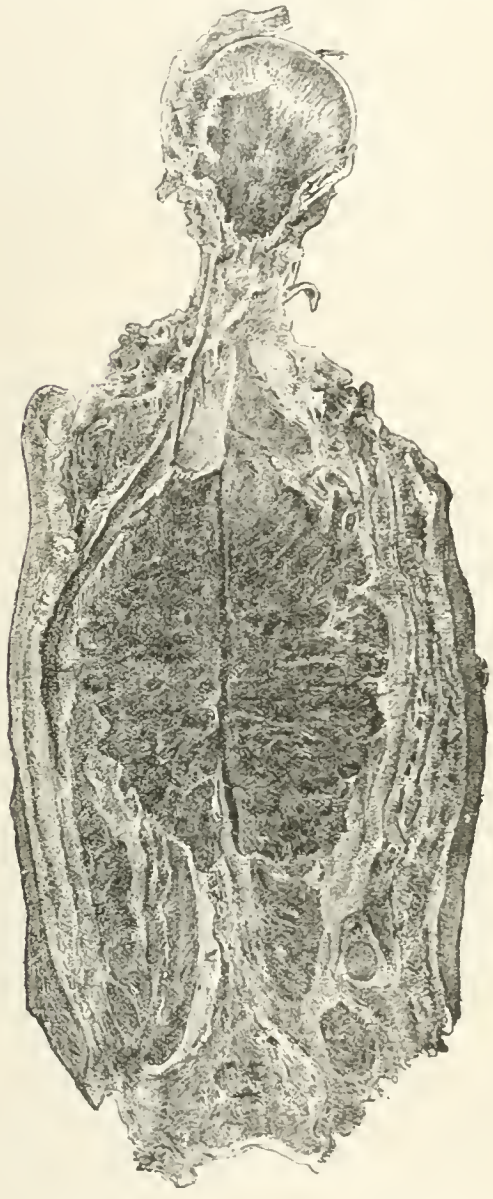

Fig. 5.

13 West Fiftieth Street.

[1] Lancet, November 7, 1896.

Eucaine can be used in all superficial operations in a three or five per cent. solution, without causing density or hardening the tissue, and in sufficient amount completely to surround the part to be incised. As much as nine grains has been used without any evidence of danger. It does not inhibit or prevent primary union, but the solution should always be boiled before injecting with a thoroughly sterilized needle. —M. H. Williams.

IMMUNITY AND SERUM THERAPEUTICS—A NEW THEORY: THE BIO-PHYSICAL THEORY.

By R. F. LICORISH, M.D.,

BARBADOS.

It was, I believe, Lord Beaconsfield who once said: "If you want to get up any subject of which you know little, set about to write a book on it"—or words to that effect. Sometimes, however, there is more in those words than appears on the surface. When Lord Kelvin, many years ago, was induced to write in an English magazine a popular description of the mariner's compass, the first part appeared with the notice that the subject would be continued, and interested readers watched month after month for its completion. This, however, did not happen for five or six years, for Lord Kelvin, when writing the first part, perceived that the compass of the day was defective; he therefore set about and invented the perfected instrument of the present day. With the writer of this paper, a circumstantial parallel led him to the above theory. In attempting in a local paper to define and demonstrate the action of medicines on the human subject, he became so dissatisfied with the accepted views that he again and again submitted the question to the closest criticism, bringing to his aid any biological and physical theory that he considered likely to help him in its elucidation. It was at or about the same time that Dr. McLaughlin, of Texas, was studying the same question from the standpoint of fermentation, as to its identity with infection and its bearing on immunity; and so similar was our reasoning, although from different bases, that up to a certain point all his arguments apply with equal force to my own theory. It is not until we attempt to illustrate the mode of action of these similar views on the various conditions of medicinal and disease action on the living subject that it will be found that his—McLaughlin's—views lead to only a partial application, while my own, I apprehend, illustrate the unity of vital laws in many and varied conditions and states. For it will be found that the theory here set forth not only throws light on all forms of immunity, serum therapeutics, etc., but also points in no uncertain way to that power on the environment of organic life which has hitherto escaped the senses of the observer and the reasons of the philosopher. There may be among the readers of this paper many, who boast of being practical men, who look askance at all theories that cannot be demonstrated practically by the senses. But is that the position to assume in the present day, when all science points to the truth that the chief advances therein to be made now lie in physical laws which cannot, at least for a very long time, be demonstrated to the senses of man? And have we not evidence in the past that theory is capable of leading to the most important and momentous truths? Some years ago a celebrated chemist was able to declare, basing his knowledge on laws mainly hypothetical, that a certain metal or mineral, an element of inorganic nature, existed, although as yet undiscovered. So sure was he that he indicated its chief properties. And do we not now know that this prophecy was fulfilled with startling reality? Not long ago, at a meeting of a great medical society in England, one of the most celebrated physicians of that country was led to exclaim: "Let us not decry theory, for by theory Pasteur was mainly enabled to arrive at his wonderful announcements to the scientific world"—or words to that effect.

So much for theory in general; but as regards the question of molecular and atomic physics, on which this theory is based, that "Napoleon of science," Lord Kelvin, has declared that so important are its study and its possibilities that he regarded his lifework as so much time wasted, compared with what might have resulted had he confined his studies to the elucidation of atomic and molecular action. Is it not, then, most important to study the action of medicine on an organic body in the light afforded us by the physics of molecular and atomic motion? Now the action of medicines on the living body must be mechanical, chemical, or physical: but we also know that the mechanical and chemical are really different manifestations of physical action: hence we logically must conclude that the action of medicines on the living body, except in the few and isolated cases in which chemical or mechanical action is directly apparent, must be a physical one.

Physiology is that science which treats of the various laws of organic bodies—laws which are chiefly manifested in the various functions serving the purposes of the living body. When we speak, then, of the physiological actions of medicines, we really mean a medicinal action which modifies in some way the normal physiological functions. The term "physiological action" should really be "pathological action," since a normal function modified by a medicine is really pathological. But neither of the terms "physiological" and "pathological" as applied to the action of medicines gives any idea of the real action. To express the real action of medicines on the system we should use the term "pathogenetic," which, although it does not tell us the nature of the organic disturbance, yet indicates that a change analogous to disease has been produced. Let us now try and learn the nature of the change in an organic body produced by a medicine. To do so we have, in the first place, to learn what an organic body is and what the nature of the remedy used, which, of course, may be either organic or inorganic. Huxley treats of the subject in this way: "Carbon, hydrogen, oxygen, and nitrogen are all lifeless bodies: of these, carbon and oxygen unite, in certain proportions and under certain conditions, to give rise to carbonic-acid gas. Hydrogen and oxygen produce water. Nitrogen and hydrogen give rise to ammonia. These new compounds, like the elementary bodies of which they are composed, are lifeless. But when they are brought together under certain conditions they give rise to the still more complex body, protoplasm, and this protoplasm exhibits the phenomena of life.[1] Now, then, what is the difference between an organic and an inorganic body? Clearly that the former—the organic—is more complex and therefore more capable of responding to its environment. Hydrogen and oxygen, under the influence of the electric spark, are converted into a more complex body—water. Carbon, hydrogen, oxygen, and nitrogen, under a condition analogous to the electric spark, are converted into protoplasm, having, not the few properties of water and its very limited capability of responding to its environment, but the many and various properties known as life, with its full capability of responding to its environment. What really happens appears to be this: Hydrogen and oxygen each possesses its own molecular and atomic motions, but under the electric spark these actions rearrange themselves, the H with the O, and form water. As regards protoplasm, O, H, C, and N each possesses its own peculiar atomic and molecular motions: but just as the electric spark causes a rearrangement of the H and O atomic motions with each other, giving rise to water—so an unknown influence, analogous to the electric spark, causes a rearrangement of the molecular and atomic motions of C, H, O, and N, and this rearrangement of motions gives rise to protoplasm, which possesses the properties of life.

[1] Huxley: "The Physical Basis of Life."

What we have learned, then, is that both organic matter, as represented by protoplasm, and inorganic matter, are really masses of molecular and atomic motions, the great difference between them being that the former—protoplasm—is so complex that it is capable of being influenced by the whole of its environment, while the latter—inorganic matter—is much less complex and but slightly influenced by its environment. We represent the lower organic bodies as being devoid of a nervous system. That is true to only a limited extent, for although such a low organism does not possess a specialized nervous system, yet its whole body is really a nervous system capable of responding to its environment.

Let us now turn to the highly organized bodies, including man. Although in these beings different functions and organs are specialized, yet we still have to look on them as representative masses of molecular and atomic motions, as the following celebrated scientists teach. Says Prof. Michael Forster: "We have, in speaking of protoplasm, used the words 'construction,' 'composition,' 'decomposition,' and the like, as if protoplasm were a chemical substance. And it is a chemical substance in the sense that it arises out of the union or coincidence of certain factors, which can be resolved into what the chemists call 'elements,' and can be at any time, by applying appropriate means, broken up into the same factors and indeed into chemical elements;" and he continues farther on: "but we may venture to assert that the more these molecular problems of physiology with which we are now dealing are studied, the stronger becomes the conviction that the consideration of what we call 'structure' and 'composition' must, in harmony with the modern teachings of physics, be approached under the dominant conception of 'modes of motion.'"[1] Professor Huxley writes thus: "But it must not be supposed that the differences between the living and the not living are such as to justify the assumption that the forces at work in one are different from those to be met with in the others." A mass of living protoplasm is simply a molecular machine of great complexity, the total results of the working of which, or its vital phenomena, depend on the one hand upon its construction, and on the other on the energy supplied to it; and to speak of vitality as anything but the name of a series of operations is as if one should talk of the horology of the clock.[2] Says Julius Thomson, in his introduction to "Thermo-Chemical Investigations": "Theoretical chemistry is based upon the molecular theory, according to which all matter is made up of molecules, and these molecules of atoms. The physical state of bodies depends upon the arrangement and motions of the molecules. Other physical and chemical properties depend upon the kind and number of atoms in the molecule, upon their arrangement and relative motions."

These quotations, and many others which could be made from equally eminent authorities, all demonstrate that organic bodies, from the lowest to the highest, owe their peculiar functions and activities solely to molecular and atomic motions; in fact, that we may look at all organic bodies as masses of motions, molecular and atomic. But, as we have seen, the same construction holds good for inorganic matter, for that too is a mass of molecular and atomic motions, only less complex in arrangement.

Having demonstrated so much on the authority of eminent scientists and from our own reasoning, let us see what is medicinal action or the pathogenetic action produced on the living body by medicines. Of course we shall, in the first place, confine ourselves to the action of medicines—or, more properly, drugs—on the normal body. We have learned that the body to be acted on—as, for example, the human body—is a mass of motions, and we have also learned that the medicine or active agent is also a mass of motions, only of less complexity. When a drug, therefore, acts on the living body, it really amounts to one series of motions reacting on another series of motions.

Now, as regards the action of a new incident force on an organism, Mr. Herbert Spencer thus speaks—speaks in a way that would tend to confute my contention; but it must be remembered that no one is more ready to recognize that evolution is just as powerful in ideas as in life, and no one has been found more ready to modify his dicta in the light of further evidence. Moreover, unless Mr. Spencer can modify his dictum as regards a new force on an organism, he cannot account satisfactorily for the colors of animals, as the tiger and lion, which are in harmony with their environment. Says Mr. Spencer, in "Principles of Biology": "It is an unquestionable deduction from the persistence of force that in every individual organism each new incident force must work its equivalent of change, and that where it is a constant or recurrent force the limit of the change it works must be an adaptation of structure such as opposes to the new outer force an equal inner force. The only thing open to question is whether such a readjustment is inevitable, and further consideration will, I think, show that to say it is not inevitable is indirectly to say that force does not persist."

The exact meaning of that statement is not quite clear, but we may, I think, assume to be the meaning that the change produced in an organic body by a new incident force is a change which is in composition opposed to the composition of the new incident force. This is the theory of opposition in nature; but, as I have said, the mere fact that the colors of animals harmonize with their environment points to another fact, that the change produced is not in opposition to but is really in harmony with the new incident force, whether constant or recurrent; in other words, that the molecular and atomic waves of the new incident force, being constant or recurrent, in time impress themselves on the organic body subject to its impressions. That this really takes place, I have already shown in the case of animals becoming colored and otherwise adapted to their environment.

But I can show that at least a path for the atomic and molecular waves is formed, on the strength of catalysis. Professor Leech, in his address on pharmacology at the last meeting of the British Medical Association, at Montreal,[1] said: "But there is also reason for thinking that the molecules of a compound may influence the protoplasm in a catalytic manner. We know, for example, that if dilute hydrochloric acid be added to an aqueous solution of methyl acetate it leads to the decomposition of the acetate into alcohol and acid, without itself undergoing any alteration." And, although the editor of the *British Medical Journal*[2] questions Professor Leech's example of catalysis, he supplied for my purpose stronger evidence as to the truth of my theory, for he mentions that McLeod has shown that on the preparation of oxygen from potassium chlorate with the aid of manganese dioxide, although the latter is unchanged at the conclusion of the process, it forms a succession of compounds during the continuance. What this really means and its application to my theory are this: the molecular and atomic waves possessed by the manganese dioxide actually pass through the chlorate, reforming themselves again as manganese dioxide at the conclusion of the operation.

Here we have, then, an instance in which a new in-

[1] Encyclopædia Britannica, 9th Ed. Article, "Physiology."
[2] *Ibid.*, Article, "Biology."

[1] British Medical Journal, September 18, 1897.
[2] *Ibid.*, page 725.

organic incident force affecting an inorganic body produces in the latter, the body acted on, a wave of disturbance, which wave is its own molecular wave. Now, as thus happens when an inorganic body acts on another inorganic body, producing not an adaptation of structure such as opposes to the new outer force an equal inner force, but a force in harmony with it—for we find that the catalytic waves of the manganese dioxide pass through the chlorate of potassium—so we are forced to assume that a like process takes place when an inorganic or organic body reacts on an organic body, as when a medicine from the inorganic or organic world acts on, say, the human body. As I have already stated, when a medicine acts on the human body it really amounts to one series of waves or motions—the medicine—reacting on another series of waves or motions—the human body. And by means of catalytic force I have shown that the nature of this reaction is that of a wave of motion passing through the body acted on, just as when we throw a stone in a pool of water the waves formed thereby pass through the whole of the water contained in the pool; and this is so, even if through distribution of force the ultimate waves be too small for demonstration. The action of the medicine on the system is, then, of the nature of a wave, which, once started, must pass, each medicine by its own path, through the tissues of the body; although I grant that a medicine may not, on the laws of physical interference, affect the system, because of meeting with similar waves—a fact which a little study of the physics of heat, light, and sound waves must demonstrate. But when a medicine acts on the human body there is little interference; hence the marked and almost universal action of medicines on the human body. Of course, this subject could be gone into much more deeply, and the poisonous action of common articles of food on some persons, and other processes be accounted for. I have, however, stated enough, I think, to establish my position as regards the action of medicines on the body.

But what happens when the atomic and molecular waves of the medicine, acting on the motions, molecular and atomic, of the body, are recurrent or persistent? Herbert Spencer, as we have seen, states that a structure is formed which in composition is opposed to the structural composition of the incident force. But, as I have already stated, I am opposed to that conclusion. What I do believe takes place is that the waves of the new incident force, the medicine, if persistent or recurrent, become an established feature in the body acted on; that, in fact, a path through the system is formed by the recurrent or persistent force or medicine—as, for instance, when one acquires a drug habit, a path for the peculiar waves of that particular drug is established in the body; hence the immunity established; for once such a path is there, no inimical action can be produced when the drug is taken. The path being there already, its waves pass through the body harmlessly as regards poisonous effects, although the path itself may have interfered with normal functions in an indirect way. Drug habit, therefore, tends to establish my theory of a path being formed in the body for the peculiar waves or motions, atomic and molecular, of the drug used habitually. Drug immunity or habit is therefore my first *point d'appui*.

Let us now turn to disease immunity. Disease immunity is of two kinds—personal, or that produced in any one after an attack of one of the self-limited infectious diseases; and racial, or that possessed by races of people as regards diseases endemic in their countries. I shall now endeavor to demonstrate my theory as regards those two classes of disease immunity.

Personal Immunity.—Let a person have an attack of any one of the self-limited infectious diseases—as typhoid fever or small-pox; in all probability thereafter, however exposed the person may be to a second infection, he will escape the disease. Now an infectious disease is doubtless caused and propagated by the germ of that disease; but really what causes the symptoms of the disease is not the germ itself, but a poison produced in the evolution of its life processes, and the nature of this poison is that of a chemical product. When a person is infected, no doubt some little time elapses before the symptoms of the disease set in. In that time the evolution of the life processes of the germ takes place, with the production of its peculiar poison. This poison, as I have already stated, is of the nature of a chemical product, and, like any other medicine or poison, possesses its own peculiar waves or motions, molecular and atomic. And, just as I have shown in the case of ordinary medicines, these waves pass through the system as water waves pass through a pool. But the production of these waves in the human body must be constant, because the germs must be constantly producing their poison at the site of infection in the body. Now why does convalescence set in after a definite time, approximately? Because after a certain time the atomic motions of the germ poison make a path through the human system, which path becomes fixed, because the force is a constant one and because vital action has always a tendency to repeat itself, and the longer the impressions the stronger the tendency. This physiology teaches us as regards all our functions, and disease itself is often a mere vicious habit. And, too, chemical experience bears me out as regards the permanency of the path, for the more severe the attack of infectious disease the less probability of a second attack. The path being in the body, then, for the germ poison waves, a subsequent infection does not give rise to the disease, because, the path being there already, no disruption of the normal albuminoids of the body takes place, and hence no disease.

Racial Immunity.—This takes us a step farther, for in its production we see a violation of Weisman's law that "acquired characters cannot be transmitted to the offspring." What is racial immunity? In a series of lectures in *The Lancet* for 1888, Professor Coates states that immunity is due to some structural condition. He says: "It is the living activities of the tissues with which we have to deal, and it is peculiarities in these, determined by inheritance, which I believe constitute the differences," *i.e.*, between susceptibility and non-susceptibility in races.

Now, then, in the light of my reasoning, what is this structural peculiarity, transmitted by inheritance, in the living activities of the tissues? Why, that the peculiar waves of the endemic-disease germ poison are found present in every individual of the race, from generation to generation. Doubtless, when a tribe first conquered the older inhabitants and took possession of the new country, its members suffered from generation to generation from the endemic disease, but I believe that in time, contrary to Weisman's dictum, the individual "personal immunity" to the disease possessed by the members of the tribe was gradually transmitted to the offspring, until the path became fixed in each individual and it became a racial feature securing the tribe from the endemic disease—a beautiful illustration of the laws and power of environment (on which I am now working), one which must cause great modification of accepted biological data.

Just as in personal immunity a path for the germ-poison waves is permanent usually for life, so the germ path for that or any endemic disease is found in all the members of the tribe from generation to generation.

Serum Therapeutics.—It is not quite clear whether, inductively from my theory, serum therapeutics could

have been arrived at, but doubtless light from other sources and thought on the subject would soon have led to its discovery. What is serum therapeutics? It must now be clear to the minds of my readers that just as any one can acquire a drug habit and thus become protected from the poisonous effects of that drug, so a person can be rendered immune to any infectious disease by the gradual introduction into the system of larger and larger doses of the germ poison; but that the serum of the immunized animal would be equally effective in immunizing others, and in the case in which the disease is present, more curative than minute portions of the germ poison (as may be with Pasteur's cure of hydrophobia) may not be so apparent on this theory. But as we do know that such are the results from serum therapeutics, the explanation is quite evident, for we have only to recognize that, the serum being an important tissue of the body, it contains within its albuminoids the peculiar waves of the germ poison to which the body has been rendered immune.

Thus when we use a serum we use not only the waves of the germ poison but waves which probably have been modified by the tissues, so that the serum becomes, if not a more potent factor for immunizing against the disease, yet, when the disease is present, a more potent and active one as a curative agent—as has been plainly seen, for instance, in experiments in which snake venom and serum from an immunized animal have been injected simultaneously. In this case the serum or the venom waves in the serum, being modified by living tissues, and therefore more adapted to them, make a path through the albuminoids for the passage of the poison waves, in pioneer fashion. But it must be plain, I think, that the serum is a vital or living body, which may be destroyed by heat or rendered less active or perhaps inert through age. I was therefore not at all surprised when Calmette proved that if fresh venom serum and venom be simultaneously injected an animal would develop no symptoms of poisoning, but if the serum and venom be heated to 68° C. the venom would take effect; the serum or antivenin then having no effect, because, it being a vital product and its action being vital, heat would destroy its protective power. And so when diphtheritic serum or antitoxin is used as a remedy, the earlier it is used the better, of course; but the fresher it is the better it is as a curative agent, because the vitality of the serum is more active. It is from this cause—that is, the disparity in the freshness of the serums used—that conflicting accounts as to their value in disease are recorded.

But it may be possible, although experiment would have to prove it, that an old serum, or a serum that has been submitted to a high temperature, may still be useful, although to a minimum degree, and especially for immunizing purposes; because, as we have seen in catalysis, the waves, being thereby liberated from the vital tissue, serum may reform, as it were, in a pure state, which, as in the experiment with venom serum or antivenin and snake poison or venin, although useless as an active curative agent, may yet, as I have stated, have some effect for immunization.

Now, practically, what does my theory teach? What position does it put us in as regards the discoveries of curative serums?

In the first place, it teaches us that vaccine or cow pox is really a modified small-pox. For many years I have held that position, and when, as has been the case, experiments have gone against that theory I have always maintained that such experiments were defective and the results in opposition to a grand law in nature. Now the position I have always held is the established one. Moreover, on this theory we can understand that all self-limited infectious diseases may be protected against by a vaccine.

Again, when Koch astounded the world by his announcement of a cure for consumption, on the strength of my theory I was able to make in a local paper this prediction: "If Koch's remedy is one of the nature of a lymph from the germ of consumption, it will fail to do what he claims it will do"—a true prophecy, as we all now know. I was able so to prophesy because consumption is not a self-limited disease. Moreover, as a matter of fact, it is not the germ of tuberculosis that really does the mischief, but the many germs concerned in ulceration and suppuration. Of course, it is plain from this theory why in all self-limited infectious diseases an antitoxin can be obtained, not necessarily from the blood serum, but perhaps from other vital tissue, which will act as a curative agent in the particular disease. In the case of the rinderpest disease, there is a great controversy, it would seem, as to whether the bile is capable of causing it. Koch and others maintain that it cannot, while Danyez maintains that it can do so occasionally. On the strength of this theory, I have little doubt that the latter is right, especially if an unusually large dose be used; for, although the bile is a vital fluid, carrying within its molecules the peculiar waves of the rinderpest disease, yet if a large dose be used it must take some time for the tissues of the healthy ox to accommodate themselves to the disease waves in the bile; and in the accomplishment of that disease symptoms must arise. Moreover, if the bile be dead, the poison waves may have reformed themselves into the pure toxin, as I have already shown may happen on the strength of catalysis, and in that case the disease may be produced. In the light of my theory, aided by a little experiment, the whole question, as raised by Dr. Turner in the *British Medical Journal* of September 11th, may be settled.

But, further, this theory teaches that, especially as regards organic drugs, the serum of any animal rendered immune to any drug may be used as a curative agent in case of poisoning with the drug, as has already been shown in the case of abrin and recin. In the case of the Styrian arsenic eaters, we have a drug immunity analogous, not to personal immunity, but to racial immunity. One eminent investigator, to my knowledge, is now carrying on investigations as to drug immunity and protective serums. From this, too, is apparent the truth of Behring's dictum, that "antitoxin is not a definite chemical compound, but a quality; for, indeed, serum antitoxin—there may be perhaps other antitoxins—is a vital principle."

As an instance of practical application of my theory, suppose a valuable life to be in danger from an infectious disease, as yellow fever; it must be plain that transfusion of blood from some one who has but recently suffered from the disease would save the valuable life. Of course, all lives are valuable; but circumstances may not always permit transfusion or making unusual efforts. And so, too, in the case of rinderpest, the use of fresh blood from an animal that has recently suffered, or from one that has been rendered immune artificially, would undoubtedly be the means of rendering immune a large herd; *i.e.*, the blood of one animal would protect undoubtedly hundreds.

In bringing my paper to a close, I must ask my readers not to dismiss it from their minds without thought, but to bring their thoughts and attention to it. For many years now I have been investigating the subject, and although unable from lack of opportunity to enter directly into experimental investigation, I have utilized to my purpose the experiments of others, and more and more have I received light as to the truth. When one finds a theory suitable and applicable to so many and varied conditions and states, its truth is already partly established. But not only does my theory make plain the question of disease

immunity and serum therapeutics: it indicates, as I have already said, the part played in biology by the power of the environment. It clearly shows that the fittest survives, not because literally the strongest, but the strongest because it is most adapted to its environment. It shows that there is in nature not opposition, as taught by Herbert Spencer, but modification or adaptation.

One word as regards Dr. McLaughlin, who is undoubtedly an able and original man. I have to thank him for many facts in support of my theory, as set forth in his valuable work, "Fermentation, Infection, and Immunity;" but not for the inception of my theory, which was wholly due to studies on medicinal action. Moreover, McLaughlin in his application comes short, as he worked on the theory of opposition in nature instead of adaptation.

When the light of this theory is applied to the question of the "origin of species," it must doubtless revive many of Lamarck's and Buffon's conclusions. It will tend to show that "natural selection" has not a universal application, but a very limited one—one wholly subservient to the great forces of "adaptation to environment."

Of course, on account of lack of space, I have not attempted to point out all the possibilities which I believe may arise out of this theory. Moreover, in this enunciation I have had, rightly I believe, to sacrifice elegance of diction to clearness, in hopes that thereby I shall the more attract the attention of my readers, as well as enable them to see it in the light in which it appears to me.

In conclusion, I beg to call the attention of my readers to these pregnant words of the able editor of the *British Medical Journal*, in his review of Professor Leech's address at the recent Montreal meeting: "We have emphasized this point, because it seems to us that the future of all physiology, and therefore alike of pathology and pharmacology, must depend upon the wider knowledge which we are bound to gain regarding catalysis."

Finally, I may remark that on the above theory the etiology of all diseases may be explained. It will be seen that what is called disease is an impression of inimical waves on the system, and it will be plain that, as each one in turn is born and grows up, he has to become, as it were, attuned to his environment as regards disease. It will explain why some diseases and evil customs, as drunkenness in certain races, lose their power gradually, as is the case with certain diseases and also with the southern races of Europe as regards the effects of alcohol. It will explain how man is gradually attuned to his environment. And if this theory be accepted, it will again, as Richet has recently told us, show us the unity of all science, and that all progress in medicine depends on the truths brought to bear on it from biological knowledge.

As an after-thought and for the benefit of those who may consider that it operates against my theory, I may state that the so-called relapse of typhoid fever is not a true relapse at all, but a case of exhaustion fever; *i.e.*, the vital forces, especially the nervous system, have been so reduced by the long continuance of the fever that they are unable to bring about the thorough elimination from the system of the metabolic products poisonous thereto; the truth of which statement I hope soon to demonstrate to the profession in a paper entitled "On the Nature of Fever in General and Typhoid Fever in Particular."

December 22, 1897.

Aneurisms.—Fifty cubic centimetres of a sterilized one per cent. gelatin solution in a one-per-cent. salt solution injected into the gluteal region. Gelatin increases the coagulability of the blood.—LANCERNEAUX.

RETROSPECT OF FIFTY CONSECUTIVE INTRAPERITONEAL OPERATIONS, WITH SOME REFLECTIONS.

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THE object of the present paper is to offer, not statistics, but some truthful facts. General rules in the practice of medicine ought to be formulated only after sifting a large number and variety of individual experiences. From this point of view I frankly state my personal experience in intra-abdominal work during the past three years. Some of the cases have previously been alluded to elsewhere. I shall not endeavor to present detailed clinical pictures, but rather a bird's-eye view of a single group of cases. Most of my work has been done at the Beth Israel Hospital and New Yorker Frauenklinik, upon poor women, who were, as a rule, placed in the general ward after the operation. A few of the patients were operated upon before the class at the Post-Graduate School and two operations were done at the patients' homes.

In spite of our modern advances in the field of asepsis, the mere opening up of the peritoneal cavity continues to be associated with a certain amount of danger. I know of two of the principal abdominal operators of New York who lost patients from acute sepsis after a simple hysterorrhaphy. The risks, to be sure, are less in private rooms or private hospitals; in fact, Lawson Tait claims a preference for operating in a proper room at the patient's home: but a distinct risk in these cases is acknowledged by all. This risk is positively increased in public institutions, and, in my humble opinion, the larger the hospital wards the greater the risk.

The appended table explains itself:

TABLE OF FIFTY INTRAPERITONEAL OPERATIONS.

	Number of Cases	Recoveries	Deaths.
Exploratory laparotomy	2	2	
For ectopic gestation	6	5	1
For diseases of the adnexa	26	25	1
Ventral fixation for complete prolapsus uteri	1	1	
For abdominal fistula	1	1	
For appendicitis	5	4	1
For uncomplicated retroflexion of the uterus (Mackenrodt's operation)	3	3	
For fæcal fistula	1	1	
For pelvic abscess	1	..	1
Cæsarean section	1	..	1
Vaginal hysterectomy	2	2	
Abdominal hysterectomy	1	..	1
Total	50	44	6

Six patients were lost. The fatal cases were of a character to cause no surgeon to blush. At least three of the patients were practically moribund on reaching the operating-table. I do not believe in selecting cases for operation. I have lost and saved the most desperate. Still I am ready to confess that, were I gifted with the ability to distinguish the absolutely hopeless cases, I should certainly refuse to operate. Without this supernatural gift it becomes one's duty to resort to the knife in all cases in which there is the least glimmer of hope, and this irrespective of statistical results.

In my gynæcological work I have always tried to look at disease from the standpoint of the general practitioner. It has always seemed strange to me that certain of our operators will resort to palliative and conservative measures when their own wives or sisters are concerned, and will immediately suggest the most

extreme surgical procedures in other cases. I hope that my point of view will continue conservative in the future as it has been in the past. I have always regarded an operation as a necessary evil, and whenever possible have always tried to postpone it. Thus, to relieve a woman of an attack of pelvic cellulitis—even with the knowledge that the tubes and ovaries are involved—by prolonged rest in bed, appeals to me as far more rational than to subject her to a laparotomy. The mere removal of a hydrosalpinx or diseased ovary, within certain limits of course, does not in my mind entirely justify the severity of the intervention. My past experiences in the field of general medicine have taught me that a very large proportion of these cases, after weeks or months in bed, end in complete recovery. Similarly, to relieve a woman of a pelvic abscess by means of a vaginal incision, even though she remain in part an invalid, seems to me far more desirable than to subject her to the much greater danger involved in the removal of uterus, tubes, and ovaries, although I am ready to concede that, in very exceptional cases, this may be justifiable. In a number of early cases of ruptured extra-uterine pregnancy, in which the patients' general condition was good, I have placed a trained nurse in charge, with careful instructions to have everything in readiness for an emergency operation. I have seen such patients get well. Other patients, in whom opposite conditions existed, were subjected to immediate operation. Clear, cool judgment, as in everything else, must be exercised. It is just as wrong to lose a patient from delay as from a too hasty operation. The clear-headed, careful general practitioner will always act as ballast, steadying the ship of professional opinion from toppling over to one side or the other.

In the present series of operations, forty-four terminated favorably. By this statement I mean, of course, that if death occurred later, it could not be attributed to the operative interference. Thus, one patient with carcinoma of the peritoneum, in whom an exploratory section was done, succumbed a month later to the progress of the disease. In another case of fæcal abdominal fistula in which an intestinal anastomosis was attempted, the patient suffered a relapse and refused to submit to another operation. She was sent home unimproved, and nothing further was heard from her.

For diseased conditions of the adnexa—hydrosalpinx, pyosalpinx, chronic salpingo-oophoritis, ovarian cysts, hæmatoma, or abscess of the ovary—I have successfully opened the peritoneal cavity and treated surgically twenty-five cases. Various methods were resorted to. In some of the cases the peritoneum was opened through the vagina. If the tumor was large or promised numerous adhesions, the abdominal route was selected. In one case, in which the appendix vermiformis was supposed to be involved, an enlarged cystic ovary was removed through an inguinal incision.

I lost one of these cases. An outdoor patient, dragging herself from clinic to clinic, for years almost totally disabled from attending to her household duties, begged for relief and preferred death to her miserable existence. She was very much emaciated and run down at the time of operation. This being one of my earliest cases, the operation was performed under the kind supervision of Dr. H. J. Boldt, consulting gynæcologist to the hospital. A double salpingo-oöphorectomy, followed by ventral fixation, was done without any especial difficulty. The wound healed by primary union, but my patient succumbed on the tenth day, with evidences of septic absorption.

Although I am perfectly aware that the uterus may give rise to subsequent trouble after removal of the adnexa of both sides, I have in but one instance as yet permitted myself by older advice to remove the uterus at the same sitting. I cannot, however, help feeling that we have no right to remove the uterus because it is the seat of a chronic catarrh, even though we may be obliged to remove both tubes and ovaries. On the plea of better drainage per vaginam, in cases of bilateral purulent infiltration of the adnexa, there may be more justification in removing the uterus at the same time. But even here it seems to me that, in careful hands, the pus sacs can be reached from above and removed without molesting the uterus and without any greater risk to life than when an extensive exsection of uterus and adnexa is done from below. I am sure that most women will even subject themselves to an increased risk, if, by so doing, the uterus can be left. I have seen several cases of derangement of the mind in women, because they were told of the removal of their uteri. I have come to the conclusion that in attacking pus cases from above time is well spent in carefully separating omental and intestinal adhesions with the aid of sight, and isolating as completely as possible the pelvic contents from the general abdominal cavity by the intervention of a particularly large gauze pad. In several of my cases large pus-sacs have burst during enucleation, but, with the pus caught in a sterilized gauze diaphragm, I have dispensed with flushing the general peritoneal cavity, and have as yet not lost a case from this cause.

In various stages of collapse I have rapidly opened up the blood-filled peritoneal cavity in five cases of ruptured extra-uterine pregnancy, and removed the diseased tube with the products of conception. One case I attacked per vaginam. With one exception all of the women made excellent recoveries. In one of the cases the fœtus was found, after a diligent search, among the folds of intestine.

In the fatal case referred to I had to deal with a woman in profound collapse. I found her on the top floor of a tenement house, where she had lain for days without medical attendance. After carefully transferring her to the hospital I was afraid to touch her because of her pulseless condition. After twenty-four hours she seemed to rally sufficiently to risk a rapid operation; although I was again ably assisted by Dr. Boldt in work consuming only a few moments, she never rallied from the shock.

A small percentage of cases of extra-uterine pregnancy, with or without rupture, may terminate in spontaneous recovery. Without dilating on the matter, it is well to bear this possibility in mind. When the diagnosis of early ectopic gestation is made, with symptoms pointing toward impending rupture, our choice lies between an immediate laparotomy or intelligent delay. In the case of a well-to-do family I secured trained nurses to watch the patient night and day, after a positive diagnosis had been made by Dr. Boldt and myself: and, although every preparation was on hand for immediate operation, this woman made a perfect recovery. On the other hand, in two cases of unruptured tubal pregnancy, in which such measures could not be carried out, the patients were operated upon at my suggestion by colleagues, and also made perfect recoveries. In other words, under intelligent, unremitting supervision delay may be tolerated in certain cases, but in poor people without proper facilities for such care operative intervention should be resorted to at once.

The operation itself in unruptured cases is very simple in experienced hands. After rupture there may be greater technical difficulties. The main object in all cases is to tie off the affected tube and as quickly as possible when ruptured. Once the tube is properly tied off there need be no further anxiety regarding fresh hemorrhage. In my first cases the wounds were drained with gauze; in my later cases, after the removal of free clots and as much blood as possible, they were immediately closed. I have had

reason to feel more satisfied with the latter mode of procedure. In a clean operation I think it perfectly safe to close the wound and leave the remaining blood in the peritoneal cavity for nature to absorb.

In this connection I may allude to one laparatomy which I was unexpectedly called on to do while removing an ovarian tumor through the vagina. The hemorrhage became uncontrollable in the small field at my command, and I was left the choice between a rapid vaginal hysterectomy or an abdominal incision. I selected the latter. It is the only case in a fairly large series of vaginal sections in which I was seriously disturbed by inaccessible hemorrhage. Still the risk is present, and ought to be taken into account when one is working by this route.

I have done one ventral fixation for complete prolapsus of the uterus. The result was ideal. To be sure, plastic vaginal work was done at the same sitting; but previous experience has taught me that such plastic work in itself is insufficient to overcome an advanced case of prolapsus uteri, even when the cervix is amputated in addition to narrowing the lumen of the vagina anteriorly and posteriorly. With Freund's operation of narrowing the vaginal canal by means of a series of circular sutures I have had cause to be disappointed. I do not see how a shortening of the round ligaments can be of service, and therefore have never employed this method in these cases. The only choice then remains in removing the uterus or attaching it to the abdominal wall. I prefer the latter method, and would only select the former as a *dernier ressort*.

I would most strenuously protest against the performance of ventral fixation in cases of uncomplicated mobile retroflexed uteri. There are far less dangerous operations—like that of Alexander—from which we can obtain equal if not better results. Vaginal operations I have for various reasons abandoned. I am among those who believe that in recent years too many patients have been operated on who might have got along with simple supporting measures.

In one case I performed a laparotomy for an abdominal fistula left after the removal of an adnexal tumor by another surgeon. After the peritoneal cavity was opened into alongside the fistulous tract, through which a large probe had previously been passed, the agglutinated intestines were carefully separated from one another down to Douglas' sac. As no irritating suture or pus collection could be discovered, the abdominal wound was immediately closed, after excision of the fistulous tract, and in two weeks the patient was completely cured.

In five cases I have opened up the peritoneal cavity through an inguinal incision for appendicitis—ulcerative, gangrenous, suppurative. In one case only was it not considered practicable to remove the appendix. In this case a counter-incision in the vagina became necessary some weeks later. Although in former years I have incised and drained so-called "perityphlitic abscesses," I have come to consider such operations as incomplete. I have seen subsequent trouble and relapses in a number of cases. The proper inspection and removal of the appendix—after its careful isolation from the general peritoneal cavity, in skilful hands offer no additional risks to the patient and afford greater security against subsequent relapse.

One patient was lost—a young man suffering from perforative gangrenous appendicitis with general suppurative peritonitis of three days' standing. The chances were all against the patient from the outset, and it was only the fact that several months previously I had suceeded in saving a case of a similar nature which induced me to operate.

Not having fully overcome my great respect for the possession of a uterus by a woman, I have always hesitated to remove this organ without full and justifiable provocation. This may account for there being only three hysterectomies in my list. The two vaginal cases terminated in recovery, although one of them required subsequent operative relief on account of a ureteral injury.

The abdominal hysterectomy, done for a large impacted multiple fibroid uterus in a very much exsanguinated woman, resulted fatally. During the progress of the operation, which presented almost insuperable technical difficulties, the patient lost a considerable quantity of blood. Although I was ably assisted by Drs. H. N. Vineberg and L. S. Rau, the operation consumed over two hours, and at its termination my patient was in a state of profound collapse, from which she never rallied.

One of my patients died after laparatomy for pelvic abscess. Although the subjective symptoms clearly indicated the presence of pus, the exploring needle introduced in various directions per vaginam failed to locate it. On the following day, at the suggestion of an eminent colleague, an incision was made in the median line of the abdomen and the pus sac discovered in the pelvic cellular tissue on the left side. After careful isolation of the mass from the general peritoneal cavity with strips of iodoformized gauze, the abscess was opened and counterdrainage through the vagina made. The patient died in about thirty-six hours from acute sepsis. In any future case I should open up the cul-de-sac with an incision and search for the pus with every preparation, in case of necessity, for a vaginal hysterectomy.

The Cæsarean section was undertaken in a dying woman. The fœtus was known to be dead and the mother was in the last throes of eclampsia. The operation itself presented no difficulties and was done rapidly, but it failed to modify the eclamptic state, from which the patient never emerged.

My experience thus far teaches me that the field of operative gynæcology is a very broad one. Still, after having mastered the essentials of technique by proper training on the cadaver and in a number of living subjects, under the supervision of a master, one will find that most cases fall into distinct groups which, after some experience, will suggest themselves at the time of operation.

There are three principal sources of danger in operative work—anæsthesia, hemorrhage, and sepsis. It occasionally happens—sometimes through the inexperience or carelessness of the anæsthetizer, sometimes on account of individual peculiarities—that the patient becomes profoundly cyanotic or stops breathing. Although such conditions have caused me much anxiety at times, I have as yet lost no case from anæsthesia. Of course this danger does not depend on the nature of the operation. It may occur in connection with a simple examination under narcosis. It is a good practice to watch the color of the oozing blood and to inquire of the anæsthetizer at regular intervals regarding pulse and breathing.

With increasing experience one needs to fear hemorrhage less and less. Occasionally a case will prove annoying, perhaps serious, from the fact that every cut or needle puncture will excite profuse bleeding. A good rule to bear in mind in such cases is that laid down by one of our most eminent New York gynæcologists, "Don't get rattled." An operator with a good knowledge of anatomy and his instruments, a clear head, and a steady nerve has little to fear from hemorrhage.

The greatest danger to fear is sepsis. When the general peritoneal cavity is invaded, all the operator's precautions will be of no avail if his instruments and dressings are not aseptic, if his ligature and suture material is not above suspicion, if his assistants at

the wound and at the instrument tray, as well as his nurse in charge of the sponges, are not thoroughly schooled and drilled in every detail of asepsis. Even with trained assistants the carelessness of one individual may result in the introduction of sepsis. A drop of sweat into the wound, the touching by nurse or assistant in a thoughtless moment of something not rendered sterile, may cause the death of the patient in spite of the most skilfully performed operation.

To reduce this source of danger to the minimum it is desirable to work with as few assistants as possible. It is a good plan to watch one's assistants so that they are constantly on the *qui vive*. As far as possible I introduce only my own hand into the peritoneal cavity. In pus cases it is well to spend some time in the introduction of pads, pushing the intestines up toward the diaphragm. In such cases, even if pus escapes, it will do little mischief, provided the escaping matter is caught in the gauze. I have been so well satisfied with this plan of procedure that in my later cases I have entirely dispensed with intra-abdominal flushings. Drainage I still resort to, but only in doubtful cases. As a rule, if hemorrhage is entirely controlled and any septic material has been thoroughly removed, it will be quite safe to close the wound without drainage.

Progress of Medical Science.

The Coating of the Tongue. — 1. In severe infectious diseases the tongue is coated with a brownish fur, which consists partly of the remains of food and partly of dried blood. The microscopical examination of the coating removed from the tongue exhibits, in such cases, a profusion of epithelial cells and hosts of fungi of various forms. In addition to these, there is a multitude of dark cellular bodies, derived doubtless from the corneous and exfoliated epithelium of the part (Bizzero). Schech again calls attention to the occurrence of a black fur, which is probably occasioned by the formation of pigment papillæ on the tongue. Ciaglinski and Hewelke trace an appearance similar to that of a pigment-forming yeast fungus. 2. The tongue of infants is normally coated with a white fur, and a similar appearance is found in adults when the stomach is deranged. Microscopical examination shows epithelium, a few salivary corpuscles, and very few fungi.—Dr. Rudolf v. Jaksch, "Clinical Diagnosis."

Croupous Pneumonia in Children. — Dr. E. Schlesinger (*Archiv für Kinderheilkunde*, xxii., 3–6 Hefte) reports one hundred and seventy-three cases, most of which began in the second half of the fourth year in the children examined. Boys are affected more frequently than girls. In cases without prodromal symptoms, the fever begins in about ten hours; in those with prodromata, fever begins in about two or four hours. The younger the child the greater is the inclination to higher and also to intermittent and remittent fever. Lysis is less frequent than with adults. Procrises (morning remissions to normal temperature directly before the crisis) seem to be peculiar to childhood. Temperature and pulse become lower by crisis; the frequency of respiration by lysis. The pulmonary consolidation is not so markedly lobar as in adults; more frequently the consolidation is only partial, seldom it extends into the neighboring lobe. Pneumonia of long duration, delayed resolution, tendency to phthisis and gangrene are all very rare. In cases with prodromata, marked initiatory symptoms are lacking; while in those cases beginning suddenly there are almost always initiatory symptoms. Chills are rarer; vomiting is more frequent than in adults. Convulsions are infrequent, except in young children. Before the crisis the patients are often very sick. Abortive forms of pneumonia occur; pneumonia migrans is dangerous: recurrence is rare. The anomaly most frequently seen is the cerebral type of pneumonia. Complicating meningitis generally runs a latent course. Leucocytosis and marked blood changes are the same as in adults. The complication most frequently observed is pleurisy, generally serous, less frequently developing into empyema. Other complications noted are collapse, diarrhœa, follicular enteritis, splenic tumor. Albuminuria is rarer and its consequences are less severe than in adults. Hemorrhagic nephritis was observed in one case, erythema twice, icterus seven times, herpes in eighteen per cent. of the cases. Otitis media occurs frequently, generally runs a mild course, though often causing high fever and cerebral symptoms. The mortality is less than among adults (twenty per cent.). Fatal complications are pericarditis, meningitis, broncho-pneumonia. Therapeutically, medicinal antipyretics ought not to be used: mild hydrotherapy (cold packs) is of service.

Acholic Stools.—The stools may be deficient in bile in cases of jaundice from obstruction of the biliary ducts, or they may be so in the absence of this condition. They are characterized by: (1) their whitish-gray color; (2) the abundance of fat which they contain; and (3) a profusion of fat crystals, probably soaps of soda, lime, and magnesia. Such stools in connection with jaundice imply an obstruction to the flow of bile by blocking of the ducts. When this occurs independently of obstruction, the underlying cause is not yet sufficiently understood. Many theories have been framed to account for the phenomena: (1) It may be that the bile pigment has undergone some change in the intestine which prevents the formation of its metabolic product (urobilin); or (2) the secretion of bile may be so scanty that there is not enough pigment for the elaboration of urobilin; or (3) it is possible in such cases that the latter is replaced by certain colorless metabolites or chromogens of bilirubin (v. Nencki's leuco-urobilin). The latter view is supported by the fact that considerable quantities of urobilin may be obtained from acholic stools by extraction with acid alcohol. The stools may be devoid of bile in cases of the most varied origin—as in tuberculosis of the intestine, chronic nephritis, and chlorosis—when no trace of jaundice is present. They are commonly so in the fatty discharges which accompany indigestion in children. Berggrün and Katz have observed acholic stools in chronic tuberculous peritonitis in children. In these cases, as usual, the fæces contain an excess of fat. It therefore follows that we cannot infer the character of the stools from the presence or absence of this symptom. But in all cases, when colorless stools concur with jaundice, gas is to be found, as has already been said, in obstruction of the biliary passages.—Dr. Rudolph v. Jaksch, "Clinical Diagnosis."

Epithelioma of the Face Successfully Treated by Swabbing with Arsenious Acid.—At the meeting of the Society of Dermatology, held in Paris on March 10th, Dr. Hermet showed a patient who, in October, 1897, was found to have epithelioma of the face. Arsenious acid was applied, the surface of the ulcer being left exposed to the air, after the method of Czerny. The new growth was destroyed by the early days of January, 1898, and cicatrization was completed by February. The patient had previously been treated with chlorate of potassium without the slightest benefit. Czerny's method, employed by Dr. Hermet, consists in using three solutions of arsenious acid in equal parts of water and ethylic alcohol. The first solution, of

the strength of 1 to 150, is applied to the ulcerated surface. The second and third solutions, which are stronger, are applied to the scab. The ulcer is swabbed with the solution every day, and excessive pain is kept in abeyance by hypodermic injection of morphine. When the scab falls off the raw surface is treated as an ordinary wound.—*Lancet.*

Leukæmia in the Newborn.—Pollmann (Erlangen) reports a case of splenic-myelogenous leukæmia, which originated *in utero* and which led to death nineteen days after birth. The condition of the blood was that of acute leukæmia. The case was complicated with defect of the ventricular septum, patency of the ductus arteriosus Botalli, together with endocarditis of the tricuspid, all this pointing to an infectious foundation of the process.—*Wiener klinische Rundschau*, January, 1898.

A New Method for the Detection of Albumoses in the Urine.—Ten cubic centimetres of urine is heated in a reagent glass with eight grains of $(NH_4)_2SO_4$, and then boiled for one minute. The warm fluid is poured into a centrifugal machine and centrifuged for one-half or one minute. The fluid is poured off and the sediment is rubbed with alcohol. Now pour off the alcoholic solution, dissolve the remains in a little water, boil, filter, and with the filtrate make the biuret reaction.—Ivar Bang (Upsala).

A Very Delicate Test for Bile Pigment.—A modification of Ehrlich's diazo-benzol-sulphuric-acid reaction is recommended by Drs. Krokiewicz and Batko (*Wiener klinische Wochenschrift*, No. 8, 1898). The following reagents are necessary: (*a*) A one-per-cent. aqueous solution of sulphanilic acid; (*b*) a one-per-cent. aqueous solution of sodium nitrite; (*c*) pure concentrated hydrochloric acid. The test may be made according to one of three methods: 1. To two cubic centimetres of the reagents (*a*) and (*b*) add from two to five drops of the urine, and shake; if bile pigment is present a ruby-red color develops, which changes to amethyst violet upon the addition of one or two drops of hydrochloric acid. 2. To a few drops of the solutions (*a*) and (*b*) add an equal quantity of urine and one drop of hydrochloric acid, and mix; a deep violet color results. 3. Shake together in a test tube several drops of the solutions (*a*) and (*b*), and pour out; if five cubic centimetres of icteric urine be added, the mixture turns ruby red, changing to amethyst violet upon the addition of hydrochloric acid.

Thyroid Congestion in Young Men.—Dr. A. Hallipré, *La Normandie Médicale*, December 15, 1897, in a long article on this subject concludes with the following propositions: Thyroid congestion may appear in boys at puberty. Increase in the volume of the thyoid gland is sometimes sufficiently marked to cause, either by direct compression or by irritation of the recurrent nerves, laryngeal spasms, with hoarseness of the voice and symptoms approaching suffocation. The iodide treatment is valuable, together with the ingestion of the thyroid gland of a sheep or its pharmaceutical preparations.

Clinical Deductions from Lumbar Puncture of the Spinal Cord.—As a result of about one hundred cases of exploratory spinal puncture, Stadelmann (*Deutsche medicinische Wochenschrift*, 1897, Nos. 46 and 47) concludes as follows: 1. Meningitis tuberculosa, fourteen cases. The pressure of the cerebro-spinal fluid is here generally increased, though it is sometimes diminished, and rarely no fluid issues at all. These differences are explained by adhesions of the arachnoid and pia; further, by clogging of the foramina of communication (foramen Magendi, etc.). The fluid is frequently light colored and clear, containing very few leucocytes; at times it is cloudy; rarely it contains much pus and even blood. The writer found tubercle bacilli in only twenty-two per cent. of his cases. The comparatively infrequent discovery of bacilli, Stadelmann accounts for thus: clogging of the communicating foramina; puncture of the subdural instead of the subarachnoid space; the exudate may lie, not in the subarachnoid space, but in the meshes of the arachnoid itself; finally, the disease may be meningitis serosa simulating meningitis tuberculosa. 2. Meningitis purulenta, seven cases. Here the liquor cerebro-spinalis is cloudy, containing more or less pus and many bacteria (meningococci, streptococci, pneumococci). The amount of albumin in this fluid is generally increased, but this is at times the case in the cerebro-spinal fluid of those having brain abscesses and tumors; hence it is not of diagnostic importance. Sometimes, in those with meningitis purulenta following otitis media, the liquor cerebro-spinalis is clear and light amber colored; this occurs when the meningitis has remained local and has not gone over into the subarachnoid space. 3. Brain abscess. Lumbar puncture gives extremely various results. In one case Stadelmann found that the fluid was under very high pressure; in a second the liquid was cloudy and purulent; in a third, by the first puncture purulent fluid resulted, by the next a clear fluid. A complicating meningitis cannot always be proven by means of lumbar puncture, since circumscribed areas of meningitis may give rise to clear watery fluid; hence a negative result of puncture is of no value. A differential diagnosis between brain abscess and sinus thrombosis cannot be made by lumbar puncture. 4. Brain tumor. The hopes for the great therapeutic value of puncture (thus relieving brain pressure) have not been realized. The diagnostic value of this procedure is *nil*. 5. Brain hemorrhages may alone be diagnosed when the blood is upon the cortical surface or when the blood has forced its way into the ventricles. Pachymeningitis hæmorrhagica, because of its anatomical relations, cannot be diagnosticated by this method. 6. The differential diagnosis between apoplexy, embolism, and brain softening cannot be made by puncture of the spinal column. 7. In hydrocephalics, Stadelmann has not found puncture (lumbar) of any therapeutic value; neither therapeutic nor diagnostic value was obtained in encephalitis hæmorrhagica, chronic lead poisoning, uræmia, nephritis. Concluding, Stadelmann does not consider lumbar puncture of the spine of therapeutic worth; regarding diagnostic worth, the positive results alone are of use.

Experimental Injuries of the Heart.—Dr. Bode has experimented on animals in order to study the effect of trauma on the heart. He has found (*Beiträge zur klinischen Chirurgie*, Bd. xix., Heft 1) that a wound of the auricle is much more serious than the same wound of the ventricle; further, that small and moderate-sized wounds of the left ventricle do not cause so much hemorrhage as similar injuries of the right ventricle, because of the thicker walls of the former. The first result of a cut or a heart suture was generally a stoppage of the heart's action for a very short period, followed by a longer or shorter period of irregular action. The heart's action was not visibly affected by the knotting of the suture. After thorough closure of the wound, the cardiac action and the general condition of the animal were visibly improved. The sutures left *in situ* in those animals which recovered did not disturb the heart's action. Deep wounds of the auricles and of the great vessels at the base of the heart invariably led to death, the fatal results not being prevented either by suture or by tamponade.

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THE WAR OUTLOOK.

Now that war with Spain has been declared, the situation is viewed with becoming and practical interest by members of the medical profession. Always eager in the exercise of their vocation along legitimate lines, they are always particularly anxious to be of service in all times of emergency. The wide distribution of troops, the complicated conditions pertaining to a foreign climate, and the varied requirements of modern warfare, will necessarily develop entirely new experiences in the care of the sick and wounded. While it is quite likely that most of the fighting will be done at sea and that the majority of the wounded will be in the naval service, it is equally reasonable to expect that the exposure of the army to pestilential influences will correspondingly balance the mortality list.

As everything in war must bend to the necessity of strategic manœuvres, the health and safety of the rank and file are necessarily matters for secondary consideration. The latter point of view especially applies to the prospective occupation of Cuba by unacclimated troops. It is in making the best of such a situation on a pestilential island and in a foreign clime that the resources of the medical service will be taxed to its utmost in maintaining the average sick limit of an invading army. The danger of an outbreak of yellow fever is not to be lightly considered when so much fresh fuel is offered for the constantly smouldering fire. At this season also, when the periodical rains are due, when the disease is apt to take a fresh hold and increase in virulence, the outlook is by no means promising. Save for the exigencies of the hour, it would be the height of folly to submit raw, untrained, and unacclimated troops to such exposure. Especially would this be the case if the ordinary militiamen and volunteers from our Northern cities were detailed for such service. The veterans of the regular army, inured as they are to camp life, hardened by constant exposure to the elements, and disciplined to the privations of the field, are so much better calculated to bear the brunt of this extra hazard of war that there can be no doubt of their claims for such enviable preferences. But safer far would be the detail of colored troops for such purposes, as it is well conceded that the negro not only enjoys a comparative immunity from yellow fever, but in him the attacks are comparatively mild and the mortality is correspondingly low.

It is also with considerable solicitude that we view the possibility of a return of the yellow-fever epidemic of last summer in some of the camps of the South. Although appearing late in that season and not having much opportunity for gaining headway before frost, there is no guarantee that a fresh outbreak may not be heralded with the incoming warm weather. If such should be the case, the result would be disastrous, not only to the soldiers themselves, but to wide districts of surrounding country. The responsibility for the prevention of such a calamity rests entirely on the health authorities of the different Southern States. Fortunately we still have the Marine Hospital service for help in time of need. So far, however, the military authorities have displayed great wisdom in the selection of Chickamauga as the principal rendezvous —an exceptionably healthy district, with all the natural requisites for a model camp.

It can be reasonably anticipated that much if not the greater part of the surgical work of the campaign will be concentrated in hospitals provided for the purpose and within convenient reach of transportation from battles on land or sea. The battleships when in action are not calculated for proper care of the wounded, and the new naval ambulance, the *Solace*, will be an experiment in its field of work which will doubtless prove a striking realization of entirely new possibilities. It is to be a receiving-ship, transport, and operating-theatre all in one, and, flying the Red Cross flag, will be amply protected against fire even when between the lines. It is on this ship that most of the operating will be done, the staff being specially trained in all the modern methods of technique. This, with its companion ship shortly to be perfected, will doubtless enable the surgeons so to systematize and expedite their work that no time or opportunities will be wanting in rendering valuable, efficient, and needful aid in the shortest possible time consistent with opportunity and place.

Thus, with everything in readiness for the sick and wounded yet to be, we await with grave suspense the ominous raising of the dark curtain of war's grim drama.

WOUND TREATMENT AND MODERN WARFARE.

IT is quite likely that during the progress of the present war there will be entirely new experiences in the character and treatment of the wounds inflicted in battle as compared with those of thirty years ago. Since that time the destructive machinery of the battlefield has been brought to such a degree of perfection in regard to distance of range, accuracy of aim, and power of penetration, that the percentage of such as may receive slight wounds, from which recovery may be possible, will be exceedingly small in proportion to such as are destined to be killed outright. It will be a question of wholesale slaughter, in which the winner can show the greatest amount of annihilation in the shortest possible time. The mill that has the best

grinding-power will be the first to receive the prize. The game is to be played with stakes in job lots. It is to be a wholesale business entirely, the mere retail exhibitions of personal bravery, individual tact, or military genius being virtually unnecessary for the desired end. The best-equipped machine shop will turn out the most goods. Hence it will be impossible to estimate the amount of damage that may be done, or the number of lives that may be sacrified. The wounds will be on a large scale and numerous in proportion. Especially will this be the case on the battleships under fire. Extensive lacerations from exploding shells, submarine mines, and torpedoes, and splinters of steel and wood will be the rule. The wide areas of tissue involved and the corresponding intensity of shock will necessitate new rules for operative interference and new methods of surgical technique. Comparatively speaking, amputation will be more necessary than resection.

When once the danger of operation itself is past, aseptic surgery will abundantly demonstrate its opportunities. What is lost in one direction will be gained in another. Hospital gangrene, the dreadful bane of wound treatment in our late war, will be virtually impossible, and suppurating stumps will no longer propagate their poisonous influences. Intestinal surgery has also elevated itself almost to a science, and death on the field, virtually inevitable before, is now most effectually thwarted by the modern and ingeniously skilful methods of the present day. Thus, while the war may inflict larger and more dangerous wounds than ever before, there is a comfort in contemplating the compensatory balance of odds in favor of the corresponding advances in operative methods and the improved technique of wound treatment.

The experiences along the new lines of surgical procedure will be of the greatest interest to the profession in demonstrating on a large scale the value of those general principles upon which the recent surgical advances have been based. Every pains will be taken to give all available information on these points to the readers of the MEDICAL RECORD. Aside from arrangements for special correspondence from the field, we are particularly gratified to state that a representative of this journal, himself one of the operating surgeons on the *Solace*, the new hospital ambulance ship, will furnish our readers with such surgical data as may be interesting, suggestive, or instructive.

WOMEN NURSES FOR THE ARMY.

THE commendable alacrity of the Red Cross Society in enlisting volunteer nurses for active service in the field brings us face to face with a necessity which can be properly appreciated only by such as are conversant with past history. Notwithstanding the report that the government does not care for females in such a capacity, the time must come when such an error in judgment will be most clearly demonstrated. In point of fact, no arm of the service can afford to proclaim itself independent of such aid. Every battlefield, from that of the Crimea to the most recent engagements, has demonstrated the peculiar fitness for such work as hundreds of willing women throughout the land are willing to offer. In the war of the rebellion an army of such helpers was furnished by the United States Sanitary Commission, and the amount of efficient assistance given by its members on field and in hospital is a matter of thankful remembrance. The practical usefulness of such a corps is so well acknowledged by the British government that it has long since established a school in connection with Netley, wherein the nurses are specially trained for the privations and necessities of the field, and subjected to the discipline of army regulations. This is very necessary in view of the altered conditions of such work as compared with that in civil life. It implies the development of resources in times of emergencies—the utilization of the means at hand, few as they may be, to the requirements of the end. No matter what may be the proficiency of the ordinary trained nurse, she can never properly comprehend her new duties until their real nature and varied purposes are practically demonstrated. The emergencies of the field are so distinct, peculiar, and urgent, that nothing short of special training and the possession of natural adaptability to existing circumstances will determine real fitness. The Red Cross Society has very properly taken the initiative in this line, and promises to be the leading organization of its kind in the country. Commencing with the trained nurse as found in our hospitals, it gives, so to speak, a post-graduate course in army work by a thorough and systematic training in all the detail requirements for the sick and wounded soldier. The selection of candidates is made from the best material at hand, and the after-teaching is correspondingly easy and practically efficient.

It is unnecessary to dilate on the peculiar fitness of women for such a vocation. Next to being the nest bird in her home, she becomes the natural nurse with soft touch, tender word, and hopeful spirit, who nearest of all approaches the ministering angel in our hour of direst need. Her highest aspirations and best capabilities can have no prouder badge than that of the Red Cross.

THE PLAGUE OF "EXTRAS."

AN intolerable nuisance, annoying to the well but absolutely harmful to the sick, is the crying of "extras" in the streets of this city and, we presume, of others in the country. From early morning to midnight, weekdays and Sundays, the hoarse shouts of half-grown lads and the shrill treble of midgets deafen the ears and rasp the nerves of invalids, by whom the ordinary and what we may call normal city noises are in themselves almost unbearable. If the city authorities can regulate the playing of musical instruments in the streets, surely it is within their power to abolish this new terror. News stands are to be found at almost every corner on the business avenues, and people whose eager thirst for war news is not to be satisfied with the regular morning and evening editions of the papers can find the extras at these stands, while

invalids and others to whom war is something more serious than a football match can be spared the useless suffering of these rancorous cries.

News of the Week.

Acting Assistant Surgeons. — Over eight hundred medical men have offered their services to the army authorities and more than a thousand to the naval medical department. These are by no means all young men or recent graduates, for many offers are received daily from men, some of whom saw service in the civil war on one side or the other, and others who have come on the stage since that time but who stand in the front rank of the profession.

Cornell Medical College. — The following men, practically the entire faculty of the University Medical College, have been appointed to the faculty of the Cornell Medical College, recently organized in this city: W. M. Polk, dean and professor of gynæcology and obstetrics; Lewis A. Stimson, professor of surgery; R. A. Witthaus, professor of chemistry, physics, and toxicology; W. Gilman Thompson, professor of medicine; George Woolsey, professor of anatomy and clinical surgery; H. P. Loomis, professor of materia medica, therapeutics, and clinical medicine; J. Clifton Edgar, professor of obstetrics; Frederick H. Gwyer, professor of operative and clinical surgery; Irving S. Haynes, professor of practical anatomy.

War Nurses.—Offers have been received in Washington from over four hundred women who are ready to go to Cuba or any part of this country as army nurses. Among them are sisters of charity, deaconesses of the German Lutheran Church, members of the Salvation Army, and individual trained nurses. In addition, the Red Cross Society has had many applications from women desiring commissions as Red Cross nurses.

Shorter Hours for Drug Clerks.—Mayor Van Wyck has vetoed the bill passed by the State legislature reducing the hours of labor of drug clerks in this city to sixty-six a week, on the ground that the provision giving the health board the authority to decide how the daily and weekly hours of services should be distributed was not drawn in the interests of the public.

Care of the Sick and Wounded.—It has been decided that the naval ambulance ship *Solace* shall be used as a transport for the sick and wounded of both army and navy. She will carry men physically disqualified for active service from the fleet or from Cuba to Key West and Tampa. A hospital train will run from Tampa to northern points, in order to give the sick the benefit of a change to the cooler climate of the middle and northern Atlantic seaboard. A general army and navy hospital will also be established at Key West, and hospital tents will be sent there to accommodate any overflow of incapacitated seamen and soldiers. The selection of Key West for this general hospital is due chiefly to the fact that the island is more healthful than places on the mainland, and, in the event of a fever outbreak among the men in Cuba or on the warships, the treatment of the stricken there would lessen the danger of a spread of the disease to the coast proper. Other hospitals are to be established in the department of the Gulf, but that at Key West will be the headquarters of the medical corps of both military services, in addition to the Marine Hospital service.

The Hospital Saturday and Sunday Collection. —The total collection for the hospital fund this year was $68,000, and the expenses were $3,000. The undesignated fund of $65,000 was apportioned to thirty-seven institutions, according to the number of days' care of free patients in the year.

The Will of Mr. Ernest Hart, late editor of the *British Medical Journal*, was recently offered for probate. His personal estate was valued at £15,966 (about $78,000), the greater part of which is left to Mrs. Hart.

The Medical-Practice Law in Pennsylvania.—A medical man, who was registered in Allegheny County, Pa., recently opened an office in another town and began to practise there several days in each week on the strength of this registration. The county society in his new home had him arrested for practising without a license. The court decided, however, that, having been licensed to practise in one county, he could do so in any other part of the State, and that, having a permanent office, he could not be looked upon as a "transient" doctor, even though he was not there every day.

A Medical Patriot.—Maine's oldest volunteer to fight Spain is ex-Governor Garcelon, of Lewiston, aged eighty-six. He has served Uncle Sam through one war, and he was then, thirty-seven years ago, over the exempted age.—*The Kennebec Journal.*

The Plague is reported to have appeared at Calcutta. A year ago it was stated that pestis minor prevailed there and that the sanitary conditions were so bad that there was imminent danger of the plague becoming epidemic. The persistence of the disease in India is exciting apprehension lest it reach Egypt by way of Mecca. In view of this danger the quarantine board at Cairo has appealed to the Egyptian government to prohibit the pilgrimage for this year, and the ministers have forbidden provisionally the issue of passports to intending pilgrims. The final decision rests with the Khedive, who, it is thought, will not refuse his assent.

Dr. Cornelius N. Hoagland died at his home in Brooklyn on April 24th. He was born in New Jersey in 1823, and was a graduate of the medical department of the Western Reserve College in Cleveland in 1852. He served through the civil war, and in 1868 removed to Brooklyn. He founded the Hoagland Laboratory ten years ago, and since then has presented to that institution nearly $200,000. He was the president of the board of directors. He was also interested in the

Brooklyn Free Kindergarten Society and the Brooklyn Eye and Ear Hospital, and had made large contributions to each. He was a fellow of the Microscopical Society of London, and a member of the Kings County Medical Society and of a number of scientific societies in this country.

The American Gastro-Enterological Association.—The annual meeting of this association will be held in Washington, on May 3, 1898, under the presidency of Dr. D. D. Stewart, of Philadelphia. The secretary is Dr. Charles D. Aaron, 32 Adams Street, Detroit, Mich.

The American Orthopedic Association will meet in annual session this year in Boston, Mass., on May 17th, 18th, and 19th, under the presidency of Dr. R. W. Lovett. The secretary is Dr. John Ridlon, 103 State Street, Chicago.

Qualifications to Practise in the Yukon.—Physicians desirous of legally practising in the Klondike region may do so (1) if they hold British qualification and pay a registration fee of $50; (2) not having such qualifications, they must pass an examination and pay the same fee. Dr. H. N. Bain, Prince Albert, N. W. T., is the registrar of the territories. The authorities are insisting on the strict carrying out of these regulations.—*The Canadian Medical Review.*

The Third Pan-American Medical Congress.—The committee on organization of the third Pan-American medical congress, which is to be held in Caracas, Venezuela, in Christmas week of next year, has been appointed as follows: *President*, Dr. José Manuel de los Ríos; *First Vice-President*, Dr. Nicanor Guardia: *Second Vice-President*, Dr. José I. Cardozo: *Third Vice-President*, Dr. Alfredo Machado; *Treasurer*, Dr. Luis Ezpelosín; *Recording Secretary*, Dr. Luis Razetti; *Corresponding Secretary*, Dr. Francisco A. Rízquez; and Drs. B. Mosquera, P. Acosta Ortiz, H. Rivero Saldivia, E. Ochoa, M. A. Seco, S. A. Dominici, E. Rodríguez, and M. Herrera.

A queer story is cabled by the usually trustworthy London correspondent of *The Sun* to the effect that the United States government has invited the medical staffs of several London hospitals to assist in securing the services of surgeons for our army and navy, and that many advanced students and recent graduates are already making preparations to come here. We hardly think any one authorized to speak for the medical department of either the army or navy could be guilty of any such absurd move, in view of the numbers of American surgeons who have already offered their services to the government.

The Skaguay Hospital.—Bishop Barker, of the Episcopal Church, has issued a letter to the people of the State of Washington, appealing for assistance for the Skaguay Hospital. The people of Skaguay have established an emergency hospital and have placed it under the charge of Bishop Rowe, of that place. At present the hospital building is simply a low cabin, thirty feet long and eighteen feet wide. One room on the ground floor answers for kitchen and ward. Another ward above is but half-story or attic. In this room are twelve cots, most of them occupied constantly with patients suffering from pneumonia and meningitis. There is one woman nurse in the hospital, with two male helpers and a cook. Sickness was increasing rapidly when the last mail was received, and it had been found absolutely imperative to build an addition to the hospital, the present accommodations being so entirely inadequate. If some of the rich donors to our palatial hotels for well-to-do invalids would turn their benevolent eyes to the Northwest, they would find here a place where a hospital is really needed and where their charity would be productive of good.

Recovery from Electrical Injuries.—At the meeting of the Tri-State Medical Society on April 5th, Dr. J. J. Brownson, of Dubuque, Iowa, reported the case of a man who was terribly injured by coming in contact with a live electric wire. He lost one arm and part of his other hand, besides being burned on other parts of his body. The man received twenty-four hundred volts and still lived—the greatest number ever received by a human being and recovered from. The next greatest number of volts passed through the human body without causing death was received by a lineman in New York, who sustained a shock of one thousand on two different occasions, and whose miraculous escape from death has earned for him the sobriquet of the "human lightning-rod."

A Medical Man's Opinion.—Dr. Guido Baccelli, of Rome, who was president of the Eleventh International Medical Congress, has published his views of the Spanish trouble. He thinks Americans are more to be dreaded than Chinese. The yellow race, he said, no longer menaces Europe, but there is actual menace from the United States, "where the expanding, absorbing Anglo-Saxon energy must grow and spread and ultimately overwhelm that part of European civilization which it does not renew. War with Spain is the beginning. Afterward it will be a mere question of the survival of the fittest."

The medical schools of Baltimore, which three years ago adopted a four instead of a three years' course, will graduate very few students this year on that account.

The Maryland Public Health Association will meet in Baltimore on May 11th and 12th. The opening address will be made by Col. George E. Waring, Jr., former commissioner of street cleaning in New York City.

Mixed Typhoid and Malarial Infections.—Dr. W. S. Thayer, of Johns Hopkins University, Baltimore, writes: "Permit me to call your attention to a slight error in your review of my 'Lectures on the Malarial Fevers.' The reviewer appears to have regarded my discarding the terms 'malarial pneumonia,' 'typho-malarial fever,' etc., as a denial of the existence of mixed typhoid and malarial infections. This, as he justly says, would be absurd. But, as a matter of fact, I have described these mixed infections upon the same page (203) from which the quotation is made

and on the preceding one. I regret extremely that my remarks should have led to so serious a misinterpretation."

Erratum.—Dr. G. F. Cook, of Oxford, Ohio, writes: "My article on 'A New, Rapid, and Accurate Method of Estimating Uric Acid' appeared in your journal, vol. liii., No. 11. There is a typographical error which I would like very much to have corrected. In the last paragraph the article reads: 'Each 1 c.c. as marked on the graduated tube indicates 0.001176 gm. of uric acid in 10 c.c. of urine.' This should read: 'Each 0.1 c.c. as marked on the graduated tube,' etc."

Marriage Licenses.—A bill has been introduced in the Maryland legislature to prohibit the issuing of a marriage license to any person suffering from consumption, insanity, dipsomania, syphilis, and tuberculosis. This bill has excited much interest and a variety of opinions among the physicians, but it is generally considered impracticable.

Actinomycosis.—A patient in the Hebrew Hospital of Baltimore has recently died of actinomycosis. Being orthodox Hebrews, whose creed forbids the use of a body after life is extinct, the family of the young man refused to allow an autopsy, which would have been of great benefit to the cause of medicine.

Assistant Quarantine Physician of Baltimore.—Dr. Ruhrah, the quarantine physician of Baltimore, has appointed as his assistant Dr. Melvin Rosenthal.

Surgeon in Maryland National Guard.—Dr. J. T. M. Finney, associate professor of surgery in the Johns Hopkins Hospital, has been commissioned chief surgeon of the first brigade, Maryland national guard, with the rank of colonel. He succeeds Dr. Robert W. Johnson.

The Maryland Ophthalmological and Otological Society was organized last week in Baltimore by the principal eye and ear surgeons of the State. Dr. Russell Murdoch was elected president, and Dr. H. O. Reik secretary. The society meets the second Thursday of each month.

Dr. Abel Huntington, medical director of the New York Life Insurance Company, has been made consulting medical director. Dr. S. O. Vanderpoel, heretofore assistant medical director, will succeed Dr. Huntington in the active duties of the office.

The Academy of Medicine of Syracuse and the Antivivisection Bill.—The Academy of Medicine of Syracuse, N. Y., has forwarded a letter, signed by the officers and fellows, to Senator Platt, protesting against the senate bill purporting to prevent further cruelty to animals in the District of Columbia. The letter reads: "The bill is delusive. It is but an entering wedge, having as an ulterior object the prohibition, practically, of vivisection in the District of Columbia, and as an ultimate object the prohibition of vivisection throughout the United States. The passage of the bill is favored by many well-meaning but misled people, who have been influenced by persistent misrepresentation and exaggeration on the part of certain persons whose fanaticism is aimed at the foundation of scientific progress in medicine. Only too few investigators are engaged in that practical study of physiology and pathology which demands for its profitable pursuit, in interests of suffering humanity, perfect freedom in the matter of vivisection. We protest against the passage of a bill which is a part of a cunning scheme intended first to hamper and then to stop the most important investigations scientific medicine has ever attempted. We hold, rather, that the government should liberally encourage in every proper way the continuation of the work, impossible without vivisection, begun by such men as Pasteur in France, Lister in England, Koch in Germany, and Sternberg in the United States."

The English Hospital at Nice.—The English in Nice commemorated the Queen's diamond jubilee by adding a wing to the Protestant hospital in that city. The hospital is for the use of Protestants and members of the Greek Church. It is managed by a committee of French, Swiss, English, and German Protestants, with a representative of the Greek Church. The new wing contains a special ward, called the Victoria Ward, for English patients, and two or three other rooms for the general purposes of the hospital. The fund raised has been sufficient, after defraying the cost of the building, to endow one bed. One of the members of the royal family who accompanied the Queen to Cimiez will probably open the new wing. The new ward has been furnished by an anonymous lady.

Medical Museums in St. Petersburg.—In commemoration of the thirtieth anniversary of the establishment of the clinic of psychiatry in St. Petersburg, it is proposed to establish a psychiatric museum, in which will be collected plans, photographs, models, etc., of asylums for the insane; models of dress of the insane; work done by the insane; photographs of the insane at different periods of their disease; the apparatus used in examining the insane; skulls and brains of the insane and microscopical preparations; documents relating to the care of the insane. At the same time there will be established a neurological museum to contain normal brains of men and the lower animals, and microscopical preparations of the nerve tissues; preparations of pathological brains; instruments for weighing and methods of preserving the brain; photographs and representations of pathological processes; the different forms of apparatus employed in treatment; plans and photographs of neurological institutions. These museums will be open to students of any nationality, and an appeal is made to those interested in these subjects in all countries to contribute plans of buildings, samples of the work of patients, statistics relating to institutions, signed photographs of physicians connected with institutions, anatomical and pathological preparations, and anything, indeed, of interest to neurologists or psychologists. All contributions should be addressed to the Clinique des Maladies Mentales et Nerveuses, No. 9 Samarskaïa Ulitsa, St. Petersburg, Russia.

Reviews and Notices.

LESSONS IN HYPNOTISM AND THE USE OF SUGGESTION. Based upon the Neuron-Motility Hypothesis. By LESLIE J. MEACHAM. Cincinnati: The Bishop Publishing Company. 1898.

WHEN Wiedersheim made his studies on the large ganglion cells of Copepods he little thought of the wild fancies that his observations would bring forth. From them has sprouted the so-called "movability of the neuron" theory to account for many of the phenomena of hysteria, shock, aphasia, and many functional neuroses. The idea was elaborated by many European physicians and made popular in this country by Dercum. The present small volume assumes the correctness of the "movability" theory, and in an ingenious manner discusses many of the problems of hypnotism and its congeners. Like many of its kind, the work is more anecdotal than philosophical. It is illustrated with a number of photographs showing the author's methods, and, on the whole, adds but little to the meagre amount of actual knowledge on the subject of hypnotism. Nevertheless, the book is interesting and entertaining.

THE ESSENTIALS OF EXPERIMENTAL PHYSIOLOGY. For the Use of Students. By T. G. BRODIE, M.D., Lecturer on Physiology, St. Thomas' Hospital Medical School. London, New York, and Bombay: Longmans, Green & Co. 1898.

THE present volume aims to give a short account of those experiments which can be carried out by students during class time, together with a selection of experiments suitable for class demonstrations. The work is a very excellent one, in that it does not attempt to make a physiologist, a physiological chemist, a pharmacologist, etc., of a student in one course of lectures, but confines itself to the more important physiological facts that are essential for the medical man to know.

A HANDBOOK OF DISEASES OF THE NOSE AND PHARYNX. By JAMES B. BALL, M.D., Physician to and in charge of the Department for Diseases of the Throat and Nose, West London Hospital. Third Edition. New York: William Wood and Company. 1898.

THIS work presents in small compass and compact form the essential features in the diagnosis and treatment of diseases of the nose and pharynx. A very desirable feature of the work is the large amount of space devoted to the treatment of the diseases considered. The therapeutic directions are made simple and comprehensive by a large number of illustrations. All in all, the treatise is an excellent addition to the series of manuals for students, and will be of use to them and to the general practitioner.

THE ROENTGEN RAYS IN MEDICAL WORK. By DAVID WALSH, M.D. Ed. With an Introductory Section upon Electrical Apparatus and Methods, by J. E. GREENHILL. New York: William Wood and Company. 1898.

THE subject of the *x*-rays can be presented in at least two different ways. The one considers them from the electrical point of view, and treatises of such a character are appreciated by the physicist rather than by the medical man. The other class considers what can be done with the rays in the way of diagnosis and in the treatment of the ills of human kind. It is to the latter class that the present work belongs. The introductory chapter is clear and sufficient to give all the essentials of the physical phenomena, the major portion of the book being devoted to the use of the rays in diagnostic work. Little is left unsaid in the practical applications of these rays. The book is well illustrated, the frontispiece being very fine.

THE X-RAYS: THEIR PRODUCTION AND APPLICATION. By FREDERICK STRANG KOLLE, M.D. New York: J. S. Ogilvie Publishing Company. 1898.

THIS small and practical manual treats of the subject of the *x*-rays in two parts. Part I. deals with the elements of electricity, whereas Part II. deals with the practical and theoretical advances made in radiography. There is little in the first part of the book that is not to be found in any elementary text-book of physics, and the *raison d'être* of so many pages being thus used is not evident, inasmuch as their contents have very little to do with the production of the *x*-rays. The discussion, both historical and explanatory, of the nature of the rays and the methods of skiagraphy, found in the second part of the work, is more to the point and, though somewhat disfigured with a little too much of the ego, it gives an excellent account of the subject. The work is fairly well illustrated, although the illustrations are by no means so fine as those given by Williams or Walsh. The application of the methods of skiagraphy in practical medicine is hardly more than touched upon, thus making the volume one that would be of more value to the electrician and photographer than to the medical man.

A LABORATORY GUIDE IN PHYSIOLOGY. By WINFIELD S. HALL, Ph.D., M.D., Professor of Physiology, Northwestern University Medical School, Chicago. Chicago: Chicago Medical Book Company. 1898.

THE field of didactic lectures in medicine is daily becoming more restricted, and, as an evidence of the large amount of time that is being devoted to the, more strictly speaking, observation methods of teaching, the number of laboratory manuals that have recently appeared is manifest. The use of such guides is necessarily limited. They appeal to but two classes of workers, the teachers and the students. The above manual in a way misses, we believe, each function; it is not extensive enough or thorough enough for the teacher, although it would prove of great service in the hands of the laboratory assistant, and it is too extensive for the student who is to take a prescribed course in experimental physiology —at least, too extensive for the usual student of the American colleges. That it would serve very excellent purposes in the particular institution in which the prescribed course herein laid down is taught we very readily grant, but for another type of practical course given by another teacher, who of a necessity would have different ideas, we think it would give less satisfaction. Our criticism in this respect serves more to indicate the lack of "excuse for being" of such manuals, as a class, rather than of the particular one, which of its kind is rather above than below the average. Detailed instructions as to how to do this and that, as for instance in the adjustment of the sphygmograph, partake of the nature of kindergarten instruction, rather than information for a student of mature years. It is with the general rule-of-thumb methods adopted in works of this kind that we are not in sympathy.

A MANUAL OF PRACTICAL MEDICAL ELECTRICITY. By DAWSON TURNER, B.A., M.D., Lecturer on Medical Physics and Electro-Therapeutics, Surgeons' Hall, Edinburgh. New York: William Wood and Company. 1898.

WHAT to do in certain diseases of the nervous system and how to do it, and with what electrical necessaries, are well told in this small elementary treatise on medical electricity. In six parts the book treats of electro-physics, electro-physiology, electro-diagnosis, electro-surgery, electro-therapeutics, and the Roentgen rays, indicating in short and succinct chapters the main facts with reference to these several general subjects. The work will prove a handy and convenient elementary text-book to the practitioner who employs electricity as a remedial agent.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books, of the Leading American and Foreign Authors and Investigators. Collected and Arranged, with Critical Editorial Comments, under the General Editorial Charge of GEORGE M. GOULD, M.D. Philadelphia: W. B. Saunders.

DESPITE the size and weight of this year's issue (1,077 pages) some of the collaborators intimate that lack of space has prevented their dealing with particular subjects in full. For comfort in reading such a book should be published in a number of volumes or divided as is Braithwaite's "Retrospect." Retrospects should come under the general heading of light literature, and should not necessitate a poring-pose. When the day's work is done the doctor should be supplied with reading-matter which will enable him to lean back and rest his shoulders, and publishers should aid in preventing him "painfully to pore upon a book," as Shakspeare puts it. The first chapter, on "General Medicine," by William

Pepper and Alfred Stengel, gives a summary of the year's work and is followed by a lengthy *résumé* of what has been written about typhoid. After this come the other infectious and general diseases, over to page 225, where "General Surgery" begins, under the charge of W. W. Keen and J. C. Da Costa. Duhring has the skin department; Gibney the orthopædic; Abel, of the Johns Hopkins, physiologic chemistry; Samuel Abbott, public hygiene and preventive medicine; and Wyatt Johnston, legal medicine.

A System of Practical Medicine, by American Authors. Edited by Alfred Lee Loomis, M.D., LL.D., and William Gilman Thompson, M.D. Vol. III. New York and Philadelphia: Lea Brothers & Co. 1898.

This third volume of the series contains chapters upon diseases of the alimentary canal, peritoneum, liver, gall bladder, spleen, pancreas, and thyroid gland, and upon chronic metal poisoning, alcoholism, morphinism, etc. The list of contributors contains nineteen well-known names. There are a few illustrations, those in M. Allen Starr's article on cretinism and myxœdema deserving special mention. Some chapters are exhaustive or almost so, while others are scarcely full enough. That upon the tongue, for example, is quite brief. The articles are for the most part prepared with great care and accuracy, and reflect the newest views. This volume compares favorably with those already out, keeping up the high standard set.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 21, 1898.

Edward G. Janeway, M.D., President.

The meeting was in charge of the section on medicine.

The State of the Vasomotor System in Acute Lobar Pneumonia.—Dr. Richard Van Santvoord read a paper with this title. After referring to certain experiments made in Germany, which seemed to show that in certain infectious diseases, notably pneumonia, cardiac failure was mainly the result of vasomotor paralysis, he described some of his own recent observations at the Harlem Hospital. His sphygmographic tracings showed that in pneumonia the primary wave was generally sharply pointed, with but a faint indication of the tidal wave. This form of pulse curve was strongly pronounced in all cases in which the constitutional symptoms were very marked. His observations also showed that the mean arterial pressure was often low. When the general arterial tension was weakened, as a result of feebleness of the heart or of vasomotor paralysis, the blood tended to gravitate to the more dependent parts. The peculiar position assumed by those suffering much from dyspnœa was favorable to the development of cerebral anæmia, and this, in turn, probably explained certain nervous phenomena observed in pneumonia. It was stated in many books that the pulse of pneumonia was one of high tension, but this did not accord with his experience, although there was a bounding character to the pulse that might easily cause it to be mistaken for a high-tension pulse. If the tension approached or exceeded the normal, in pneumonia, it could be only by increased exertion on the part of the heart. The ability of the heart to respond to this demand might determine the outcome in a given case. The weak point in adapting the results of experiments on rabbits with the pneumococcus to the human subject suffering from pneumonia was that in rabbits the infection produced only a septicæmia, without pulmonary lesions; nevertheless he thought the animal experiments shed light not only on the cases in which toxæmia was prominent, but on those in which the pulmonary element was an important factor. Post-mortem examinations sometimes showed œdema of the non-hepatized lung. In this connection it was instructive to recall the experiments made years ago by Welch on the artificial production of pulmonary œdema. He demonstrated that pulmonary œdema was the result of relative insufficiency of the left heart, the right heart continuing to pump the blood into this organ. In pneumonia, owing to the increased strain thrown on the right heart, the conditions were reversed, and the result was congestion of the abdominal organs, especially of the liver. Dr. Van Santvoord said that in a few cases he had endeavored to secure contraction of the vessels by the administration of barium chloride, in doses of four grains, every four hours, but the result had been practically negative. Some good effects were observed in the few cases in which ergot had been given in half-drachm doses, every three hours. There would seem to be an indication for the use of digitalis in these cases of vasomotor paralysis, as this remedy slowed the heart and contracted the peripheral vessels, but opinion had long been divided on this point. In cases exhibiting embarrassment of the right heart, Dr. A. H. Smith had earnestly advocated the administration of nitroglycerin. It seemed to him very much like "carrying coals to Newcastle" to administer nitroglycerin in many of these cases, although it was possible that a still further dilatation of the vessels might sometimes give relief.

Different Types of Pneumonia.—Dr. Andrew H. Smith said that at the outset in such a discussion as this it was well to remember that there were great differences in different cases of pneumonia, and that reasoning which would apply to one case would not apply to another. We used to hear much of the distinction between sthenic and asthenic pneumonia, and he thought this distinction was well taken. For example, in a given case, the pulse might be firm and strong—such a one as our forefathers thought demanded immediate venesection—and the nervous symptoms few. There might be quite a high temperature, and also a marked increase in the leucocytosis. In another case—one of the asthenic type—delirium occurred early; there might be a prolonged and severe initial chill; the pulse was small, quick, and feeble; everything indicated a profound intoxication of the nervous system. The leucocytosis might not be greater than in health. In the first case the high leucocytosis seemed to indicate a vigorous struggle on the part of the system against the inroads of the disease, and in the latter the system seemed to surrender almost at discretion. These asthenic patients were really suffering from septicæmia, and when death occurred it was associated with symptoms of septicæmia. It was evident that reasoning which would apply to the first class would hardly be applicable to the second. This same difference between sthenic and asthenic cases was observed very frequently in the experimental pathology of pneumonia. Welch, for example, had shown that a given specimen of the diplococcus would produce a toxin which would very slightly affect the nervous system, while another specimen would produce a toxin which would immediately overwhelm the nervous system. It was for this reason that the theory had been advanced that there were two different toxins in pneumonia, varying greatly in their power to affect the nervous system. But there was still another condition, dependent, as a rule, upon some previous fault of the circulatory apparatus—either age, alcoholism, or something of that kind. In this type there was great respiratory distress as a result of the mechanical condition.

When Nitroglycerin is Indicated.—In some cases the outcome seemed to depend entirely upon the abil-

ity of the right heart to move the mass of blood through the lung. These cases were marked by dyspnœa, cyanosis, and a generally congested condition of the vascular system. The right side of the heart would be found, on percussion, to be enlarged, and there would be decided accentuation of the pulmonary second sound. In this class of cases he thought nitroglycerin was of value. Whatever the theoretical views on the subject, he felt satisfied that any one who would give a fair trial to nitroglycerin or to nitrite of sodium in these cases in which there were cyanosis and other indications of overfilling of the venous system would confirm what he had said about the value of these remedies. It would not do, however, to label a case "pneumonia," and then give certain remedies which have been recommended in a general way for that disease.

The Use of Digitalis.—He would hesitate a great deal about giving digitalis. Medical practitioners, the world over, did not freely use this remedy in pneumonia, and this too notwithstanding the fact that many years had elapsed since Petresco first published his wonderful statistics. It should be remembered also that his observations were made upon exceptionally healthy soldiers seen in a military hospital, and at an exceptionally early stage of the disease. These men were all young and were in excellent physical condition. In times of peace it would be found that everywhere the mortality from pneumonia in military practice was far below that in civil practice.

The Mode of Preparing the Digitalis Important.—Again, the infusion of digitalis employed by Petresco contained digitanin and digitalinin, but no digitalin or digitoxin. The digitoxin was the chief poisonous principle of the digitalis; the digitalin, on the other hand, was what was commonly used subcutaneously. Dr. Smith said he had found that by ordering the U. S. P. preparation without the alcohol one could obtain effects which were quite different from those observed when the usual formula was followed, because the alcohol in the latter acted as a solvent for the objectionable principles. With increasing experience he felt more and more confidence in strychnine as a cardiac stimulant.

Our Forefathers had Stronger Hearts.—Dr. Leonard Weber said that he had often observed in recent years that his results had been worse in the treatment of pneumonia than in former times, and this had led him to ask himself if the individual or the type of the disease had changed. There was nothing to lead us to infer that the pathology of the disease had changed, and hence he was disposed to believe that the individual had changed more or less. This change in the individual, in his opinion, consisted in a greater weakness of the heart in the average person.

The Symptomatic Treatment.—As regarded the treatment, he must say that there was no real treatment for pneumonia, except a symptomatic one. From 1858 to 1862 it had been the fashion to give digitalis as a routine measure in pneumonia. He would not like even now to treat many cases of acute lobar pneumonia without digitalis, although he did not use it in all. He used an infusion of half a drachm of the leaves to seven ounces of water, and gave of this one tablespoonful every two hours. This he did at the beginning of the disease, when the pulse indicated that the heart would soon show signs of weakness. He also relied upon the wet pack to the chest. This accomplished two things, *i.e.*, (1) stimulation of the pneumogastric centre and improvement of the action of the heart, and (2) a tonic effect on the nervous system. Sometimes it was necessary to give this quantity of digitalis—seven ounces—two or three times. As supporting measures in pneumonia he favored the free hypodermic use of strychnine and camphorated oil. So far as this city was concerned, he felt positive that the mortality from pneumonia in people from forty to sixty years of age was now greater than it was many years ago.

Dr. Van Santvoord said that he wished to emphasize the fact that while nitroglycerin was of service in just the class of cases described by Dr. Smith, it was useless, and indeed decidedly harmful in other cases. The object of his paper had been to direct attention to an additional factor of the disease, which had not received its share of attention. Camphor and strychnine had been recommended by one of the speakers. The former was a pure cardiac stimulant; the latter not only exerted a strengthening action on the heart, but acted powerfully on the vasomotor system.

Injuries after Exposure to the X-Ray.—Dr. William Vissman read a paper on this subject, describing at length a case which had been under the care of Dr. James P. Tuttle. The patient, who had been injured in the civil war, had been subjected to a prolonged examination by the *x*-rays on September 14th, the vacuum tube being placed, it was said, about four inches from the surface of the limb. Nothing unusual was observed until October 14th, when the skin became reddened. In a few days the skin broke down, and there was severe burning over the affected area. The lesion, it should be noted, appeared on the side of the knee-joint opposite to that which had been exposed to the Crookes tube.

Results of Microscopical Examinations.—Sections of tissue from the edges of the ulcer and from the adjacent tissues, as well as from the centre of the defect, were examined. It was found that the epithelium and the papillæ had disappeared, and that there was a marked infiltration of round cells extending down even to the muscle. All the coats of the walls of the blood-vessels had taken on this process of connective-tissue growth, so that in many places the lumen of the vessels was contracted or nearly obliterated. The round-cell infiltration was marked around the outside of the fat tissue, but completely disappeared in the centre of this tissue, thus constituting a marked exception to what was found in the other tissues. The round-cell infiltration was most marked around the blood-vessels and lymph spaces. There was a line of demarcation such as would be expected in ordinary gangrene. The microscope showed no foreign particles, either in the fresh or in the hardened tissue. Dr. Vissman said that he had been able to find reports of only two other microscopical examinations in cases of this kind. Several French observers had endeavored experimentally to produce *x*-ray injuries in rabbits, but the most that they could accomplish was the production of alopecia.

Various Theories.—Dr. Vissman said that various theories had been advanced to explain the lesion. One theory was that it was the result of malnutrition of the cells, caused by the absorption of the *x*-rays, which disintegrated the organic fluids, and the acids or alkalies thus produced disorganized the tissues. Others believed that the changes produced in the skin and subcutaneous tissue were of tropho-neurotic origin. Tesla claimed that a certain irritation of the skin was produced through the electro-static influence. He had found that this influence could be entirely avoided by using a screen of aluminium or aluminium-wire gauze, but only when this screen was connected with the ground. The irritation of the skin, he thought, was the result of the abundant production of ozone. This generation of ozone ceased abruptly at a definite distance from the electric terminal, and the same was true regarding the production of this irritation. Dr. Vissman said that in a recent interview he had understood Mr. Tesla to express the view that particles torn from the electrodes played a not unimportant part in the

production of *x*-ray injuries. It should be recalled here that the fat tissue escaped injury. This was apparently due to the fat being a non-conductor of electricity. The direct effect of the electricity on the blood-vessels might be responsible for some of the earlier phenomena observed, such as erythema.

X-Ray Injuries very Different from Burns.—Dr. E. B. Bronson said that the paper just presented was an interesting contribution to this very obscure subject, yet he thought the mystery was still far from being solved. The term "burn" was a misnomer as applied to the injuries produced by the *x*-rays. There was no immediate injury apparent on the surface; it was usually after an interval of a week that the first manifestation was noted. This was ordinarily an erythema, although in certain cases, possibly dependent upon idiosyncrasy, the inflammation was deeper and might even be gangrenous. In the case reported by Gilchrist, that of one of Edison's employees, the nerves and even the bones had been affected. He had seen this patient himself, and had observed a very distinct enlargement and induration of the nerves. It was evident that the active agency in producing these injuries exerted more than a superficial influence; it probably affected the deeper parts first. He was inclined to think that the active agent was not the ozone, or the electrical current, or the bombardment of the tissues by particles of platinum, as suggested by Tesla and others. All these theories had been tested, and with negative results. If the injury was due to bombardment with particles of platinum, why should not similar results be observed in metallic cataphoresis?

Evidence that the Nerves are Primarily Involved.—He believed that the first injury took place in the deeper tissues, and probably as a result of the action of the Roentgen rays themselves. It seemed to him not unlikely that the nerves were first involved. This view found some support in the fact that the pain was usually excruciating. He had had under observation for a number of months a young woman who had been skiagraphed because of disease of the hip-joint. This had been followed by an ulceration which had lasted for about three months. It then appeared to be healing, but the pain became doubly severe and none of the applications ordinarily suitable for burns gave any relief—indeed, they aggravated her suffering. It was a full year before the part cicatrized. The appearance of the part before healing had been that of a moist ulcer coated with a soft yellowish covering, resembling wet pasteboard. Scattered over the centre of this area were a number of red and exceedingly sensitive papillæ. In this case the entire abdomen now showed numerous dilated blood-vessels, apparently indicating a grave involvement of the vascular system.

The Alopecia is Temporary.—In the effect produced on the hair we probably had another example of the involvement of the blood-vessels. It was a curious fact that the alopecia did not seem to be associated with any distinct hyperæmia. In most of the reported cases the growth of hair had returned.

Lupus Treated by the X-Rays.—A German investigator had tried the effect of prolonged exposure of lupus to the Roentgen rays. The patient was kept under the rays for two hours at a time, for eighteen consecutive days. It caused the lupus tubercles that had been before imperceptible to become visible, and produced an effect similar to cauterization. After five months cicatrization occurred, and the skin no longer presented any evidence of lupus.

Evidence of Primary Involvement of the Blood Vessels.—Dr. James P. Tuttle said that he was disposed to believe that the affection was one primarily of the blood-vessels and not of the nerves. The pain was due to the involvement of the nerve-endings in the growth of dense connective tissue. When excision was made wide of the affected area and the part was removed, the pain ceased, apparently showing that it was the result of the inclusion of the terminal filaments of the nerves in the connective tissue. Although ichthyol usually gave relief in common burns, he had found that it aggravated the pain of an *x*-ray injury. Cold water ordinarily proved soothing to burns, but in the case reported by Dr. Vissman this evening, as soon as the temperature of the carbolic-acid solution fell below 85 F. the pain increased. He had known this patient for ten years, and could positively state that, although there was disease of the knee-joint, there had been no tendency to inflammation of the skin over the joint. Even the scar tissue left after a former operation, although close to the affected area, remained unchanged. The injury in this case certainly extended into the capsule of the knee-joint, and possibly even into the bone.

Treatment.—One surgeon in this city claimed to have cured twenty-five or thirty cases of *x*-ray injury by cutting down clear through the affected part, and then dressing with carbolic acid until granulation set in. After this balsam of Peru was applied, and healing took place by granulation. It seemed reasonable to believe that one could, in certain situations, cut down below the region in which were the affected blood-vessels, and so secure comparatively rapid healing. He knew personally of four cases in which skin grafting had been used, but with only temporary benefit. He had ascertained in a number of cases that even after healing had occurred the severe neuralgic pain had persisted.

Need for Greater Caution in Using these Rays.—Dr. Tuttle said that, while in his reported case it had been deemed justifiable to amputate the limb, this would never have been necessary had the Roentgen rays not been used. This showed the need for the exercise of greater caution in the use of this valuable but powerful adjunct, and the necessity for having these examinations conducted only by thoroughly competent persons.

Dr. Vissman closed the discussion. He said that Mr. Tesla had found that these *x*-ray injuries could be avoided if an aluminium screen was used, provided it was "grounded," but that if it was not grounded the screen did not seem to be effective. Again, Mr. Tesla asserted that if the limb was placed between the metal plate and the Crookes tube the injury on the limb would be on the side on which was the metal plate. The distribution of metal by an electric current through tissue could be followed under the microscope by a suitable arrangement of apparatus, and in this way it had been found that the metal was not forced into the cells. It was possible, however, to decompose the sodium chloride in the tissues, thus giving rise to the formation of irritants. The speaker expressed the belief that the pain experienced in these cases could be explained by the same theory as had been advanced to account for the severe colicky pain felt when there was spasm of the muscular coat of the intestine.

The Treatment of the Hypertrophied Prostate by the Galvano-Cautery.—Bottini (*Archiv für klinische Chirurgie*, 1897, Band liv., Heft 1) claims for the operation the following points: 1. The unmistakable efficiency of the operation—a patient who has not urinated for years passing his urine voluntarily a few hours after the operation. 2. The harmlessness of the operation, even in patients over eighty years of age with foul urine. 3. The permanency of the cure, no case as yet having been known to recur. 4. No post-operative bad effect or effect upon the *morale* of the patient. 5. The operation is painless, and can be done without anæsthesia.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, April 18, 1898.

GEORGE TUCKER HARRISON, M.D., PRESIDENT.

Abdominal Gestation.—DR. E. H. QUINN presented a specimen from a case of abdominal gestation. The patient, thirty-seven years of age, had had her last child nine years ago, and had enjoyed good health up to September 23, 1897. At that time she began to complain of pain in the lower part of the abdomen. On November 12th the pain became more acute, and she was attended by a French physician. When the patient came under the speaker's observation, he learned that the illness had begun with rapid and marked emaciation and abdominal pains. He found her with a temperature of 103° F. and a pulse of 140. She apparently had had a decided fever for some time previously. There was considerable abdominal tumefaction. Under chloroform an examination was made per vaginam. There was no special bluish tinge of the vagina; the os was very slightly softened; a mass could be detected a little to the right of the median line. On the following morning he had performed laparotomy. The anterior abdominal wall was found adherent to the mass referred to, and when the adhesions were separated a considerable quantity of blood and clots escaped. Owing to the profuse hemorrhage it became necessary quickly to clamp the broad ligament. During the manipulations the mass ruptured and discharged a fœtus. The sac was enucleated and the ovarian arteries were ligated. A saline infusion was at once given, and she rallied temporarily, but succumbed later, owing to the extreme anæmia and exhaustion. Dr. Quinn said that in another case of this kind he would prefer to open the anterior and posterior vaginal cul-de-sacs at the outset, and secure the uterine aretries in order to avoid such profuse loss of blood.

DR. HENRY J. BOLDT asked what were the grounds for considering this an abdominal pregnancy. Such a condition was extremely rare—indeed, its very existence was absolutely denied by many.

DR. QUINN replied that the uterus could be seized close up to the broad ligament without any separation whatever, and the tube could be felt distinctly coiled around the uterus, and it could be traced into the gestation mass.

DR. J. BLAKE WHITE remarked that the history emphasized the difficulties experienced in making the diagnosis sufficiently early. He recalled having seen some years ago a case of abdominal pregnancy with Dr. A. F. Currier. During life the case had not been looked upon as one of abdominal pregnancy, but the post-mortem revealed the true condition. There was also found at the autopsy not only an acute peritonitis but a chronic peritonitis, with extensive adhesions. When he had seen the patient, about twenty-four hours before death, there had been no evidence of collapse and she had had no fever. The absence of the rational symptoms of peritonitis in this case was, in itself, a matter of considerable interest.

DR. A. E. GALLANT asked what was the cause of the rapid and extreme emaciation in the case reported by Dr. Quinn. He thought the ectopic gestation alone would hardly account for the emaciation.

DR. QUINN replied that the only explanation for the emaciation was the frequently repeated small hemorrhages, extending over a considerable period of time.

The Treatment of the Paroxysm in Dysmenorrhœa.—DR. W. R. DALTON presented a brief communication on this subject. He said that the first duty of the physician when called to a case of dysmenorrhœa was to relieve the pain, and then to study out the cause at his leisure. He had found that some of coal-tar products were very efficient remedies in relieving the distress in a number of these cases.

A Belief that So-Called Displacements of the Uterus are Not Pathological.—DR. FREDERICK P. HAMMOND presented a paper with this title. He believed that any position of the uterus in the pelvic cavity was correct in which the organ was maintained at the proper level. Cases were not infrequently seen in which the uterus normally lay more or less posteriorly. Mackenrodt, after very careful anatomical studies, had stated that the pelvic fascia kept *in situ* the pelvic viscera, and, while he laid perhaps too much stress upon the pelvic fascia in this connection, it was a factor which was not usually given sufficient attention. The speaker said that, according to his own observation, he could not believe there was such a thing as uncomplicated displacement of the uterus—except prolapse—which deserved any attention. Skene said that flexions were not displacements but pathological conditions of the organ, and many writers claimed that flexions were the result of an unequal growth or an arrested development in the uterine wall. Personally he could not accept this view, for it was almost the rule for the contour of the uterus in multiparæ to exhibit wide variations. Dysmenorrhœa and sterility were attributed to obstruction or stenosis at the point of flexion, *i.e.*, at the internal os. If internal flexion was the cause of the stenosis, no relief would come except by straightening out the flexion, yet it was well known that relief often followed divulsion of the os without other measures. According to some statistics quoted by Hart and Barbour, about half the cases of dysmenorrhœa were associated with anteflexion, yet, in another series referred to by the same authors, forty-six out of one hundred and thirty-eight cases of dysmenorrhœa did not exhibit any well-marked anteflexion. Again, J. Reeves Jackson had stated that he had known of cases in which the obstruction was so acute as to prevent the introduction of the uterine sound; yet in these cases conception occurred shortly after marriage. It was not claimed that the dysmenorrhœa and sterility were so frequent in retroflexion as in anteflexion—indeed, those having retroversion were more than usually prolific, even when there was a profuse cervical catarrh. The most probable cause of retroversion was a short posterior vaginal wall, acting in conjunction with the utero-sacral and vesical ligaments. The retroflexion pessary had been supposed to act by leverage, but, as a matter of fact, this instrument raised the organ into such a position that gravity caused it to fall forward. While admitting that many factors were at work to throw the uterus backward, Dr. Hammond maintained that these conditions were all physiological. Of four hundred and twelve patients examined by him, full notes having been kept, four only were recorded as having displacement; in all these there was a varying degree of prolapse. In ten cases only was the angle of flexion or version very marked, and in one the organ was situated decidedly posteriorly. The writer laid much stress on the erroneous deductions resulting from the unskilled use of the sound, a criticism which he asserted applied even to many otherwise experienced and skilful practitioners. Another source of error was the use of too large an instrument at first. Regarding stenosis and dysmenorrhœa, it should be noted that fluid blood passed readily through the capillaries; hence it must be able to pass readily through the os, no matter how great the stenosis. No matter what the position of the uterus, if there was parametritis or perimetritis, there would be symptoms. In his opinion, the use of strong antiseptics post partum was a very prolific cause of parametritis.

DR. BOLDT said that the belief advanced in the paper that there were no malpositions of the uterus was

an old subject of contention. Years ago the normal position of the uterus was looked upon as one of anterior version. We can now speak only of the physiological position of the uterus—not of the normal position. Schultze claimed that there must be a rigidity of the angle of flexion to make a flexion pathological. Such cases were occasionally met with by all. The fixation of the cervix was produced by plastic inflammation surrounding the cervix, and hence the condition was pathological. Retroversions and anteversions were only the beginnings of flexions. Still later the flexion would be found to be associated with more or less descent. For these reasons it seemed to him that the condition was undoubtedly a pathological one. It was claimed by some that if these secondary inflammatory manifestations were relieved the patients recovered. It was true that they would be well symptomatically, but for a time only. If these displacements were not pathological, he could not understand how the restoration of the position of the uterus could bring about relief of tachycardia or of melancholia, yet such relief was matter of record. These clinical reasons convinced him that other displacements of the uterus than prolapse must be looked upon as pathological.

Dr. J. J. E. Maher cited a number of familiar examples in gynæcological practice as instances of the difficulties that must be encountered by those who took the position that most displacements of the uterus were physiological.

Dr. George Tucker Harrison said that he was in accord with many of the views expressed in the paper, but not with all. The medical profession owed a debt of gratitude to Schultze of Jena for having demonstrated that the physiological position of the uterus was that of anteversio-flexion, and that it had a range of variation dependent upon the degree of distention of the bladder and rectum. But he would insist that retroversion and retroflexion were always abnormal, and always led to some complications, and hence needed treatment. When the uterus was displaced posteriorly the vessels were compressed, and, as a result of the stasis, there were catarrhal inflammation and frequently more or less ovaritis. Again, with the uterus in the backward position, the two folds of the peritoneum came in contact, and adhesive inflammation (perimetritis) was liable to result. Dr. Harrison said that he was astonished to find that the reader of the paper was opposed to the mechanical theory of the causation of dysmenorrhœa. In what other way could one account for the terrible pain associated with the expulsion of clots from the uterus?

Dr. David P. Austin said that there were certain cases met with in which it was difficult to determine what was cause and what effect. In many cases of constipation, associated with retroversion, for example, it was difficult to say whether the retroversion caused the constipation, or the loaded rectum had by pressure resulted in the backward displacement of the uterus. He had at present under his care a case in which an extreme posterior displacement of the uterus had been rectified by unloading the lower bowel.

Dr. Hammond closed the discussion. He said it should be borne in mind that in many cases, in which marked benefit had apparently followed the use of a pessary, the haphazard insertion of a tampon or almost any local treatment, through its mental impression, exerted a beneficial influence on the patient. Regarding dysmenorrhœa, he said that it was often stated that the pain was due to the damming up of the fluid blood within the uterus. To this he had taken exception, because the fluid blood could easily pass through even a pin-hole os. Clotting did not normally occur inside of the uterus, and hence he had omitted this from present consideration. He did not believe that symptoms arose from displacements until adhesions took place.

Tubal Gestation.—Dr. A. B. Tucker presented a specimen from a case of tubal gestation occurring in a woman, twenty-five years of age, who had been married seven years. She had skipped one menstrual period, and then had been attacked by severe abdominal cramps. Examination showed a freely movable uterus, which could not be retained in position. A mass was found behind it, and on abdominal section this was discovered to have been produced by the rupture of a tubal gestation.

Clinical Department.

THE SYNDROME OF KATATONIA OCCURRING IN A CASE OF TERMINAL DEMENTIA.

By M. L. PERRY, M.D.,

MORRIS PLAIN, N. J.,

ASSISTANT PHYSICIAN AT THE NEW JERSEY STATE HOSPITAL.

In view of the difference of opinion among alienists as to the classification of cases presenting the symptom complex known as katatonia, the following case seems of sufficient interest to justify its publication.

S. O——, female, aged thirty-four, was admitted to this institution, May 31, 1895, with a history of having been in poor physical condition for two years and insane for the past six months. This was the first attack of mental disease. The family history was good, with the exception that a maternal uncle had died insane. The history of mental symptoms previous to admission was that of a slowly developing state of mental depression, with various delusions of a depressive character. At the time of admission the patient was found to be in poor general health, quite anæmic, and with deranged secretions. She was about seven months pregnant. Her mental state was that of mild depression, with some dulness and confusion. She was not inclined to talk, but would answer questions readily. She took little interest in her surroundings and appeared entirely unable to comprehend her condition. Six hours after admission premature labor set in, and she was delivered of a child weighing only three pounds. The labor was uncomplicated, as was also the puerperal period.

After confinement her general health improved very much, but no marked change could be noted in her mental state. Her perceptive powers became somewhat more acute and she would enter into conversation more readily, but was incapable of exercising any but the most superficial mental action. Her emotional state gradually changed from depression to one of marked indifference. In the course of a few months all the mental processes appeared to be dulled and enfeebled. Even the maternal instinct, one of the most acute and deeply rooted of the mental faculties, was so obtunded that she took little or no care of or interest in her child, although she recognized fully that it was her own. As dementia advanced, with its consequent relief from the worry and mental strain incident to states of depression, there was constant improvement physically until her general health was quite good.

This condition continued for almost two years, or until October, 1897. About the first of this month it was noticed that she was more depressed than usual and indulged in frequent fits of crying. She occasionally became excited for a few hours, but was easily controlled. There was no mental exaltation at any time.

On the 17th of October she went to bed complaining of nausea, with severe headache, and vomited

some during the day. There was complete anorexia. The temperature was normal, pulse slightly accelerated, and heart action irritable. One of the coal-tar preparations was given, which relieved the headache. She felt somewhat better next day, but still depressed and stupid. She complained in the afternoon of severe headache again, but could not give a clear account of her symptoms. There was no rise of temperature, but the pulse became quite rapid—120 a minute and irregular. The bowels, which had been fairly regular, were moved by means of small doses of calomel.

On the 19th she was dull and stupid, still complaining of headache, but was unable to locate the exact seat of the pain. She complained of her eyes hurting. The conjunctivæ were congested and there was some photophobia. The pupils were normal. The symptoms were of such an obscure nature that for the next few days an expectant and tentative line of treatment was pursued. In the mean time she became more and more stupid, but this symptom did not progress regularly. At times she would brighten up and talk as well as usual.

On the 22d, about a week after she had begun to complain, the mental hebetude was very pronounced. She seemed entirely indifferent to everything and would not take food unless fed with a spoon. In the afternoon she commenced to talk to herself and soon began to verbigerate. At first she would repeat the entire alphabet and count until several hundred were reached, when she would begin anew. After a time she would repeat combinations of letters and numbers—as 1, 2, 3, 4, s, o, p, q—for hours. Her temperature at this time was 99° F.; pulse, 100, regular, with tension increased. The urine was about normal in amount and acid in reaction: specific gravity, 1.016; it contained no albumin. The bowels were somewhat constipated, but were moved freely by a cathartic.

October 23d, she was quite stupid and would not talk; she had to be fed with a spoon. She was decidedly cataleptic, and would remain perfectly still, with eyes tightly closed, the head flexed upon the breast, and the hands clenched, until disturbed, when she would remain in any position in which she was placed. Resistance to movements was marked. The tendon reflexes were exaggerated. Sensation was almost abolished. Temperature, 99.6° F.; pulse, of high tension and accelerated, with the rhythm disturbed. After a time she began to verbigerate again, repeating the same combination—1, 2, 3, 4, s, o, p, q. This condition continued to be more or less pronounced for the next ten days. The degree to which the symptoms were present varied very much from day to day. Sometimes the patient would brighten up and talk fairly well, and again would lapse into a state of stupor with marked verbigeration and catalepsy, from which she could not be aroused. At these times she would pay no attention to anything that was said to her and appeared to take no notice whatever of anything that was done in her presence. The temperature at no time was above 99.6° F., and more often was between 98.5° and 99° F. The pulse was of high tension and full throughout, and varied in rate from 90 to 115. The urine was examined at several times, with a result similar to that obtained in the first examination, except on one occasion, when a few hyaline casts were found.

The bowels were kept regular and free purgation was resorted to, but without apparent effect on the mental state. The tension of the pulse was reduced by nitroglycerin, one-fiftieth grain every two hours until four doses had been taken and a marked dicrotism produced, but with no effect whatever on the patient's general condition. Tincture of aconite in small doses frequently repeated seemed to have a better effect. At the end of about a month from the beginning of the attack the patient began to improve, and in the course of a few weeks more had entirely recovered from it and was in the same condition as she had been previous to its development.

The points of special interest in the case may be summed up as follows:

First, the sudden development of a pronounced symptom complex of katatonia in a patient who throughout the course of a mental disease of three years' duration had never shown a single symptom suggestive of such a condition prior to the attack under consideration.

Second, the development of a well-marked syndrome of katatonia in a patient who had passed through the active stages of insanity, and who for a period of two years had been a typical case of dementia following a state of mental depression.

Third, the short duration and rapid subsidence of the attack. From the time she began to complain until the re-establishment of her usual mental state was not more than six weeks.

Fourth, the fact that nitroglycerin, a drug recommended by some good authorities, was given until its full effect upon the circulation was obtained, without producing any change whatever in the patient's general condition.

Fifth, the bearing which the case has upon the proper classification of cases presenting the symptoms of katatonia. Since the time when Kahlbaum first described this group of symptoms and suggested to the profession that it be given a distinct place in the classification of mental diseases, under the name of katatonia, it has been the source of much discussion and difference of opinion. Many alienists have held that the condition designated as katatonia is merely a complication liable to develop in the course of some well-recognized forms of insanity, and is not of sufficient importance to be classed as a clinical entity. The trend of opinion at the present time seems to be in this direction, and the case here reported would certainly sustain such a view.

REPORT OF A CASE OF LONG-CONTINUED ABNORMALLY LOW TEMPERATURE.

By JOHN HEY WILLIAMS, M.D.,

ASHEVILLE, N. C.,

SURGEON-GENERAL, NORTH CAROLINA.

April 4, 1896. Mrs. H. P. A——, primipara, was delivered of an apparently healthy male child, weighing nine and one-half pounds; the labor was normal in all respects. The mother made a prompt and uneventful recovery, although she is distinctly tuberculous and has been under my care for the past two years. The father has a bad family history. The babe was vigorous and well developed. On account of the pronounced general tuberculous condition of the mother the child was put on artificial food from the first. It thrived and did apparently well until June 1st, when some slight digestive trouble appeared, which yielded to careful regulation of diet and digestive aids. There were occasional outbreaks of digestive trouble during July. From the 1st of August until the 14th the child appeared to be in good condition. On that date I was called to see the child. I found well-marked febrile movement, great restlessness, turning of the head from side to side, occasional vomiting, slightly relaxed bowels, unequally dilated pupils. On the 15th of August the cerebral symptoms were more marked—eyes wide open and staring, pupils dilated, with some slight retraction of the head. On

the 16th there were occasional slight convulsive movements, exaggerated reflexes, the temperature reaching its highest point, 104.2° F. The convulsive movements were controlled by warm baths with bromides and hyoscyamus. The temperature remained high, varying from 102° to 104° F., with an occasional convulsive movement, till August 20th, when there was an apparent amelioration of the symptoms, the temperature dropping during the day to the normal; but the child was inert, with expanded pupils, and poor reflexes, and in a state of stupor. It took food freely when the nipple was placed in its mouth; the bowels were normal, and the bladder was evacuated normally. The temperature gradually declined during the night of the 20th, reaching 96° F. in the rectum on the morning of the 21st. The pulse was 126; respiration, 14. The temperature gradually farther declined during the day until it had reached 92° F. On the evening of the 21st the respiration was 12; the body was cold and dry; the reflexes were abolished except for a slight movement of the right leg when the sole of the foot was tickled. On the morning of the 22d the temperature was so low that I could not get a registration with my thermometer, which was not graduated below 92° F.; respiration, 10; pulse, 100; body cold and dry; no reflexes. The child continued to take food, though slowly. I found a thermometer which was graduated down to 90° F., with a long stem, and was able to protract the graduation down to 87° F. On the evening of the 22d I found the temperature 92° F.; respiration, 10; pulse, 100. The child still took food slowly, but in smaller quantities. The functions of the bowels and bladder were still performed, but at longer intervals. It lay perfectly quiet in whatever position it was placed, with no apparent rigidity and presenting the appearance of a hibernating animal. On the morning of the 23d the temperature had dropped still farther, the thermomenter registering 89° F., rectal; respiration, 10; pulse, 96. The general condition remained the same throughout the day, except that the temperature gradually declined until it registered 88° F. at 7 P.M. On the morning of the 24th the temperature had dropped still farther, and it did not rise above 87° F., the lowest limit of the thermometer, below which of course I could make no observation. The body felt like a corpse, appearing to have the temperature of the surrounding atmosphere. The child still swallowed food when it was placed in his mouth, but swallowed very slowly and with no apparent difficulty. Respiration, 9, slightly Cheyne-Stokes in character, and continuing so but becoming more pronounced during the day. This condition persisted throughout the 25th, 26th, 27th, and 28th. On the morning of the 29th the temperature had risen to 90° F.; the breathing was pronouncedly Cheyne-Stokes; the interval of suspension of breathing was from thirty to forty seconds; pulse, 90; food was swallowed no longer. The bowels and bladder were evacuated about once in twelve hours. During the 30th and the 31st his condition remained about the same, except that the respirations dropped to 6, pronouncedly Cheyne-Stokes; the temperature, rising during the night of the 31st, reached 94° F. on the morning of September 1st, when the flickering candle went out.

The case was one of very great interest to me—so much so that I was unusually careful in my record. I am in possession of no literature bearing on such a low temperature continued for such a time, and report the case that I may possibly learn the experience of others. It is so contrary to the usual exhibition of tuberculous meningitis—I had so diagnosed it—that I can form no rational idea of the processes involved, except that there was a complete suspension of metabolism.

53 Haywood Street.

NAPHTHALIN POISONING.

By J. A. OTTE, M.D.,

ASHEVILLE, CHINA.

On May 5, 1897, wishing to prescribe naphthalin to one of my patients, I obtained eight grains of the drug from one of our local apothecaries. The bottle from which it was taken was clearly marked "Naphthalin. Dose, 5–15 grains." The drug was carefully weighed in my presence. It was in the form of white crystalline scales, and seemed pure; but, having some doubts on the subject, I decided to take a dose myself before administering it to my patient—a very weak, anæmic woman, suffering from chronic enteritis. I took the eight grains in a wafer at about 12:15 P.M. Soon after reaching home (at one o'clock) I was seized with severe colicky pains in the abdomen, followed almost immediately by diarrhœa, tenesmus, and strangury. The motions were very numerous and small. At first they were simply fæcal, but finally were mixed with a great deal of mucus. The pain on micturition was most distressing. Thinking that I was suffering from an attack of dysentery, I took one-half ounce of castor oil and washed out the rectum with simple water. At three o'clock the discharge from the bowel suddenly ceased. In spite of this, the abdominal pain continued, gradually changing into a continuous dull ache all over the abdomen. After a short time the pain became most severe in the hypochondriac regions, and thence radiated toward the bladder and back.

At 4 P.M. vomiting set in, and continued at short intervals until six o'clock of the following day, when it ceased after I swallowed several small pieces of ice. During all this time it was impossible to retain anything, not even a mouthful of water. The vomited matters consisted simply of the contents of the stomach, toward the last slightly streaked with blood.

At five o'clock Dr. McDougall gave a hypodermic of one-third of a grain of sulphate of morphine. After this the pain became somewhat lighter, but still prevented sleep.

At 3 A.M. of the 6th (fourteen hours after I took the drug) the pain suddenly became most agonizing. It seemed as if a red-hot iron was plunged into the kidneys with every heart beat. This severe pain lasted some twenty minutes. During this paroxysm the pulse was very slow, and almost imperceptible at the wrist. The urine passed shortly after this paroxysm was apparently normal in quantity; reddish-brown, acid; specific gravity, 1.014; and contained about twenty-five volume per cent. of albumin (estimated after standing twelve hours). It also contained a few small blood clots; there was an abundance of granular casts, urates, and mucus. The diagnosis was now made of probable poisoning by naphthalin, causing a temporary inflammation of the whole of the digestive tract, followed by acute nephritis.

A hypodermic of one-third of a grain of morphine was promptly followed by considerable relief. Further relief was obtained with three leeches applied to the lumbar region over the right kidney, which after 3:30 A.M. was the more painful. At 6 A.M. the pulse was 45 and weak. The temperature was normal. The temperature never rose above normal.

May 7th, spent a restless night; in spite of this, the improvement was marked, the pain in the kidneys nearly gone. During the afternoon I suffered from severe hemicrania. The urine was apparently normal in quantity; color, brownish-red; acid; specific gravity, 1.016; albumin about ten volume per cent.; granular casts, urates, and mucus decidedly less; no blood clots. At noon the temperature was 98° F., and the pulse 56. Still felt very weak.

May 8th, spent another restless night; pain scarcely perceptible, appetite good. Urine normal in color;

acid; specific gravity, 1.020; only a trace of albumin; no casts. The urine contained two or three fibrinous clots looking like sago granules. At noon the pulse was 46 and weak; temperature, 98.2° F.

May 9th, except for a feeling of weakness, the recovery was complete. The urine was normal in color; neutral; specific gravity, 1.018; no albumin or casts. Pulse at noon, 68; temperature, 98.2° F.

I would have reported my case before, but have delayed doing so until I could also send the report of a chemist on a portion of the drug which I sent to England. Below I append the report:

"I have made a most critical examination of the above sample, both as regards its physical and chemical characters. The sample fully answers all the tests that it should, and in my opinion is normal in every respect. It is rather above the average pharmaceutical degree of purity, it is quite free from quinoline bases, and contains only the merest trace of phenols. [Signed] "W. CHATTAWAY, F.I.C., "*Chemist to the Society of Apothecaries, Public Analyst for the Borough of Colchester and for the Parish of Hammersmith.*"

In a private letter received from the same gentleman occurred the following paragraph: "I am not a medical man, but I would throw out the suggestion that in certain medical circles it is recognized that bodies of this character, particularly including the terpins and naphthalins, are liable to produce nephritis, depending of course on the idiosyncrasy of those to whom the drug is administered."

Surgical Suggestions

Gonorrhœal Urethritis.—

℞ Antipyrin..... 10
Tr. ferri chloridi..... 10
Trit. bene et adde:
Aquæ dest.....q.s. ad 150–250

First clean the urethra by injecting from six to twelve ounces of boiled water. Then inject three or four syringefuls of the above, using a six-ounce syringe (Ultzmann) with a Mercier (coudé) catheter.—J. G. MÖHLAU.

To Lubricate Catheters.—

℞ Sterilized powdered soap,
Sterilized glycerin,
Sterilized water.....āā 11
Resorcin..... 1
M.

—GUIARD.

Boils.—

℞ Acid. carbol..... gr. v.–x.
Ext. ergot..... ℥ i.–ij.
Pulv. amyli..... ℥ ij.
Zinci oxidi..... ℥ ij.
Rosæ aquæ ung..... ℥ viij.
M. S. Apply locally.

—L. DUNCAN BULKLEY.

Prevention of Post-Partum Hemorrhage.—

℞ Liq. strychninæ (one per cent.)..... ℥ i.
Fl. ext. ergotæ..... ℥ iij.
Inf. ergotæ.....q.s. ad ℥ vi.
M. S. One-half ounce t.i.d.

This medicine is begun on the thirty-fifth week of gestation. The following conclusions are drawn: 1. When administered previous to the termination of pregnancy in the case of a woman in whom a tendency to post-partum hemorrhage is known to exist, it tends in a marked degree to prevent its occurrence. 2. In ordinary doses it does not produce any injurious effect on either mother or child, and it seems to delay the commencement of labor. 3. It tends to make the involution of the uterus more perfect, and lessens the chance of the occurrence of subsequent uterine troubles. 4. It will not bring on premature labor or induce abortion unless uterine action has previously been set going. 5. In threatened abortion it seems to act as a uterine tonic, and in some cases tends to avert a miscarriage, provided the ovum is not blighted. 6. If the ovum is blighted, and especially if it is detached, ergot usually hastens its expulsion. Ergot does not originate uterine action, but stimulates the uterine fibres when once they have begun of their own accord to contract.—ALTHILL, *British Medical Journal*, March 9th.

Cyanide of Mercury for the Sterilization of Surgical Instruments.—The following solution is recommended as a sterilizing fluid:

Cyanide of mercury..... 1 to 3 gm.
Sodium borate (water free) or
Sodium carbonate..... 5 gm.
Distilled water..... 1 litre.

It may also be employed for disinfecting the hands. Cyanide of mercury can be used as a substitute for sublimate; it is not more poisonous, is as strongly antiseptic, and has the advantage of not acting on albuminoid substances.—DENIGIS, *Rép. de Pharm.*, 1897.

Fæcal Impaction.—If firm pressure be made with the finger tips against the mass of fæces, and the fingers are then slowly and carefully withdrawn, a peculiar sensation is perceived, a sensation the same as that received when the fingers smeared with grease are pressed against the opposite palm and then slowly withdrawn. To obtain this sensation, the mucous membrane of the intestine must be somewhat dry, the fæcal tumor of such a character as to dent upon pressure, and there must be gas enough present to cause the intestinal wall to resume its former position as soon as the pressure is relieved.—GERSUNY.

Scarification.—For lupus and similar affections, Vidal's little instrument, modified until now its blade is twenty-two millimetres long and about three millimetres broad, admits of extreme precision in operation, and is considered by its originator decidedly superior to multiple-bladed instruments and those which cut obliquely through the tissues, taking the tops off the papillæ instead of dividing them longitudinally.

Cold glandular abscess in the cervical region, while usually followed by good results from operation, has the serious drawback of preventing a satisfactory cicatrix in the beginning, which secondarily becomes cheloidal. This must be remembered every time the question of operation in young subjects of lymphatic constitution comes up, so that parents may be warned of such a possibility.—DUPLAY.

Appendicitis.—Never give opium or morphine in cases of appendicitis, except in case of abdominal shock from rupture of the appendix or abscess. During an attack of appendicitis a sudden cessation of symptoms is always a bad sign.—PARKER SYMS.

I have found the tip of the appendix almost entirely separated from the rest of the structure, and obtaining its nourishment from its new attachment.—J. F. W. ROSS.

Large Effusions into the Knee-Joint.—Dums (*Centralblatt für Chirurgie*, September 18, 1897) recommends that the treatment of this condition should be the removal of the fluid from the joint, followed by the application of a firm bandage and the fixing of the limb in an immovable apparatus in an extended posi-

tion. At the end of a week remove the bandage and make a few passive motions, and then apply a starch bandage. In the course of another week the patient may go about on crutches. From this time on a gradually increasing amount of passive and active motion is allowed, and at the end of six weeks a complete cure may be expected. This may appear to be a tedious treatment, but relapses are fewer than in cases in which the older methods are followed.

To Clean Rusty Instruments.—Fill a suitable vessel with saturated solution of stannous chloride (chloride of tin) in distilled water. Immerse the rusty instruments and let them remain over night. Rub dry with chamois after rinsing in running water, and they will be of a bright silvery whiteness.—Brodie, *Journal of the British Dental Association.*

Pressure Neuritis.—H. T. Pershing reports cases of pressure neuritis caused during surgical operations and due to the placing of the extremities upon hard, pointed, or angular surfaces. In most cases the paralysis was of short duration.—*Medical News*, September 11, 1897.

Lupus.—Dehydrated dried crystals of permanganate of potassium are applied in a layer, three to five millimetres in thickness, over the surface of the lupus. If it is deepiy ulcerated with undermined edges, curette first several times a day and apply the same powder. In all cases a layer of medicated cotton is placed on the patch to keep the powder in place, to absorb the secretions, and to eliminate material.—Kachanovsky.

Therapeutic Hints.

Drops for Atonic Dyspepsia.—

℞ Tincture of nux vomica..... ʒ iiss.
Resorcin ..... gr. vij.
Mix and take five or ten drops three times a day.
—*Therapeutic Gazette.*

Poisoning by Nitrobenzol.—A. Boas reports a fatal case of nitrobenzol poisoning. The blood, though of a tar-like color, presented, strange to say, a normal appearance microscopically. The spectroscopic examination was negative. The urine contained a reducing-substance, the same which Ewald first found in these cases. On the fourth day a decubitus appeared, which became gradually worse. Despite opinions to the contrary, Boas says that he observed most excellent results from the use of alcohol.—*Deutsche medicinische Wochenschrift*, No. 51, 1897.

To Remove Picric-Acid Stains.—To remove the stains from animal tissue, rub the part, previously moistened, with carbonate of lithium. The color soon disappears. Stained linen is best treated by immersion in water containing the carbonate in suspension.—Prieur, *Rép. de Pharm.*

Acute Poisoning by Gas.—Generate steam and let the patient inhale it. A gasoline stove, a tea kettle, and a section of garden hose are sufficient for the purpose. Hold the end of the hose about one foot from the patient's mouth, and spread the steam by interposing a fan or piece of paper.—William Burton.

To Disguise a Bitter Drug.—A plant grows in Assam the botanical name of which is Gymnema sylvestre, which has the peculiar property, when chewed, of temporarily neutralizing the sense of taste as regards sweet and bitter things, while that for sour and saline substances remains unaltered. The Hindus claim that the plant is an antidote to snake bite. However that may be, it is believed that the plant might be advantageously introduced in our pharmacopœia as a means of disguising the bitterness of quinine and other disagreeable medicines.—*Dunglison's College and Clinical Record*, January, 1898.

Scleroderma.—A. Philippson reports a case of scleroderma which was entirely cured with salol in daily doses of two or three grains.—*Deutsche medicinische Wochenschrift*, No. 33, 1897.

Treatment of the Insomnia of Neurasthenia.—First sponge off the patient with cool water; then quickly wrap him in a blanket which has been wrung out of hot water. Outside of this place a dry blanket, and about this hot bottles. In a few minutes the patient breaks out into a profuse sweat; when this has continued five or ten minutes, place the patient between warm blankets and rub him off with a towel, and permit him then to go to sleep.—D'Aulnay.

Epistaxis.—Lemon juice applied locally.—Fruitnight.

Eye Symptoms in the Parturient Woman.—Disturbances of the retina and optic nerve occur in each trimester of pregnancy. They may be manifested by dimness of vision, coming on at the fourth month; by double vision, appearing in the third trimester; and by total loss of sight in the last month of pregnancy, and by all the symptoms attending neuro-retinitis as early as the seventh month of pregnancy.—K. K. Wheelock, *Columbus Medical Journal*, September 28, 1897.

In septic conditions the patient is often very uncomfortable, by reason of dryness of the tongue. A bit of ordinary chewing-gum will usually start the oral secretions and in a very short time give relief.—*Canadian Lancet.*

In using forceps, ether is distinctly to be preferred as an anæsthetic; here the obstetrician desires to further uterine contraction in every way. The delivery of the patient is often prolonged, and if chloroform is given to complete anæsthesia the uterus will often relax and the obstetrician will push the child's head away from the brim of the pelvis in his efforts to apply the forceps. This is especially true in cases in which the high application of the forceps must be practised.—Edward P. Davis.

Tuberculosis.—Cinnamic acid in five-per-cent. emulsion. Give one and one-half minims by injection in the gluteal region, increasing the dose day by day.—Heusser.

Asthma.—

℞ Morphin. sulph ..... gr. ½–½
Strychnin. sulph..... gr. $\frac{1}{60}$–$\frac{1}{40}$
Hyoscin. hydrobrom..... gr. $\frac{1}{200}$
M. S. Give hypodermatically at bedtime.
—S. Solis Cohen.

Malaria in Children.—

℞ Tr. eucalypt. globul..... ..... 8 parts.
Spt. vini diluti..... 8 "
Quininæ muriat..... 2 "
Chinoidini..... 1.25–2 "
Acid. muriat. dil..... .....q.s. ad solutio.
M. S. Gtt. xx.–xl. five times daily.
—Zukermann.

Cancer of Stomach.—To increase the appetite, bark of white condurango, 15 parts; water, 250 parts. Reduce by boiling to 150 parts, filter, and add syrup. A soupspoonful is to be taken a quarter of an hour before meals.

To favor digestion, muriate of ammonium, 0.15 gm.; bicarbonate of sodium, 0.26 gm.; Dover's powder, 0.10 gm. To be taken ten minutes before meals.—ROBIN.

Sciatica.—Copaiba, forty or fifty drops a day in divided doses.—GLORIEUX.

Migraine.—Fluid extract of gelsemium and of cannabis indica, three drops t.i.d.; increase the dosage day by day till physiological effects are produced.—ESHNER.

Irritating Coughs.—

℞ Phenacetin ..... gr. iiss.
Ext. glycyrrhizæ ..... gr. ij.
Codeini ..... gr. ½
Sacchar. alb ..... q.s.
M. S. For one dose.

—G. A. TOLMAN.

Ulcero-Syphilides.—

℞ Hydrarg. bichloridi ..... gr. viij.
Ammonii muriat ..... gr. xij.
Syr. aurantii cort.,
Aquæ destillat ..... āā ℥ iv.
M. S. A teaspoonful in water after each meal.

Later on and in more advanced cases the mixed treatment will be found of benefit. A good working formula is the following:

℞ Hydrarg. bichloridi ..... gr. iv.
Potassii iodidi ..... ℥ i.
Liq. pepsini,
Aquæ destillat ..... āā ℥ ij.
M. S. A teaspoonful in a glass of milk after each meal.

—O. DUMESNIL, *Tri-State Med. Jour.*, December, 1897.

Hemorrhages of Typhoid Fever.—

℞ Acidi tannici ..... gr. iij.
Tincturæ opii ..... ♏ x.
Extracti ergotæ fluidi,
Spiritus terebinthinæ rectificati ..... āā ♏ xv.
Spiritus chloroformi ..... ♏ xx.
Mucilaginis acaciæ ..... ℥ ij.
Aquæ menthæ piperitæ ..... ℥ ss.
M. S. Teaspoonful every four hours.

—F. S. NEVLING, *Penn. Med. Jour.*, November, 1897.

Ulcerations of the Nasal Septum.—

℞ Fld. ext. calendula ..... ℥ ij.
Lanolin,
Albolin ..... āā ℥ i.
M. S. Apply.

—O. B. DOUGLAS.

Rosacea.—

℞ Ichthyol ..... gr. xv.–lxxv.
Resorcin ..... gr. xv.–xlv.
Lanolin ..... ℥ viss.
Olive oil ..... ℥ iiss.
Distilled water ..... q.s. ad ℥ iss.
M. The proportions of ichthyol and resorcin may be gradually increased according to the tolerance of the patient.

—JUDASSOHN.

Colic Due to Intestinal Acidity.—Tincture of asafœtida combined with milk of magnesium.—*Pediatrics.*

Seminal Emissions.—Thuja, in doses of from five to seven drops.—ROBERTS.

Pulex Penetrans (Sand Flea).—

℞ Olei caryophylli ..... gr. v.
Unguenti petrolati ..... ℥ i.
M. S. Rub well into the feet between the toes night and morning

—A. L. BENNETT.

Chronic Rhinopharyngitis.—

℞ Menthol 1
Oil of sweet almonds, or
Liquid vaseline 10
M. S. Apply with a brush.

—FOUGERAY.

Asthma.—

℞ Tr. opium ..... ℥ i.
Sulphuric ether ..... ℥ ij.
M. S. Gtt. l. every half-hour till the patient is relieved.

—*Journal de Médecine de Paris*, April 14, 1897.

Hoarseness in Singers or Speakers.—

℞ Cocain. hydrochlor. ..... gr. xv.
Strych. sulph. ..... gr. ¾
Aq. destillat. ..... gr. 1,500
M. S. Spray throat.

And:

℞ Cocain. hydrochlor. ..... gr. ¾
Tr. aconiti ..... ♏ x.
White sugar and marshmallow ..... q.s.
Ft. pastillas No. lxxx. S. To dissolve in the mouth.

—BOTEY.

Puerperal eclampsia is an albuminuric auto-intoxication. The indications for treatment are the quieting of spasms and the elimination of the intoxicant. Spasm is best relieved by chloroform anæsthesia and the free use of chloral hydrate. Elimination is best and quickest and safest effected by venesection according to the patient's strength, and hourly doses of Clutterbuck's elaterium, one-fourth grain at a time, till there are free stools. If labor is in progress, delivery should take place with the forceps as soon as the os is sufficiently dilated; but if dilatation is unduly delayed it must be forced by means of the fingers, a Barnes dilator, or by some other equally good means.—J. B. TAYLOR, *Columbus Medical Journal*, November 23, 1897.

Acute Rheumatism.—Strontium salicylate is less irritating to the stomach than the sodium salt, and it does not produce salicylism. Order it in powder form to be dissolved in hot water.—ESHNER.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SPECIAL SESSION OF THE MEDICAL COUNCIL: THE NEW PRESIDENT, THE MIDWIVES QUESTION, THE CROWN VACANCY — THE NEW PHARMACOPŒIA — MEDICAL SOCIETY'S CLINICAL EVENING—SMALL-POX—TYPHUS IN LONDON—VACCINATION—SIR S. WILKS—COLLEGE OF PHYSICIANS ON ARMY SERVICE—NEW DIRECTOR OF NAVAL MEDICAL DEPARTMENT—A THREATENED SCANDAL—RECENT DEATHS.

LONDON, April 8, 1898.

As the special session of the General Medical Council opened on Tuesday, the first business was the election of a president in succession to the late Sir R. Quain. The council unanimously chose Sir William Turner, whose reputation will be well known to you. Outside there had been some talk of a difficulty arising because the eminent professor resided in Edinburgh, but I do not see any necessity of the president being in London. It is certainly not desirable to leave too much to be done by the president or for him to interfere with ordinary details. Indeed, the late R. Quain, in his anxiety to fulfil his duties to the utmost, assumed almost too much for even his long experience, and his successor will not be allowed quite so free a hand.

Sir William Turner, having been elected, took the chair, thanked his colleagues for their confidence, and paid a warm tribute to his predecessor. A vote of condolence with the family of Sir R. Quain was in due course adopted by the council.

The most important business of the session is the reply to be given to the government, which has requested the council to state its views on the regis-

tration-of-midwives bill. This bill will shortly come on for second reading in the house of commons, and is of such a dangerous character to the profession that Dr. McVail proposed that it should not be considered in committee, but that the government should be informed that the public safety requires that no one should be recognized as a practitioner in one branch unless qualified in medicine, surgery, and midwifery, as required by the acts—the medical register being open to men and women alike.

There was evidently a strong feeling against the bill, and it was declared that, whatever England might submit to, neither Ireland nor Scotland would suffer the provisions to be extended to them. In both the existing arrangements work satisfactorily. It was thought, however, that it would be better to discuss the clauses of the bill, and this accordingly was done, the length of the discussion thus entered upon necessitating an adjournment. The bill is really the same as that of last year. It proposes to register all midwives who have been in practice prior to its passing, and then those who have been to some extent trained or examined Thus there would be an inferior order of legally qualified practitioners, including all the ignorant women who have been present with a neighbor in labor and choose to call themselves midwives. The report of the committee which had been appointed by the council was so moderate in tone, and showed so clearly what might be the result, that I think Dr. McVail's proposal might well have been accepted. As he said in his speech, the only people who desired this bill were "a handful of wealthy philanthropists, some members of an obstetric diploma-selling society, antivaccinators, antivivisectionists, anticontagionists—in fact, all the anti-common-sense people of the community."

Outside the council the question is a burning one and has been argued in various ways since the bill of last year. No little indignation is felt by general practitioners at the way in which Dr. Cullingworth and other members of the Obstetrical Society are ready to sacrifice the rank and file to their own whims. Consultants are ready enough to declare they never wish to attend a natural labor, and for that reason are ready to hand over the lying-in room and the infant to a new order of midwives. They should beware of Nemesis. Perhaps the rank and file may yet refuse to consult with them on dangerous complications. It would be easy to ask, how can they know anything about abnormalities if they never see normal cases? Dr. Cullingworth confesses that his midwife would have "some limited responsibility," and that to call her a nurse "is to confound one who has independent charge with one who has not;" and again, "her functions include a certain amount of attendance on both mother and child during the lying-in period." Clearly, then, he is prepared to take the bread from the mouths of the general practitioners and to give it to the ignorant Gamps who have done so much mischief and would at once register themselves as qualified midwives.

The death of Sir R. Quain leaves a vacancy in the council to be filled by the crown. The dentists are agitating that they ought to be represented, and there are a number of dental surgeons who are also fully qualified medical men; so the claim is a fair one, especially as the dentists contribute to the funds of the council and are subject to its authority. The general practitioners are also desirous of seeing one of their order appointed—but it may be said they have already the direct representatives, as they could, if they pleased, elect all from their own ranks. Hitherto they have not chosen to do so simply because they were general practitioners.

The new Pharmacopœia is ready, and copies have been given to some of the journals, but it cannot be sold until the treasury has fixed the price. One of the journals has extracted the lists of additions and omissions—both rather lengthy and by themselves of little interest.

On Monday the Medical Society had a clinical evening. There was a woman, aged thirty-three, who had been relieved from neuralgia by the injection of osmic acid (one-per-cent. aqueous solution) into the infra-orbital nerve. Removal of the Gasserian ganglion had been contemplated, but was now unnecessary. It was suggested that the nerve fibres were destroyed by the acid; on the other hand, one speaker doubted whether the neurilemma had been penetrated, and attributed the effect to traumatism.

A woman, aged fifty, was shown with multiple venous angiomata. Also a man, aged thirty, in whom Coley's fluid had been tried with much benefit for an inoperable tumor.

Dr. Maguire showed a man, aged twenty-seven, with asystolic murmur audible over nearly all the chest, but clearest along the line of the interventricular septum, and he thought it was due to a deficiency of the septum. The patient had often been "blue" when a child, but this had passed off, and Dr. Maguire suggested as an explanation that pressure in the left ventricle was now so much greater than in the right that any admixture of blood would take place in the right. He had seen a case in which there were no symptoms for eight years, when the child suddenly became cyanosed and died. At the post-mortem the opening was so large that practically there was only one ventricle, with stenosis of the pulmonary artery. There had been no bruit in the case.

The daily tale of new cases of small-pox at Middlesborough has varied during the week between three and eleven. Yesterday eleven new cases were notified.

An outbreak of typhus in London was reported to the Kensington Vestry on Wednesday by Dr. T. O. Dudfield, the M. O. H. It was confined to one dirty and overcrowded flat and fourteen cases are recorded, but probably some others may have occurred, as at first the nature of the outbreak was not suspected. Three persons died, one being a young doctor who had attended some of the patients, and his own death in hospital caused the medical superintendent to inform Dr. Dudfield of the nature of his case. It seems there has been no death from typhus in Kensington since 1883. There are plenty of doctors in London who have never seen a case of typhus.

The Epidemiological Society has addressed the government on the vaccination question, expressing regret that the royal commissioners did not see their way to recommend legislation which would place revaccination on the same basis as the primary vaccination.

Sir S. Wilks was on Monday re-elected president of the Royal College of Physicians.

Sir William Priestley proposed that the College of Physicians should represent to the government that the concession of titles to the army medical officers should not stop at the rank of colonel, as proposed by the war office. The motion was warmly seconded by Sir Joseph Fayrer, and carried.

Sir Henry Norbury, K.C.B., is the new director-general of the naval medical department.

Another hospital scandal is threatened. The honorary medical staff of the Royal Hospital at Winchester has resigned in a body. Another chance for the men who only care to push themselves!

The death of Surgeon-General W. S. Murray is reported, aged sixty-seven. He had served mostly in India. Surgeon-Colonel Shepherd, R.O., died on the 30th ult., aged eighty-three; and Dr. John Watson, of Kensington, on the 28th, in his eighty-fourth year.

INSTRUCTION OF DEAF-MUTES.

To the Editor of the Medical Record.

Sir: Your article of April 2d, on the "Training of the Deaf," has come to my notice. While much of the information given is correct, I find two or three errors which need to be pointed out to your readers.

The idea that any deaf-mutes are educated by the "sign language," as suggested at several points, is misleading.

There is no "sign-language method."

The manual method makes use of the language of gestures to a greater or less extent, according to the capacity and needs of the pupil; but one of the important aims under this method, as under the oral, is to bring deaf children into the facile use of their vernacular. And this aim is attained quite as readily under one method as under the other.

Near the end of your article the following statement occurs: "In Europe the teaching by articulation and lip reading prevails, while in this country the sign and manual language is still the method of instruction chiefly relied on."

How far this is from the truth will be seen when I say that teaching speech to the deaf was systematically entered upon in this country more than thirty years ago, and it is now taught in every one of the State schools for the deaf and in this institution.

The paragraph in your article immediately following represents me as approving the "sign and manual language method," and speaks of a report of mine, written some time ago, from which a quotation is made. In that report, which it is true was made thirty years ago, I recommended the general teaching of speech to the deaf, and I am happy to note that my recommendations have been fully and widely accepted and acted on.

I inclose you in to-day's mail a copy of our fortieth annual report, in which you will find an account of a very recent visit I have made to Europe, and will note that the combined system, now generally prevailing in this country, has the earnest approval of the educated deaf themselves all over Europe.

E. M. Gallaudet, M.D.

Washington, D. C.

A FEW IMPRESSIONS AT A DISPENSARY IN CHINA.

To the Editor of the Medical Record.

Sir: The vitality of the Chinese has impressed me, I think, more than anything else, and this has been especially evident in cases of carbuncle. We have treated about one hundred cases since we opened our dispensary, and not one case has been fatal. And these were not hospital patients, but those who came daily to the clinic, and often too poor to have sufficient food. One woman had erysipelas of the neck and face in the course of her carbuncle, but made a good recovery. One of the largest carbuncles measured nine by four inches, but there was one this winter larger, that I failed to measure. The neck and back are the most common seats, but we find them on legs and arms not infrequently. Some may be interested in our treatment, though I ascribe our success, not to that, but to the Chinese natural vitality. Not one has been lanced. We burn the most prominent part with pure carbolic once daily, then apply on absorbent cotton a mixture of one part each of spirits of camphor and spirits of turpentine to four or five parts of glycerin, cover with oil paper, and hold well in place with several strips of adhesive plaster. We aid the separating slough with scissors or forceps. After the slough comes away iodoform and boracic acid, one to seven, are applied. Internally we give six or ten grains of cinchonine muriate daily. The above-mentioned mixture acts like magic on frost bites. We also use it as an application to ulcers and a dressing for boils.

Another patient, whose recovery surprised us very much, was a man so anæmic he had general dropsy and could scarcely walk. We hesitated about trying to do anything for him, but decided quinine would do him no harm. Quinine did him so much good we put him on what we call our "spleen pill," because we treat so many with enlarged spleens. It is quinine, iron, arsenic, and strychnine. In a short while he was all right, and the only food he had was a cake made of whole-wheat flour, and turnips.

One more example: A woman with an abscess extending from the lower dorsal to the sacrum and into the abdominal muscles, to within a few inches of the umbilicus. It looked like an upturned washpan. She was also pregnant four or five months. She could neither sit nor lie down, but stayed in the knee-chest position. She had eaten and slept very little for a month, so was in a most hopeless condition. I lanced the abscess, and she got perfectly well; she did not miscarry.

Another impression is the absence of rickets. I have not seen one case after six years in China. This is only my experience; I have not heard other physicians discuss the matter. Many of the children are fed on rice and nothing else from two or three months on; cow's milk is never used for children. One explanation for this is that it is because of the air they get. The door of a Chinese house stands open all the year, as they do not heat their houses and depend upon the door for light. To keep baby warm he is encased in wadded clothes and given a sun bath.

I have been noticing epileptics more closely since the Craig Colony was started. There are no asylums here for epileptics or insane either, so we see the former under conditions similar to those of the Craig Colony. They have a happier and more intelligent expression than those I saw in asylums in the United States, but their attacks seem just as frequent, and even more so, because they have no treatment. I know one woman whom marriage cured, and another in whom marriage intensified the disease very much.

Another impression is that all the Chinese skin troubles are not described in books on dermatology. I have found two that I cannot diagnose, but will not describe them at this time, as I have not gotten all the points yet.

The Chinaman has a well-deserved reputation for tricks. It does not take long to be impressed that he carries that propensity to the clinic. He will come for treatment to get the bottle you put his medicine in; he will sell your medicine to others; he will bring the prescription you gave himself or child and get more medicine, when he wants it for a friend with perhaps a different disease; or he sells his prescription for the large sum of fifteen cash, about one cent, to a friend, etc.

We find potassium permanganate a grand success in opium poisoning. If called early we give nothing else, as it always produces emesis. Out of fifty patients treated the past year not one died, if he could be aroused sufficiently to swallow the remedy. These cases are treated by one of our missionaries who is not a physician, so our experience with the hypodermic use of permanganate is limited.

Annie H. Patterson, M.D.

Chinkiang, China.

Gonorrhœa in Women.—Permanganate-of-potassium irrigations; the strength should be 1 to 1,000 or 1 to 2,000; the quantity should be at least one litre; the frequency should be every day.—Cumston.

THE O'DWYER AND FISCHER TUBES.

To the Editor of the Medical Record.

Sir: In a communication to the Medical Record of April 9th, Dr. Edwin Rosenthal, of Philadelphia, states that "in justice to the living as well as to the dead" the invention of the hard-rubber intubation tube should be credited to Dr. Louis Fischer and not to the late Dr. O'Dwyer. If Dr. Rosenthal had known Dr. O'Dwyer and his work, he would have recognized that nothing was forced upon the medical profession or heralded as an invention. Dr. O'Dwyer had used hard-rubber tubes for ten years before his death, but he did not consider the smaller sizes of tubes safe unless they were reinforced by a metal lining. These reinforced tubes were being made by Mr. Ermold, the instrument maker of this city, when Dr. O'Dwyer read his paper on "Retained Intubation Tubes," before the American Pediatric Society in Washington, May 6, 1897.

Dr. O'Dwyer's investigations and models were on anatomical lines, and his reputation can never be discredited by any claim made in behalf of Dr. Fischer's tubes.

Walter Lester Carr, M.D.

63 West Fifty-First Street,
April 15, 1898.

Medical Items.

Pure Water Supply and Public Health.—In a recent article by Lieut.-Col. Charles Smart, deputy surgeon-general, U.S.A., dealing with the question of pure water supply as regards public health, he says: "London has had filtered water for sixty years. I have before me its typhoid-fever death rates for the years 1869 to 1894, taken from the reports in the library of the surgeon-general's office. The mean annual rate for the last ten years was 14.4; the extremes, 10.2 and 16.9. And the rates for the whole of England and Wales, although larger than those of London, show that much care is given to the purity of water supplies. The mean annual rate for the last decade on my list is 17.6, with the extremes 13.7 and 22.9. I have the Berlin rates from 1854. Before this city began to pay attention to the purity of its supply, the rates ran from 60 to 100. The highest rate was 18.4 in 1889; the rate in 1894 was 4 per 100,000. I have the Vienna rates from 1867. The highest rate was 181.8 in 1871. A pure water was obtained in 1874, and the rate fell immediately. During the past ten years it has been less than 10 annually. In 1894 the rate of Hamburg was 6; of Rotterdam, 4.8. In Warsaw, where purification was effected in 1887, the typhoid rate was 60 to 105 annually during the period 1879–86, and 18 to 30 subsequently. I could give columns of such statistics, all showing that the deaths from typhoid fever are lessened in proportion to the care taken in providing a pure water supply.

The Importance of Public Baths.—Some interesting statistics are given by Walter Channing, regarding the municipal public baths of Brookline, Mass. The baths were opened in January, 1897, and at the time Mr. Channing's article was written, about the middle of May, there had used the baths 17,089 bathers, or an average of 451 daily. A somewhat curious difference was noted between the number of males and females—the bathers during the last six weeks, for instance, being divided as follows: Men and boys, 3,813; women and girls, only 1,080. When the baths were first opened, the policy was to have as many free days as possible, but it was found quite impossible to keep order even with the aid of a police officer. Under a new arrangement by which a fee of five cents was charged, a great improvement was manifested. Instead of the fees decreasing the number of bathers, there was a constant and steady increase. Aside from the value which this bath has as a swimming-school and healthy recreation ground for the children, its successful continuance cannot fail to have a most beneficial effect on the general personal cleanliness and sanitation of the town—a clean individual being much less patient with nasty streets and houses and neighbors than a dirty one. The importance of the public bath does not seem to be generally appreciated in this country. It is, when properly handled, one of the most powerful and far-reaching of the municipalities' institutions for promoting cleanliness, both mental and physical, and good citizenship. In several of the European states where this fact has been appreciated, the public baths of the cities and towns are among their most important institutions.

Position of the Medical Profession in Victoria.—The Australian correspondent of *The Lancet* writes that the retiring president of the medical society of Victoria, Mr. I. T. Brett, took as the subject of his address the position of the medical profession in Victoria and its relation to the general public. He stated that statistics showed unmistakably that the medical profession was increasing in numbers vastly out of proportion to the general population, and he considered the outlook for the ever-increasing accessions to the profession a poor one—a bare subsistence and that hardly striven for. One reason for this view apart from the overcrowding of the profession was the continued encroachments of the friendly societies. Patients who ought to pay proper fees join these societies, while the class for which they were intended crowd the hospitals. Reference was also made to quackery, which had lately attained vast proportions in Victoria, and Mr. Brett thought it was the duty of the profession to inform the general public that they were being deceived and duped, although such action might be misinterpreted and ascribed to jealousy and unworthy motives. The treatment of medical witnesses in courts of law also came in for adverse comment. According to Mr. Brett the medical practitioner is called an expert and treated as a criminal, and counsel have not hesitated to impute to him venality and untruthfulness. His rightful place in many cases would be not in the witness box but on the bench as a medical assessor.

Cesare Lombroso.—Cesare Lombroso, the most prominent exponent of criminal anthropology, is a Hebrew by birth, and was born at Turin in 1836. As a mere lad he loved to write and composed with the same facility and rapidity that distinguishes him to this day—novels, poems, tragedies, treatises on archæological, physiological, and already on sociological subjects, those dating from his student days being actually published, so much talent did they show. Medicine was the study to which he devoted himself, and his first independent researches were directed to examining into the causes that produce the idiotism and the pellagra that exist, unfortunately, so largely in Lombardy and Liguria. His treatise on this theme attracted the attention of no less a person than Professor Virchow. After fighting for the independence of Italy in 1859, he was appointed professor of psychiatry at Pavia, where he founded a psychiatric museum. From Pavia he passed to Pesaro as director of the governmental madhouse, and thence to Turin as professor of forensic medicine, a position he still retains. It was in his native Turin that he began those original studies destined to make his name famous over all the globe. Endowed by nature with a strong intelligence, a robust will, a keen intel-

lectual curiosity, he was indifferent to the incredulous smiles and sarcasms that greeted his first efforts at solving problems, hitherto held insoluble. Very bitter, very hard were his struggles—how hard only those can appreciate who have talked with Lombroso in intimacy and have noted the pained scorn with which he speaks of his adversaries—adversaries some of whom are not silenced to this hour. But his science, his studies conquered, which, if not always complete, yet are always serious; wherefore criminal anthropology, a mere infant some thirty years ago, may to-day be said to be adult; a raw empiric but a while ago, to-day a science, young if you will, but vital and destined to overturn the facile, fantastic monuments erected by so many penalists. The work with which Lombroso will go down to posterity is a huge book, huge in every sense of the word, in which criminal man is studied on a scientific basis. We refer to the "Uomo Delinquente," of which its author has published most recently a new revised and enlarged edition, wrestling with new facts, new observations, and new deductions. —*Appleton's Popular Science Monthly.*

Non-Medicinal Methods of Treatment.—In his opening address before the last congress for internal medicine, Professor von Leyden gave expression to the following views: "To-day we are conscious at the bedside that we have not simply to treat the disease, but chief of all the patient himself, and that he is indifferent to nothing, not even the slightest thing; nothing is adjusted at the bedside in the right way of itself; the physician has to see to everything, and not infrequently the so-called simple remedies are the ones which possess the power to hold together the delicate thread of life and again to fortify it. Medicine of to-day no longer rests upon a fixed system and no longer draws from a single source. Its remedies and methods have been multiplied and extended to an astonishing degree. What formerly appeared of secondary importance has now risen to a position of prominence. Numerous therapeutic measures arise to demand recognition. Our therapy is no longer exclusively based upon medicaments and prescriptions. We know that the task of the physician is not finished when he has written his prescription *lege artis*. He must make a more critical and thorough investigation of his patient's condition. We are convinced that many patients recover without medicine, and that many diseases are healed by other means."

Examination of Food.—The chemical examination of foods according to scientific rule is one of the municipal regulations of the city of Berlin. This examination in the month of September last included two hundred and two samples of edibles and drinkables, and of these fifty-seven were rejected as not up to the legal requirements. There were among the articles thus proven unfit, milk, butter, lard, flour, fresh eggs, sweet oil, lemon oil, chocolate, green tea, "medicinal" Hungarian wines, and denaturalized alcohol. Remarkable, in particular, was the large number of the butter samples which were found to be objectionable; that is, among twenty-five of these, two were pure margarine, twelve were mixed butter containing from twenty-five to seventy-five per cent. of margarine, and two were doubtful. The milk control extended over nearly fifteen hundred stores, and led to the detection of fifty-nine cases of adulteration.—*Sun.*

Disinfection of Linen in Paris.—The infection of a laundress in Paris during the course of her work has led to an inquiry into the ways in which laundries may serve to disseminate disease. Primarily the operations which are dangerous are those of sorting and steeping in cold water, particularly the former, in the course of which infected linen may obviously communicate its infection alike to the operator and to the room. The operation of soaking becomes dangerous when the dirty water is not run off into a sewer, a state of things which must necessarily often occur in the country. The remaining operations of laundry work are rather a source of security than of danger. The measure of the danger in the first two operations is not always confined to the infection of the operators and to such secondary infection as they may initiate. In the smaller laundries it frequently necessarily happens that the room in which the linen is sorted is used also for packing it up, and in this way there can be little doubt that reinfection of clean linen would readily occur. The bags used for conveying dirty linen from the customers' houses to the laundry may during the journey lie in contact with baskets of clean linen on their way to delivery. The risks in each of these cases are no doubt slight, but their reality can hardly be contested; and when there are added to them the risks of infectious sickness in the laundry establishment itself, the wisdom of taking such precautions as may be practicable is obvious. M. Deschamps, who is inspector of epidemics in the Seine department, relates, for instance, a case of diphtheria which could be explained in no other way. The industry is one in which it is difficult to control the small establishments without almost making their work impossible. So far as practicable, the use of mechanical means of washing, and the provision of a separate room reserved entirely for the operation of sorting, which should be conducted in a moist atmosphere, are to be recommended. Boxes for dirty linen should be washed after each time of use, and all possible pressure should be brought to bear on persons in whose houses the disease occurs to permit their things to be disinfected before they are washed. Dr. Vallin points out that some prejudice would be liable to exist against disinfection if care were not taken to decompose with dilute permanganate or other liquid any stains which the process of disinfection by heat would otherwise fix.—*The Journal of State Medicine.*

Intubation.—Twenty-nine consecutive cases of intubation with twenty-seven recoveries were reported by Dr. Waxham before the Denver and Arapahoe Medical Society (*The Colorado Medical Journal*, February, 1898), giving the low mortality of 6.9 per cent. This low mortality was attributed to the use of the antitoxin. The doctor contended that if death occurred after intubation for diphtheritic croup from the extension of the disease, it was because the remedy was used either too late or in insufficient doses, or was of uncertain strength. Death from diphtheritic croup, he declared, should rarely occur.

Health Reports.—The following statistics concerning small-pox, cholera, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended April 23, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Mobile	April 13th	1	
Arkansas, Pulaski County	April 7th to 14th	8	
District of Columbia, Washington	April 9th to 16th	1	
Kentucky, Louisville	April 16th	1	
Pennsylvania, Philadelphia	April 13th	2	

SMALL-POX—FOREIGN.

Bohemia, Prague	March 26th to April 2d	12	
England, Gibraltar	March 27th to April 3d	1	
Norway, Christiania	March 31st to April 6th	1	1
Russia, Odessa	March 26th to April 2d	6	1
St. Petersburg	March 19th to 26th	24	

CHOLERA.

India, Bombay	March 15th to 22d	..	3
Calcutta	March 6th to 12th	..	15

PLAGUE.

India, Bombay	March 15th to 22d	..	1,259

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SOME REMARKS ON HOSPITAL ABUSE.

By FREDERICK C. SHATTUCK, M.D.,

BOSTON, MASS.

Hospitals are so beneficent, and the lives of many of us are so bound up in them and their work, that we may at times fail to realize that they have any possibilities of evil, as regards either the public in general or our own profession.

With your permission I shall venture to lay before you a few thoughts which come into my mind on this question; some general subject pertaining to medicine seeming to be more suitable for the address with which it is my great privilege, thanks to your unmerited kindness to me, to open our session.

Though it is over four hundred years since this country was discovered, and more than two hundred and fifty years since real settlements by highly endowed members of the Anglo-Saxon race were effected, the first hospital was founded not much more than a century ago. Until approximately fifty years ago the population was relatively homogeneous, and then even the largest cities were small enough for the inhabitants to know each other and each other's affairs. There were few poor, and neighborly succor efficiently met illness and the distresses which so often follow in its train. Then began the great Irish immigration, followed by that from almost every overstocked European country; the older cities grew apace and new cities sprang up as the tide moved westward. The conditions of life changed with enormous rapidity, and every large city developed a class whose earnings or whose lack of thrift do not permit provision against the almost inevitable day when the breadwinner, afflicted with acute or chronic disease, can win no bread, while the requirements of himself and his family can be but little if at all diminished.

We all know from personal experience how wonderfully helpful the members of this class are to each other in trouble of all kinds; also that their helpfulness has clearly defined limits. The larger the class grows, the more imperfectly are its members acquainted with one another and with one another's special needs; and much less are they, as individuals, known to the easier classes. Thus organized and public must supplement private and individual help in time of need, and it is natural that the hospital should take a high if not the first place among the forms of help. We are all mortal; the vast majority of us are unsound somewhere; illness and disability come to many without any fault on their part. Health is an almost indispensable condition of support and usefulness. Its preservation, therefore, appeals directly alike to the head and heart of the community.

All the first hospitals in this country were founded by private individuals, public spirited, anxious to benefit their less fortunate fellow-mortals and fellow-citizens. But as cities grow large it is often found necessary for the taxpayers to aid and supplement private effort. We see, then, that the original cause for hospital foundation lay in charity—charity in its best and highest sense. Hospitals were designed to help those who could not help themselves; and it has been and is the pleasure as well as the duty of the medical profession to contribute its full share by rendering its services without direct pecuniary reward. But we should never forget that no physician can do conscientious work in a hospital without indirect reward, a portion of which is pretty sure to be pecuniary. The gain in knowledge, the stimulus to its acquirement, the development of the man and doctor alike, which the honest performance of hospital work surely bring, almost as surely lead to the better performance of private work, and hence to the demand for it. As hospital physicians we are, I think, sometimes inclined to strike a false balance between the sacrifice of time and strength which hospital work demands, and the return, which is none the less real because it is indirect and cannot be estimated with mathematical accuracy. Personally I believe that this natural return is ordinarily ample, and that any conscious and deliberate attempt on our part to enhance it can only be lowering to ourselves and unfair to the general body of the profession.

And just as there are indirect advantages flowing to physicians from hospitals, so also do they flow indirectly to the rich who endow and maintain them—in that the rich profit by the skill acquired by the staff and by the advance in scientific knowledge secured by the minute study of collected cases of disease. Virtue may be its own, but it is not necessarily its only, reward.

I repeat that the primary purpose of hospitals is charitable; hence their immediate benefits should be reserved for the poor, for those who are unable to pay for medical attendance. Poor and rich are of course relative terms, and not easy of exact definition. A person may be able to pay one fee, perhaps several fees; but totally unable to pay for prolonged attendance. Medical attendance, moreover, stands on quite a different footing from almost every other necessary of life. There are different grades of food and clothing, even of fuel and light, between which, within certain limits, one can choose without detriment to health, but with advantage to the pocket. The first cuts of meat are no more nutritious than the lower grades; and style alone may be the larger element in the cost of clothing, to say nothing of the choice of material. But the poorer a person is, the more purely dependent he and his are on his own exertions, the more important is it for him to have the best medical care attainable. Here economy may be the wildest extravagance. This is an aspect of hospital abuse which cannot be lost sight of. There is no clearly discernible line of cleavage, and therefore abstract justice cannot be done in every case as in most other branches of human activity substantial justice is the best we can hope, at present at least, to attain. Medical charity in hospitals and dispensaries should be freely extended to those who require it; denied to those who do not, and from ignorance or parsimony demand it. The community suffers if provision is insufficient or proper access is difficult. The commu-

[1] President's address delivered before the Association of American Physicians at its annual meeting in Washington, May, 1898.

nity also suffers if no questions are asked, the independence and self-respect of the laity being undermined, and the medical profession failing to receive returns which justly belong to it. Alike as citizens and professional men we should carefully scrutinize the claims of every new charitable medical institution, and refuse our aid and countenance unless satisfied that it is likely to meet a real need in the community.

The same care should be exercised with regard to abuse creeping into existing institutions. The matter lies really in the hands of our profession. If no physician would serve or aid in promoting a medical charity, so-called, founded mainly on sentimental or selfish considerations, such would soon cease to exist and the millennium would be at hand. There is too much reason to believe that hospitals and dispensaries are sometimes started purely in the selfish interest of members of our profession.

The second great function of hospitals—second in point-of-time evolution, though not, I believe, in point of importance—is the educational function, the advancement and dissemination of knowledge. On this function I need not dilate to this audience. It is, of course, more obvious to us than to the laity. But their attention is being more and more called to it. They are quick to see the truth and to recognize the powerful stimulus to the staff to do first-class work afforded by the critical eyes of bright students. The clinical teacher must study his cases carefully; compulsion acts more imperatively on him than on the hospital physician who is not also a clinical teacher. The necessities of teaching and the demand for much material from which to select have been used as an excuse for the abuse of hospitals and dispensaries, and to a certain extent such excuse may be valid. Students should become familiar with as wide a range of disease as possible. The didactic lecture in medicine and surgery is slowly but surely falling into the background, teaching becoming more and more clinical. Patients may be made to pay in their persons if not from their pockets. The student and clinical teacher demand material; the practitioner wants patients. When the student becomes a practitioner, his point of view changes. But he should not forget that he, when a student, probably gained in remunerative knowledge more than the equivalent of a few cases which, after he has gone into practice, seek advice at a hospital instead of paying his fees. Our direct losses loom up larger than our indirect gains. I do not mean to imply that a teaching-hospital is free from responsibility in regard to this matter. I merely want to indicate that there are two sides to this question, at the same time stating my conviction that very little injustice need be done if a due sense of responsibility is felt and influences action.

Complaint in the medical press of hospital out-patient departments and dispensaries seems to be endemic in England, and there has been of late an epidemic in this country; legislation on the subject has even been seriously considered. It is claimed that the doors of these institutions are thrown open so widely as to entail great hardships on many worthy members of the profession. That there is some ground for these complaints I fear there can be no question. For some eight years I did out-patient work in the Massachusetts General Hospital, and have no reason to believe that the conditions are materially different now from what they were at that time. The number of cases of deliberate intention to avoid payment for advice was, as I remember, small. Some residents of the city, apparently able to pay, came, seemingly without wrong intent, to get an opinion and see how far it coincided with that of their doctors. More came thus from the country, under the impression that the city must contain more wisdom, not knowing whom there to consult and not having told their regular advisers that they wanted further counsel. The reputation of the hospital, and sometimes the idea derived from the name, "Massachusetts General," that it is a State institution, to the benefits of which as taxpayers they had a right, determined their coming. Not infrequently patients would come, more commonly from out of town, either with their physician or with a letter from him asking for a consultation and perhaps a detailed opinion in writing—no light demand, considering the number of patients requiring attention.

For some years now at the Massachusetts General Hospital a paid medical officer has questioned applicants to the out-patient department as to their circumstances, and refused entrance to those who did not seem to him proper persons for free advice. It is also his duty to exclude such diseases as measles, scarlet fever, and the like from the waiting-rooms, in order that their spread may be limited. This is a plan which does not involve a hospital in great expense—$500 per annum at the Massachusetts General Hospital, with an average of about one hundred new patients a day—as the services do not require more than a couple of hours a day. It seems to me as efficient as any plan which has been suggested, and one which it is not unreasonable to expect all similar institutions to carry out.

There is another ground for complaint against hospitals, about which less has been said. I refer to the growing practice of attaching pay wards to hospitals, which, let me repeat once more, are founded and exist for charitable and educational purposes. Patients who pay from $20 to $50 per week for private rooms ordinarily serve neither of the above purposes, and provision for them here seems to me unfair and improper unless to a very limited extent. This is not a legitimate mode of providing revenue for the care of the sick poor. Our well-to-do citizens are amply able, and I am convinced more than willing, to provide for such cases through gifts, bequests, and taxes. The chances are strong that a hospital which cannot be maintained without the resort to this practice is in whole or in part unnecessary to the community in general, and should consequently, in whole or in part, close its doors until the community in which it is situated grows up to it. One great and well-known hospital derived $55,000 from this source last year. I am told that other great hospitals are making large investments in this field. I am perfectly well aware of the fact that strangers in the city fall ill in hotels, and that residents are for one reason or another sometimes so situated at their abodes that proper care is difficult or impossible to secure. I know what a boon it sometimes is to patient and physician alike to have access to a well-organized hospital. But this need not and should not be a charitable hospital. This class of cases is sufficiently large in every considerable city to maintain one or more hospitals or infirmaries—private, in that they are designed for private patients; public, in that any physician can send his patient thither and assume personal care of him, making such professional charges as his wisdom and conscience dictate. This is free trade in medicine. In a large hospital it is, from an administrative point of view, impossible to allow physicians other than members of the staff to care for patients within its walls. The small private hospital or infirmary can be made to yield a good return on the investment and no injustice is done to anybody. And it seems to me that injustice to somebody is inevitable when well-to-do patients are admitted to hospitals designed for the sick poor. If the staff is allowed to receive fees for attendance on such patients, its members are given an unfair advantage over those members of the profession without hospital appointments, and the hospital becomes a sort of medical trust. The indirect

benefits of hospital service are quite sufficient. If the members of the staff are not allowed to take fees, the well-to-do patient is injured by receiving gratis services for which he is able to pay and should pay; the time and skill of the attendant are diverted from the sick poor or from such use as he might wish to make of them; and the sum of professional earnings, now none too large, is unfairly diminished. Commercialism tends to degrade the medical profession, and, if well-to-do patients are to be cared for in our great hospitals, it seems to me that the evils of free are less than those of paid professional service.

The Massachusetts General Hospital has eight private rooms of the class I now allude to. Years ago the staff itself established the rule that no fees should be received for attendance on inmates of the hospital, and a printed notice to that effect is placed in each of the private rooms.

The hospital physician can keep his private hospital if he will, or he can, just like any other physician in the town, send his patients to an infirmary. The charitable and educational institution should not step in to save its staff the trouble of housekeeping and of providing and superintending nursing for patients in easy circumstances. It should not demand of its staff unrequited service save for the sick poor. It should not place any unnecessary obstacles in the way of full and free competition between members of our profession. To the exaction of the payment of a few dollars a week from patients who can afford it, who are treated in the ordinary wards, and who can be used for teaching if suitable cases, I can see no valid objection. The self-respect of the patient is maintained by rendering some return for much-needed care, which his circumstances preclude his securing at home, and no just ground for complaint is afforded practising physicians unattached to hospitals.

In this whole question we have a responsibility which we cannot escape. The more fortunate a man is, the more mindful should he be of the rights of others, especially of his professional brethren. The staff of the hospital or dispensary should co-operate fully with the trustees, giving them the full benefit of their more intimate knowledge of all professional matters, and always remember the broad therapeutic principle—"*Ne quid noceat.*"

CHANGEFUL PERSONALITY: A STUDY ON THE RELATION OF THE EMOTIONS AND THE MEMORY.

By J. LEONARD CORNING, A.M., M.D.,

NEW YORK.

In a paper on certain of the less cultivated phases of psychology,[1] notably those dealing with the genesis of feeling, read at a meeting of the New York Neurological Society several years ago, I was at some pains to demonstrate the precedence, both biological and psychological, rightfully belonging to the emotional or affective faculties. To add force to the argument, I was fortunate in being able to quote extensively from a paper by Mr. Lester Ward, a botanist and sociologist of renown, whose studies on cross-fertilization in plants and on allied matters have enabled him to adduce certain facts of great corroborative importance in connection with the evolutionary priority of the emotions. As a corollary to the main argument, the important relation of the feelings to the will was accentuated, and a plea entered for their more scientific management in hysteria and depressive states of the simpler kind. The present paper differs from its predecessor in this—that it embodies an attempt to show from the history of a case, rather rare and vastly interesting, how great is the significance of the feelings as cohesive factors in the recording segregation and revival of a multitude of mental impressions. The manifestations about to be described occurred in a married woman who was a sufferer from traumatic hysteria, and who, even in her relatively normal state, disclosed a somewhat low grade of intelligence. Cases of a somewhat similar type, described by Dufoy, Azam, and others, have evoked a suggestive commentary from Alfred Binet, the accomplished director of the laboratory of physiological psychology at the Sorbonne, with whose interpretation, however, I am not always able to agree.

Ignoring for the moment the purely historical side of the question, whose discussion would demand more time and space than I am able to give it, let me say at once that the case is an instance of what is variously known as "multiple personality," "alteration of personality," the "double ego," "day somnambulism," or "vigilambulism." What renders the affection of pressing interest is the fact that the patient, besides her normal life, leads one, two, three, or even more additional existences, of which she has no memory in her normal state. On the other hand, certain of the normal memories are revived during these pathological states; and later I shall endeavor to show upon what principle this selection of memories depends. The disorder, then, is truly well named, for the personality of the subject undergoes disintegration—is split up, not figuratively but actually, into distinct fields of consciousness, the cleavage between each of these states being marked by a strange lapse of memory, following and contingent, as I believe, upon an abrupt and striking change of the affective faculties.

When I speak of a chasm or cleavage between these states, I mean—most wonderful to relate—that each state has a separate memory of its own, a memory which does not embrace an iota of the neighboring morbid states, and whose restricted scope causes a disruption, a dismemberment of the normal field of consciousness: so that certain experiences and tendencies, receiving, as I believe, a gregarious impulse from the dominant mood, flock together in one autonomous group; while others, ruled, as it were, by a different mood, form still other and different aggregations. Thus, to yield to the lure of a bit of metaphor, consciousness, dismembered by an inscrutable upheaval, parts with its solidarity—is split into islands, between whose shores, bridged by no span of memory, blend the surges and the mists in an unfathomable obscurity.

With these elementary conceptions well-seated in thought, the full understanding of the following case, which occurred some years ago in the practice of the author, will present, I think, little difficulty even for those but slightly inclined to things psychological.

Till her fourth year Mrs. L. E—— exhibited every token of perfect bodily and mental health. About the latter part of the fourth or the beginning of the fifth year, however, she fell ill of meningitis. During the greater part of the time she remained unconscious, and when, at length, recovery took place, it was seen that her mental condition had suffered pronounced deterioration. Formerly cheerful and affable, she was now become fretful, self-centred, and wilful. If thwarted ever so slightly, she would burst into violent fits of anger, putting a sharp edge on her resentment with invective and not infrequently with blows. Though possessed of cunning, she is without judgment in the larger sense, being quite incapable of giving effect to her desires by even a moderate degree of prevision and rational persistency.

As she grew older, she disclosed such fickleness as to awaken astonishment throughout her youthful

[1] "Considerations on the Genesis of the Feelings," etc., MEDICAL RECORD, March 31, 1894.

acquaintance. No friendship was of long duration; she flitted from one schoolmate to another, bringing tokens of devotion—little gifts of bonbons, offered in a fit of querulous ardor. These ties, formed with all the extravagant precipitancy of melodrama, melted as quickly as the sweetmeat symbolism that foreshadowed their accomplishment. A word, a look, a gesture were sufficient to break these brittle attachments. Sometimes a gradual coldness preceded the end; but more frequently a violent explosion of temper caused the rupture. These outbursts were not those of ordinary childhood; on the contrary, their causeless vehemence bore the stamp of such unnaturalness that she was at first dreaded and ultimately shunned by all her schoolmates. Though stubborn and artful in matters touching her real or fancied interests, her will was feeble when attainment involved the inhibition of personal inclination. In her studies, therefore, quite irrespective of any obvious dulness of apprehension, she was strikingly deficient. A pronounced enfeeblement of the power of attention was no less baneful in its influence upon her attempts at acquisition. When taxed with her lack of attention, she complained that study caused a feeling of heaviness in her head, and when persistently urged to renewed efforts she became peevish, taciturn, and morose. This, so far as I have been able to ascertain it, is the story of her school days. Her history for the succeeding twenty-five years reveals substantially the same concourse of tendencies—tendencies which were little if at all modified by her marriage, which occurred in her thirty-fourth year. With the coming of the menopause, however, there was a change. This crisis, which occurred in her fortieth year, proved a severe ordeal; yet, thanks to skilful pilotage, she passed through it without manifest detriment, her mental condition remaining little if at all worse than before. For the sake of convenient discussion, I shall symbolize this, her relatively normal state, by the letter A.

We now come to the turning-point in the case—an accident. One day, while she was driving, the horses became restive, and, springing suddenly forward, imparted a lurch to the vehicle, that threw her, or, as she expresses it, "rolled" her over the back of the rear seat—a low affair—so that she fell all of a heap. The fall was not a high one, for the vehicle was but a phaeton, and no bones were broken. Unfortunately, however, the back of her head had struck with some violence; so that, although but slightly dazed and at no time unconscious, she complained of considerable occipital pain for weeks afterward. Nor will it cause surprise that, three or four months after the accident, she developed symptoms of traumatic hysteria, that common but troublesome sequence of moderate concussion. But if this were all, if nothing further had come of it, there had been no excuse for this writing. Let me say, then, to come quickly to the point, that merged with these hysterical symptoms, and under certain circumstances alternating with them, came a series of mental disturbances of unique interest, from both a clinical and a medico-legal viewpoint.

During my first interview with her, at this time, she appeared very restless, moving about constantly, and giving utterance meanwhile to an endless series of complaints. These she reiterated without ceasing, scarce pausing in the tirade to answer a question or take breath: "I am abandoned by everybody; I shall never recover; they want me to die," were some of the phrases she repeated over and over, to the discomfort of the ears of every one. She did not explicitly threaten to make an attack on her life, but spoke of suicide as something to be desired, since "the dead alone are happy." The expression of her face was characteristic: the eyes were wide open, the features were pinched and drawn, and the general expression was so dejected as to make it appear, at first view, that she suffered from melancholia agitata. She had been harried for long by insomnia and had taken various sedatives, but without manifest relief. Nevertheless, I prescribed a hypnotic, enjoining a repetition of the dose should she fail to fall asleep within the hour.

Next morning I received word that she had had at least seven hours of unconscious rest and was feeling "much brighter." An hour later she came of her own motion to my office, and truly the change I beheld was the most wonderful imaginable. Her face had taken on a contented, not to say joyous expression; she had parted with her plaints, her suspicion, and her depression; she no longer spoke of the desirability of death—her talk went rather to the felicities and privileges of living. I began to speak to her of her condition of the day before, and to congratulate myself half-playfully on the auspicious sequence of my efforts to relieve her. As she listened, her face changed; her eyes opened, and, in a twinkling, incredulity the most complete held possession of every feature.

"Last night, last night?" she questioned. "Why, I was asleep. And you, doctor, must have been dreaming, for I never saw you or took any medicine from you."

Presently, as if to ease the situation, she explained that "peoples' memories were dull," and that physicians were certainly excusable if in this respect they made "no better showing than the rest." Clearly, then, not only had she forgotten all the occurrences of the night before, but she was completely unaware that the fault lay with her.

This, the condition of depression, I shall call B: it persisted for nearly a week; and, frankly speaking, I had begun to regard it as the fundamental note of the case, when, arriving early one morning, I was astonished to find her up and about. But this, though at variance with her common habit, gave but small hint of the larger surprise in store. Indeed, even as I looked, she began to pace to and fro, in a kind of fever of locomotion, upsetting the furniture, bringing the bric-a-brac to grief, and behaving generally with such tumultuous disregard of the common maxims of decorum as to suggest at first glance the onset of an attack of acute mania. But, despite the flood of joyous chatter that accompanied this motor storm, there was, strictly speaking, nothing incoherent, nothing of delirium in her speech, which, though swollen and reflecting very exactly her native puerility of mind, maintained throughout a kind of maudlin consistency.

"Oh! doctor, I am feeling as though I could lift the town; I shall do something fine to-day—I shall buy a dress for Phœbe; go to the theatre—and the doll shall have a new dress. To-morrow, church!"

Speaking thus, she ran toward the door, declaring that she would go for a walk, although she had not yet breakfasted. By dint of persuasion, she was induced to remain till coffee was served. Of this she drank a cup, but of food she took little, making off at once, to wander aimlessly among the shops or bestow her largess wastefully on every beggar she met. The expression of her face at this time, benign and somewhat exalted, proclaimed the inner revel of "subdued delightfulness." To serve the ends of subsequent discussion, we may call this state C.

For nearly two weeks Mrs. L. E—— remained in the state last described; then suddenly, as if yielding to the sway of some hidden sorcery, her feelings underwent a change. She became fretful; found fault with everything that was done for her; complained that all her goings and comings were noted by those inimical to her; and kept all about her in a perpetual fever of annoyance. Suspicion, groundless and grotesque, constituted, in fact, the fundamental note of this new transformation. She exhibited, moreover, the

most astonishing vagaries of memory. Certain of the impressions hoarded during her relatively normal condition (A) were readily revived; while those gathered during this, her last transformation, which I shall designate as D, possessed a vividness truly astonishing. On the other hand, the memories of B and C were not revived during D, either spontaneously or yet by direct or indirect questioning. Here, as formerly, there was no delirium; she went about, conversing of her affairs according to her wont; attending to such small matters of business as demanded her attention; behaving, in short, with as much logical consistency as she ever did. In her disposition, however, all was changed. Such small adjuncts of tenderness as were visible in A, her comparatively healthy state, and exaggerated in C, her exalted state, she had now parted from completely. A rancorous suspicion now dominated everything she did; and in the place of that idle chatter, that ultimate sublimate of emptiness, so prominent in C, had come an era of slanting looks and malevolent planning.

In this state she remained several days—five or six at least, if my memory serves—to lapse in the end into what seemed to me a kind of amalgamate, half A and half B.

Diagnosis.—And here you may ask, and I think justly, "By what road must one go to win to a correct diagnosis? How is the thing to be achieved?" To say truth, the problem, though somewhat intricate, is not so difficult of solution as may appear at first glance. Indeed, the old adage, "*Nulla dies sine linea*," if intelligently applied, cannot fail to yield a significant and adequate return. To be sure, the note taking, at first desultory and unguided, may represent in the aggregate nothing more than an enigmatical hodge-podge, a kind of verbal ragout of hopeless irrelevancy. Gradually, however—and more especially if the moods as well as the sayings of the patient be noted—a species of provisional order emerges from the wordy chaos. Certain ideas are perceived to be indissolubly attached to their emotional analogue; and the memorial pabulum for them, or much of it, is quickly seen to be derived from the subject's normal state. During the persistence of the morbid emotional state, however, other experiences are added. These, as far as possible, should be most carefully noted; for, with the disappearance of the morbid emotional state and the return of the subject to her relatively normal condition, it becomes an easy matter to prove that of these memories, hoarded during her unnatural mood, she now retains not a vestige of recollection.

Thus, by noting what is said, done, and recollected during each morbid change of feeling, it becomes possible, by a species of mental subtraction, to determine pretty exactly the limits of the different fields of consciousness. These precipitate and wholly unnatural changes in the subject's affective life constitute, indeed, the most infallible warnings of the impending disorders of memory. From the facial expression, conversation, and demeanor of the patient, it should, moreover, be easy to gather evidence sufficient to determine that an emotional change of this kind has taken place. Thus, thanks to memoranda and diligence in questioning, it is possible to arrive at a satisfactory synthesis.

Addenda and Commentary.—On reviewing this case, remarkable alike in its immediate and collateral bearing, one cannot repress the suspicion that the phenomena are ultimately traceable to a distinct physiological cause. There, engrafted in the early history, is the lesion—meningitis—followed by a distinct and permanent change in the disposition of the subject—surely predisposition in plenty; then, years afterward, the blow on the head, with the quick appearance of hysterical symptoms, the latter apparently but little if at all enhanced by the ordeal of the climacteric. Here, obviously, is the immediate incitement of the trouble.

But what adds, in my opinion, the ultimate of probability to this interpretation is the fact—not sufficiently accentuated in the history—that just previous to a change of personality, and notably so before the change from A to B and from B to C, the patient complained of various paræsthesiæ—tingling and numbness before B, I remember, and marked hyperæsthesia before C, the relatively exalted state.

Yet, just as in the psychosis of epilepsy the motor disturbances give place to the mental ones, so here the sensory anomalies make room for their psychical prototypes: the anæsthesia goes off at the coming of melancholy, the hyperæsthesia gives back before the spirit of gleefulness.

Moreover, from such observation and analysis as I have been able to bring to the elucidation of this case, I cannot repress the conviction that, primarily at least, we have to do with an affection of the emotions, or rather of their underlying mechanism—a mechanism as yet but crudely understood, I regret to say, by either anatomists or physiologists. For long it has been the custom to lay a superlative, ay, almost an exclusive stress upon ideal association as the cohesive element in memorizing. When, however, we come to a full appreciation of how vast hosts of impressions are enmeshed and held together by the frail gossamer of mood, and how often their subsequent revival is contingent upon the reproduction of that mood, it is no longer difficult to understand how a breach in this diaphanous web of feeling inevitably entails the elimination from consciousness of legions of dependent memories. And again, just as in absent-mindedness—which is truly nothing more than the extreme of focalization in thinking—only ideas germane to the ruling trend of thought are admitted to the field of consciousness, so here, too, only such ideas and memories as coincide with the dominant note of feeling find conscious recognition. All memories falling short of this requirement are barred; while those whose content allies them with identical or close-related moods enter freely, thanks to an innate open sesame.

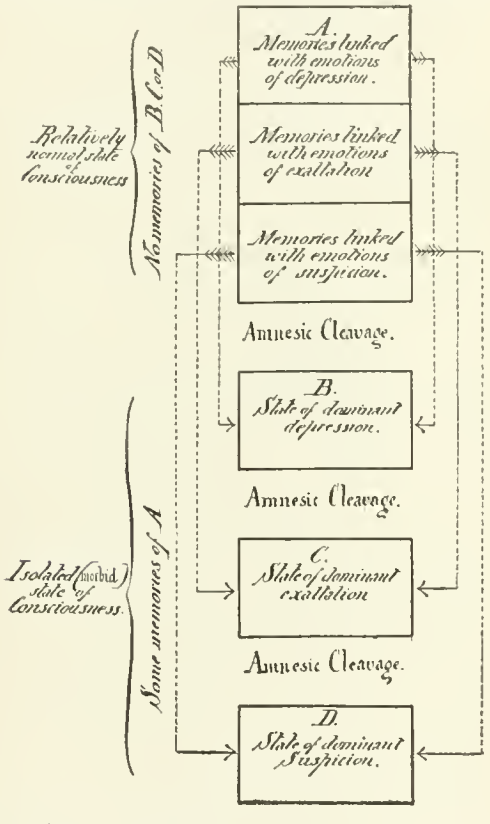
This explains, it seems to me, the intrusion into the morbid and mutually unrelated states B, C, and D, of memories proceeding obviously enough from A, the relatively normal state. Besides, on close scrutiny of the memories thence derived, it appears that only those of a sombre hue are remembered during B, only those of an exalted kind during C, while to D alone are linked the more sinister remembrances. Here, in this truly wonderful phenomenon, we have the capstone of the argument.

Indeed, if interpretation of the phenomena were all, the unravelling of the skein of psychological intricacy the ultimate goal, we might rest now, perhaps, with some confidence, with some sense of sufficiency of the explanation already unfolded. But there is the spirit of the *vis medicatrix*, that haunting wistfulness to make better, to be ever up and doing. And, as heirs of this altruistic bias, you will ask no doubt, "Is anything to be done for these unfortunates?" Yes, and no. On the one hand, it is certainly possible—and I have verified the possibility on more than one occasion—to change one emotional state into another, not by hypnotism, which in my experience is quite uncertain, but by the adroit use of stimulants followed by, or rather coupled with the use of certain sensory appeals, notably those of sight and hearing. Of this I hope to speak at length hereafter. But, on the other hand—to my infinite disappointment, be it said—it is not possible, or through my own management, at least, it has not been possible, to perpetuate the change from a baneful to a relatively normal emotional state. In

short, I have been able to change the mood B to A for several hours, and on one occasion for several days; but, just as hope was at high tide, there came a relapse, not necessarily to B, but to some one of the morbid states, with the consequent discouragement of all concerned.

Disappointing as seems the issue when viewed from a purely practical standpoint, it is freighted none the less with a physiological meaning not to be mistaken. Indeed, the fact that remedies which conspicuously kindle the emotions are capable of altering even evanescently these abnormally fixed moods, with the consequent change in the whole series of dependent memories, goes far to sustain the position maintained throughout this paper touching the very great dependence of ideational memories upon the imperative moods with which they are allied.

In conclusion, I have tried to make plain this principle of the emotional linking of the memories by a simple diagram; and if, on the whole, I have made



myself fairly understood, I shall feel in part reconciled to this quick relinquishment of a great subject, vexed only that I have not been able to provide a more complete illumination.

53 West Thirty-Eighth Street.

Multilocular Putrid Pleurisy without Gangrene.—Dr. E. Boinet (*Le Progrès Médical*, January 1, 1898) has reported a case of putrid multilocular pleurisy without gangrene of the lung or of the pleura, with pneumothorax accompanied by gaseous exhalation. M. Widal has already described such a case. A man, forty-two years of age, developed on the left side a pneumothorax without apparent cause. His general condition was bad; the fetidity of the pus obtained by an exploratory puncture decided them to practise an operation for empyema; an incision of ten centimetres gave an issue of gas and of pus having a very repulsive odor. The patient died in spite of all disinfecting irrigations. The autopsy showed that at the side of the cavity opened two other cells existed, which were filled with pus and gas; one of these compressed the heart. There was no trace of gangrene either in the pleura or in the lung.

THE SURGERY OF THE PREPUCE AND MEATUS.[1]

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I exclaim, with St. Augustine: "If what I have written scandalizes any prudish persons, let them rather accuse the turpitude of their own thoughts than the words I have been obliged to use."

The glans penis and its adnexa are frequently the seat of morbid phenomena, which are either local in their results or are the initial, precursory signals of a systemic storm. To-day I shall discuss only two abnormal conditions involving these structures and which call for surgical interference: they are the phimosed prepuce and the stenotic meatus.

The man child is born into the world phimosed, and, if he lives to old age uncircumcised, goes out in the same condition. After a few years of growth and development, together with frequent ablutions, this condition is usually satisfactorily adjusted by nature and all goes well, until, with declining age and abatement of the genital function, the wasting phallus again withdraws within its preputial folds, and becomes redolent with urinary and smegmatic exhalations. The redundant foreskin often develops inflammatory conditions, induced by retained secretions and absorption by its receptive folds of extrinsic, morbific material, followed by thickening, induration, ulcerations, œdema, and adhesions which frequently prohibit its retraction. These conditions call for surgical interference.

There are advocates of general circumcision who claim that it promotes sanitation and health, and who refer to the Jews, noted for their longevity and immunity to disease. Richardson, in his "Diseases of Modern Life," says: "The Jews escaped the great epidemics more readily than the other races with whom they lived. Different causes have been assigned for this higher vitality of the Jewish race, and it were wise to seek for these causes, since that race which presents the strongest vitality, the greatest increase of life, and the longest resistance to death, must in course of time become, under the influence of civilization, dominant. We see this truth, indeed, actually exemplified in the Jews: for no other race has ever endured so much, or resisted so much. Persecuted, oppressed by every imaginable form of tyranny, they have held together and lived, carrying on intact their customs, their belief, their faith, for centuries, until, set free at last, they flourish as if endowed with new force. They rule more potently than when Solomon in all his glory reigned in Jerusalem. They rule, and neither fight nor waste."

Remondino, in his "History of Circumcision," says: "If circumcision is not a factor in the differences that exist between the Jewish race and other races, if it goes for nothing as an exemptor of disease and the promoter of longevity, then there must exist some other factor or cause that induces these conditions. What this factor is, the legislator, the sociologist, and the physician should make it their business to find out."

Ricord says that the prepuce is "a useless bit of flesh." Remondino says: "It has neither use nor beauty;" while Puzey, of Liverpool, claims that it makes most excellent skin grafts, unequalled by those from any other portion of the body; that their vitality is greater, their healing quicker, and with less chance of failure. This might be used as an argument for the negative side of the question. The command to

[1] Read before the Alumni Association of Niagara University, June 12, 1897.

Abraham reads as follows: "This is my covenant, which ye shall keep, between me and you and thy seed after thee; every man child among you shall be circumcised. And ye shall circumcise the flesh of your foreskin; and it shall be a token of the covenant betwixt me and you."

Paul was charged with disregarding the law, forsaking the teachings of Moses, and attempting to abolish circumcision.

It is claimed that the prepuce, like the climbing and auricular muscles and some other supposed functionless organs of the body, is a relic of man's sylvan and barbaric existence, which has not yet been eradicated in the progress of evolution. In those early days the prepuce served to protect the glans from erosion by brier and bramble, as man sped upon all fours through primæval forests or climbed the first friendly trée to escape his gastronomic enemy. During those days of early primitive unwashed civilization, and among the early Christians of the East, who mingled piety, filth, and continence, this lax structure often became the source of unnumbered woes. These people were unlike the Mohammedans, who circumcised, washed, and sinned.

The removal of the foreskin by circumcision is a procedure older than history, and is traced back into the mists of tradition and mythology. There is a legend that one of the Atlantean kings ordered his whole army circumcised, that it might escape a prevailing scourge. Bergman states that circumcision was at one time performed for the purpose of giving an indestructible mark of servitude.

Circumcision has been performed as a purely religious rite, a covenant, and an offering, without any thought of sanitary benefit, and had its origin as a general practice with the foundation of the Hebraic creed in the hills of Chaldea. It was practised by the Egyptians in the sixth century B.C., alleged by Herodotus to have been strictly a religious rite. The circumcised were looked upon with disfavor in the fifth century. Pythagoras was not granted the privilege of the Egyptian temples until he had submitted to this operation. The practice was common among the Arabs long before the days of Mohammed, who was himself circumcised and who is reputed to have said: "Circumcision is an ordinance for man, and honorable for women." It spread under the banner of Islam, and the uncircumcised were regarded as impure. In Turkey a tax was levied upon the uncircumcised, while in Rome it was placed upon the circumcised. Many savage tribes in various parts of the world practise some one of the different methods of circumcision, associated with elaborate ceremonies and curious observances. The Bassanta of Australia use the circular incision, the excised portion being placed upon the middle finger of the left hand as a ring.[1] Some of the Arab tribes circumcise just before, and some just after marriage. Sarah conceived after the circumcision of Abraham. It is evident that there was more than a sanitary or ritual purpose in the observance of this practice, since the circumcised phallus was an emblem of civil or religious orthodoxy, the symbol of national honor, an object of worship, and was grasped with the hand in the execution of the jurat of the period.

Circumcision was designated as a law of perpetual obligation to the Hebraic family, under the penalty of excommunication. There are, however, Hebrews who look upon this practice as an arbitrary rule of the remote past, and allege that it is hygienic; that it has no ritual significance; and that in modern times it has no purpose or use except such as relates to pathology and surgery.

The prepuce may be entirely absent, but usually is present, varying in redundancy, and redundancy is the rule.

"Phimosis" is a term signifying "to tie with a string," and its use is indiscriminately applied to both the redundant retractible and the redundant non-retractible prepuce. The complications arising from these conditions are balanitis, balano-posthitis, adhesions, hemorrhoids, bladder irritability, hernia, dilatation of the bladder, ureters, and renal pelves, reflex irritation, causing retention and incontinence of urine, arrested development and distortion of the glans and urethra, sexual excitement, seminal weakness, spastic palsies, pseudo hip-joint disease, muscular inco-ordination, convulsions, impotency, cancer, and herpes. The folds of the redundant prepuce serve as a purveyor, a habitat, and conveyor of venereal virus. "If it offend thee, cut it off"—it is an outlaw.

There are several different procedures used in the surgery of the prepuce. The most ancient and classic is circumcision, which consists of the removal of the entire foreskin. The glans is grasped laterally, just over the corona, with the circumcision forceps inclined at an angle of about thirty degrees to the penal axis, to escape the frenum. As the integument is drawn down, the glans slips behind the forceps; the projecting foreskin is transfixed, and cut both ways by a sawing-motion with a very sharp knife. Opening the forceps frees the skin, which slides over and behind the corona, leaving the glans covered with mucous membrane, which is slit on the dorsum and either side of the frenum. The resulting flaps are then trimmed, leaving only sufficient border for stitching to the skin. The first stitches are taken in the back and in the front. The wound is then dried and powdered. Wet dressings can be avoided by using borated vaseline or moist gauze, which will keep the parts soft. For wrapping, a small roller or the Maltese cross is used. The dressing is held in place by means of adhesive plaster. It has been recommended to apply Friar's balsam with a brush, as a protective dressing to the wound and exposed dressings. The technique of this consists in winding over all some strips of absorbent cotton, and supporting the same with a T or a suspensory bandage. Healing occurs in from four to ten days. This operation removes the entire foreskin, and the glans is constantly exposed to the buffeting of a cold and heartless world, which hardens its delicate and sensitive papillæ, destroys Tyson's glands, causes absorption and induration, and renders the procreative act less ecstatic.

There is another procedure in vogue, which consists in splitting the prepuce through the middle line of the dorsum from its margin to the coronal sulcus. This practice makes two large lateral ears, which are neither ornamental nor useful, and hence are objected to by adults on æsthetic grounds. Paring off these flaps after such slitting is done is not tidy in its results.

The offending foreskin may be slit up by the side of the frenum — an operation proposed by Celsus, revived by Cloquet, and condemned by Ricord and others. This incision is made by transfixing the prepuce through the corono-frenal pouch, and slitting down to the margin of the foreskin, thus severing all of the constricting bands. The point of the bistoury is made probe-like by a ball of hard wax, which guides the blade into the pouch, and then the ball of wax and the tissues are penetrated at the same time. The operator must exercise care, lest he pass the blade of his instrument into the urethra, and thus produce an artificial hypospadias.

Remondino, in selected cases, such as the narrow and not too long foreskin, commends the combination of the dorsal and inferior slits. He recommends a dressing made with two layers of gauze, shaped like a Maltese cross, and perforated in the centre to admit

[1] Remondino: "Circumcision."

the glans. The short flaps are folded back around the body of the organ, and held in place by means of narrow strips of adhesive plaster or of collodion. He claims that this operation is less severe, less painful, and less bloody than circumcision, and that it does not keep the patient from business. Nature will round off the protruding corners left after slitting.

Dilatation and divulsion have been recommended, and several instruments have been devised for this purpose, but the results have not been satisfactory and this plan has not been accepted by the profession.

Lallemand proposed transfixion of the prepuce on the dorsum, and from this transfixed point to cut away the flaps.

MacLeod, of Edinburgh, places the sutures in position before cutting, by passing them through the fenestra of the forceps. After excision the sutures are picked up in the centre, thus making two sutures out of one. This method of stitching makes a thick, cumbersome, preputial border, as the intervening tissue between the integument and the inner membrane is tied in with the stitches and the mucous membrane everts. The claim that it is less painful than stitching after the cutting, cuts no figure in these days of anæsthetic surgery. Another objection is that the inner membrane cannot be shortened sufficiently to prevent eversion, and the constricting bands may be reformed in the connective tissue and inner membrane, so that phimosis reappears.

Gross favored the double slit, dorsal and anterior, and claimed that the resulting deformity would disappear.

Van Buren and Keyes recommend the combined dorsal slit with the Ricord-Bumstead operation of circumcision.

Lisfranc, Coster, Vidal, and others proposed different modifications of these procedures, which are mentioned in print but never used in practice.

Ligature and the cautery knife have been used to slit the prepuce longitudinally or transversely.

It has been proposed to slit the prepuce with a straight narrow bistoury on the inner surface, and thus divide the mucous membrane and tissues through to the integument. These slits are to be made along the longitudinal lines.

The writer suggests for your consideration a new

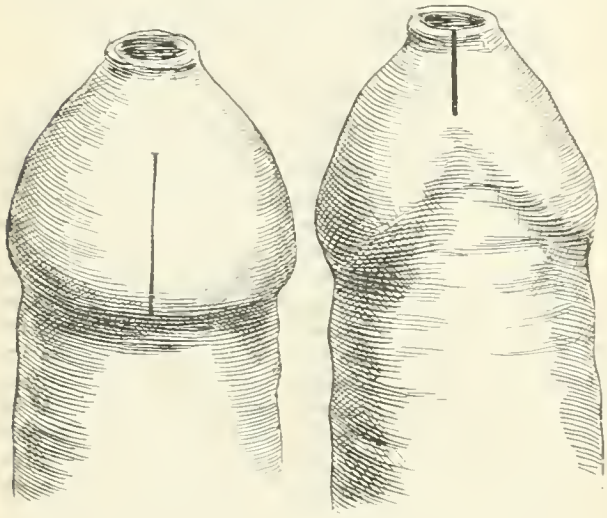

Fig. 1.—Dorsal Slit or Incision. Fig. 2.—Inferior Slit.

procedure for this operation, which consists of a modified combination of the dorsal and inferior incisions. The dorsal cut is in the central line, extending from the anfractus to within about one-third of an inch of the preputial border. The line of the proposed incision having been marked, a puncture is made at the distal end with a sharp point of the bistoury, and a loop of ligature is passed through this cut, for the purpose of drawing the prepuce tense and holding these mobile and lax structures in proper place for incision. The probe point of thin long-bladed scissors is now introduced into the puncture, and the entire cut through all the tissues is made with one movement, so that the incision shall be straight, uniform, and inclusive (Fig. 1). The inferior incision is made from the preputial

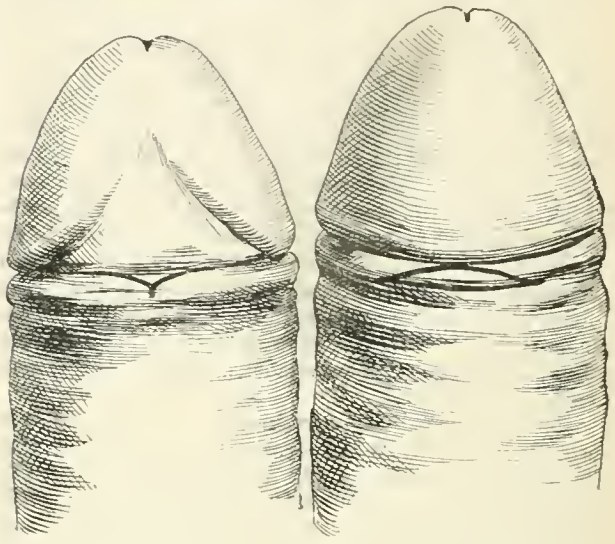

Fig. 3.—The inferior slit enlarges the prepucial orifice. Fig. 4.—The dorsal slit becomes transverse by retraction of the prepuce.

margin directly backward for a little more than one-third of an inch, or sufficient to overlap the dorsal incision (Fig. 2). These cuts will sever all the constricting tissues of the foreskin. The lower incision is stitched with a fine needle and ligature, so as to unite only the inner membrane and the integument, thus making a thin finished border for the enlarged preputial opening. The foreskin is then drawn back behind the corona of the glans, and these incisions will be transverse instead of longitudinal (Figs. 3 and 4). The dorsal opening is united by fine sutures in this transverse position, and the edges of integument only are to be stitched together. The prepuce is to be held in this position by the dressings described above, which are not to be removed for four days, unless there are surgical indications for interference. Brush over the exposed portion of the dressings with Friar's balsam to prevent absorption, and leave the apex of the glans free: pack with absorbent cotton, and apply the T-bandage. If the parts become dry and painful, apply properly medicated vaseline or moist gauze, without disturbing the first dressing. After about four days, the healing will be complete or well advanced, when the entire dressing may be removed, freeing the foreskin so that it may be drawn down upon the glans. This operation shortens and widens the prepuce: it sacrifices no tissue; it neither mutilates nor deforms; it reconstructs and creates a cosmetic, æsthetic covering and protection for the sensitive glans. "The Tysonian brood" is also preserved in both structure and function.

There is no single operative procedure applicable to all of the varying pathological conditions of the prepuce. The surgeon must choose his method with his patient before him. The surgery of the prepuce will test the mechanical skill and judgment of the operator —it is not a trivial matter.

The ostium cutaneum of the urethra may be only a pinhead hole, or it may be a vertical slit varying in length. The urethral meatus may be stenosed sufficiently to obstruct urination and necessary instrumentation. This condition calls for surgical interference, and an operative procedure called meatotomy is done. The membrane forming the ostium cutaneum, the im-

mediate urethral opening, is a flexible and dilatable structure, unlike the immobile, inflexible tissues of the glans proper surrounding the balanic urethra. The glans contains but little muscular or fibrous structure; hence forcible dilatation is contraindicated in this region. Irritation and inflammatory products thicken and sclerose the walls of the balanic urethra, and in this way narrow and constrict its lumen. Incision is the indicated operation for relieving this condition. At the proximal and lower border of the balanic urethra there is a transverse fold of membrane called the valve of Guerin, and located on either side of the vertical walls of this canal is a fold of membrane, varying in volume and extending from the ostium backward and slightly downward into the navicular fossa, which, when the lips of the urethra are opened, sometimes gives the appearance of two urethral canals, or a result of a previous balanic urethrotomy (see Figs., *A*, *B*, and *C*). One or more folds may be found upon the walls of all meatus. The function of these folds is to make a more complete nozzle of the inelastic meatus. These folds of membrane occasionally unite, forming a complete septum, and in this event the upper opening leads into a closed pouch. The membrane binding the immediate urethral orifice is slightly hooded over the upper point of the vertical canal, and also stretches across the lower apex, forming a fourchette or threshold. These structures are undoubtedly created for some useful purpose. The ostial membrane forms a gate or door at the meatal orifice, and serves to protect the nervous and muscular papillæ located in this portion of the urethral mucosa. The urethral canal is the most sensitive and vulnerable of all the mucous-lined orifices of the body. The membranous margin of this canal serves to protect the urethra from infection by sexual contact, and is a guard against mechanical, chemical, and other irritants. It also forms a nozzle for shaping and guiding the ejections impelled therefrom; also a retrenchment for the normal secretions of the parts. Cutting down through the fourchette, and even into the frenum, as is often done when meatotomy is performed, destroys the nozzle and breaks down the threshold, so that the urinary stream is broadened and thinned, causing dripping during urination, and the mucous secretion is constantly drained away.

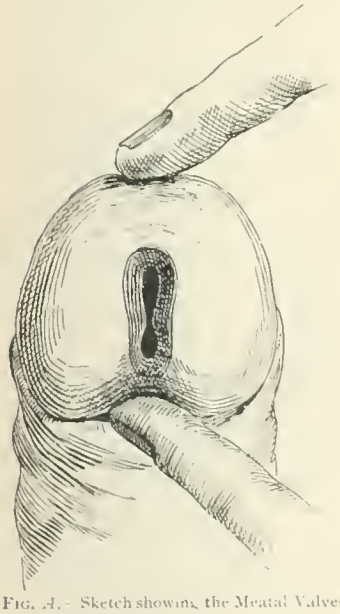

Fig. *A*.—Sketch showing the Meatal Valves.

Such an operation as this is unnecessary and unsurgical. It produces an artificial hypospadias. The operation of choice for meatal or balanic urethral stenosis is internal balanic urethrotomy. It is not necessary to incise the ostium cutaneum, since it readily dilates, and it is not usually necessary even to nick it. The balanic portion of the urethral canal is inelastic, immobile, and non-extensible; while the other portions of this canal are more or less elastic, mobile, and extensible. The vertical, bulbous form of the balanic urethra, and its lateral and longitudinal mucous folds or valves, serve the purpose of the constricting elastic and muscular tissue found in other portions of this wonderfully constructed organism; more than this, they guard from without as well as from within.

The operation for enlarging this portion of the urethral canal consists in making two or more longitudinal incisions, the Otis urethrotome, sufficiently dilated

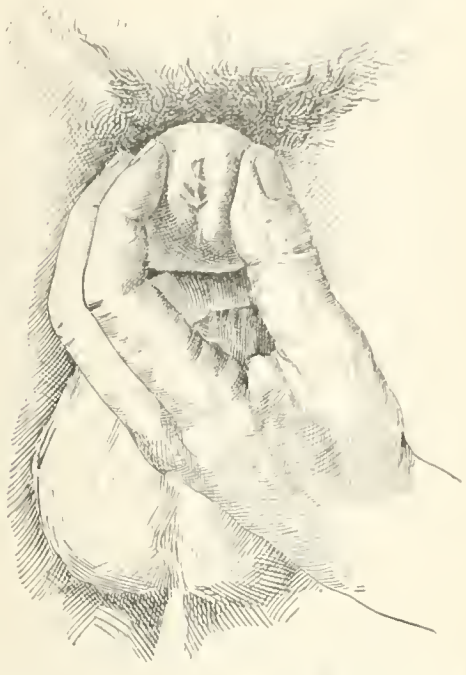

Fig. *B*.—See "valves of Daggett" on the walls (lateral) of the urethra. These folds or valves are frequently distinctly marked. In this case they form a crescent-shaped septum with a blind pouch above. The function of these folds is to give shape or form and force to the ejections.

to fix it in place, being used. The bottom or floor is first incised. Reverse incision is then made at the top of the canal, the blade being drawn forward until the orificial membrane bulges. This should extend up to but not through this membrane, with the deeper cut of the two at the top. If these cuts do not sufficiently enlarge the lumen, the vertical canal should be cut in a similar manner, on either side, and I am not sure but the lateral incision should be the cut of choice. These incisions may be made with a probe-pointed bistoury having a convex edge, the urethral canal being held open by a wire-spring speculum. These operations are very satisfactory in their results, and do not impair the usefulness or present ability of the organ. The narrowing is relieved, without leaving any external evidence of an operation. Thorough cleanliness and antisepsis must be observed, and the patency of the enlarged lumen is to be maintained by the passage of sounds. The meatus opening presents two small lateral lips, with numerous delicate papillæ, and is lined with pavement epithelium extending back into the fossa. This formation serves as another of nature's guards against absorption, lodgement, and penetration of infection.

Fig. *C*.

The appearance of the meatus is often an index of disease. When carefully observed, it gives us hints as to the condition within the urethral canal, just as the tongue tells us of the disturbance of the digestive tract:

1. A bright red, bulging, and œdematous meatus indicates acute urethritis.

2. A dull red, patulous meatus indicates passive congestion of the prostate.

3. A dark red, puffy, herpetic meatus, with a flabby elongated prepuce, indicates senile hypertrophy of the prostate.

4. A blanched, anæmic, and pinched meatus indicates atrophy or tuberculous wasting.

I have endeavored to describe only two surgical conditions relating to the "distal inch," time on such an occasion as this being too limited to consider other affections of even this small portion of the genito-urinary system—that wonderful system of twin functions, so fertile for human weal or human woe. Through the lumen of these structures passes the effete material of the great eliminating organs of the body as well as those germs of life which fit man for consummating the sacred injunction to "multiply, increase, and replenish the earth," and in this way to bear humanity onward toward eternity and immortality.

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THE QUESTION OF INSTRUCTION IN DISEASES OF CHILDREN.

By HENRY DWIGHT CHAPIN, M.D.,

NEW YORK.

Pædiatrics has been happily called the specialty of the general practitioner by the editor of the *Archives of Pediatrics*. It is certainly true that a large portion of the work of the average physician consists in attention to the ills of infants and children. This is as it should be, as pædiatrics properly forms one of the branches of general medicine. It deals with the general diseases of the body at a time of rapid growth and development, when the great physiological activity is apt, upon slight provocation, to become pathological. Although special study is required to recognize and properly treat the peculiar forms disease may take at this time of life, it is with the whole organism, and not with any single organ, that pædiatrics is concerned. Hence its kinship is with general medicine rather than with any specialty. The lamented O'Dwyer, whose name will be longest remembered among the present workers in pædiatrics for what he accomplished, was always a general practitioner. While pædiatrics should not be looked upon as a specialty, it certainly requires special study, as hinted above, to attain proper expertness in diagnosis and treatment. Some diseases are practically confined to early life, while others assume a peculiar type at this time. The physical and rational signs of disease also differ widely from adult life. While these facts are mere truisms to those who have given thought to the subject, the schedules of our medical colleges do not show an appreciation of their importance. It is certainly true that a good proportion of the men who are yearly graduated are in more or less ignorance of the branch of medicine that will form the most important and vital share of their future practice.

It is equally true that more mistakes are made in dealing with infants and young children than in any other branch of medicine. When the college course could be compassed in two years, there might have been some excuse for neglect of this vital branch: now that three and four years are properly employed in study, it is inexcusable. That the colleges do not appreciate the importance of a thorough teaching of pædiatrics is recognized most strikingly in examining candidates for hospital appointment, where the best men are apt to appear. Recently the writer examined thirty-five men upon diseases of children—candidates for positions in one of our large hospitals. These thirty-five candidates came from ten colleges situated in various parts of the country. The majority, however, were recent graduates from the large colleges of Boston, New York, and Philadelphia. They were bright looking, apparently well posted in general medicine, and were probably above the average output of their colleges. Upon pædiatrics, however, they all stumbled badly. Not one could give, in a proper manner, the physical signs of empyema in a young child; they all gave the signs that might be looked for in an adult. From the examination it is fair to suppose that all would have overlooked a common, insidious, and fatal disease of early life. And so with all the other questions. They apparently were fairly posted upon the physical and rational signs of disease in adults, but had no conception of the frequent changes of these signs in early life. They answered properly what they had been taught, and then were dumb. Another recent experience exemplified the young graduates' poor training in pædiatrics. The writer, as one of the examining board, listened to the replies of candidates for the position of interne in a hospital for infectious diseases. There were four simple but comprehensive questions, as follows: symptoms of measles; complications and sequelæ of scarlatina; causes of death in diphtheria; tests for albumin in urine. None of the eight candidates gave any evidence of thorough training and instruction upon the first three subjects. One of the most promising-looking men replied that high temperature and œdema of the glottis were the causes of death in diphtheria, and no amount of gentle prodding could make his knowledge expand upon this important topic. This abundant ignorance on the part of graduates will continue until the colleges give proper attention to pædiatrics. The fault is not with the teachers, but with the schedule. One clinical lecture a week in the last year, with possibly a little dispensary work, is not sufficient. A regular didactic course of instruction, fortified by thorough quizzing, should be the foundation. Later on, the clinical lecture and section demonstration will serve to clinch and apply the knowledge already gained. Aside from the special information thus procured, the training in and for general medicine will be of great value. Until the colleges get rid of the idea that pædiatrics is to be classed upon their schedules with diseases of the eye and ear or the nose and throat, the defect will continue. These valuable branches are taken up last, as a sort of accomplishment, but diseases of children form a necessary and fundamental equipment for the average practitioner and should be so treated. As it is, most young men on graduation go out to cope with what will probably prove the largest part of practice with the same amount of instruction that has been bestowed upon the extreme specialties. Unfortunately, this lack of early training is often never made good, as those who are teaching in our post-graduate institutions can testify.

Postanæsthetic Paralysis.—Dr. Schwartz (*Revue de Thérapeutique*, January 1, 1898) cites a case of paralysis of the crural triceps and of several flexor tendons of the fingers coming on after an operation for the radical cure of inguinal hernia. After a comparison of facts he concludes that chloroform during the period of excitation favors the production of small central hemorrhagic foci in arterio-sclerotic subjects.

Progress of Medical Science.

Nephrectomy and Pregnancy.—Dr. G. E. Twynam (*British Medical Journal*, February 12th) says that his own view as to wherein the safety of women under these conditions lies is that the answer is to be found in an increased action of all the emunctories of the body and not in hypertrophy of the remaining kidney or of the heart only. Analyzing all cases upon which he was able to obtain notes it was found that: 1. All the women who went to term made good recoveries, although Schramm notes a long recovery. 2. Slight albuminuria was noticed in Schramm's case and in one of his own. 3. A tendency to ventral hernia in one case. 4. Liquor amnii was not excessive in any case. 5. Marked œdema was not noticed in any case. 6. Schramm noted an irregularity of the pulse shortly after the confinement, although hypertrophy of the left ventricle was present. 7. Morning vomiting was severe but not dangerous in one case. 8. The forceps were used in one case only, and then merely to prevent ventral hernia. 9. Eclampsia or uræmia did not occur in any case that went to full term, but did in one of his cases shortly after miscarriage. 10. All the children were healthy, and in Tridondani's and in one of his cases it was specially remarked that they were the healthiest the women bore. 11. In all cases the mothers nursed their children. He thought that it could fairly be concluded that women can, after a nephrectomy, bear children without very great danger to themselves, provided their organs and the remaining kidney are healthy.

Gastro-Enterostomy for Pyloric Cancer.—Dr. Arthur E. Barker (*British Medical Journal*, February 12th) gives a brief account of the last four cases of gastro-enterostomy that he has had. In reviewing these four cases he calls attention to the fact that the patients were all operated upon too late. Two died from the operation, one from the shock, the other from inanition, perhaps aggravated by shock. The two others recovered from the operation, the parts uniting perfectly and leaving nothing to be desired as regarded the functions of the new openings. But in one of these cases the stomach, injured by prolonged dilatation and putrescence of food with bacterial fermentation, was the seat of ulcers, one of which ruptured an artery, causing fatal hemorrhage. In the other case, although the relief of symptoms after operation was most marked, the cancerous ulcer was too far gone in destructive change, and opened into the peritoneum just when he hoped the patient would be able to leave the hospital. In one case he used Senn plates; in another, a Murphy button; in the remainder of the cases he used his own method. So far as his own experience goes, taken with other cases of intestinal surgery, he feels justified in forming the conclusion that he would certainly prefer simple suture with fine silk to any other contrivance. The absence of free hydrochloric acid in two of his cases, in most of the washings of the stomach, strengthens the view generally held on this point. His experience on the whole is not very cheering as regards gastro-enterostomy for advanced cancerous disease of the stomach, but as far as it goes appears to deserve to be recorded, and it strengthens the belief that if done early the operation can give relief.

The Treatment of Fractures by Massage and Mobilization.—Dr. Lucas Championnière (*Le Scalpel*, January 2, 1898) presented a patient at the Academy of Medicine of Paris who had had a fracture of the inferior extremity of the left humerus. The cure was perfect and had been effected by massage and mobilization from the first. Apropos of this case Dr. Championnière said that immobility is not an indispensable element nor even a useful one in the treatment of fractures. A mobilized bone with peripheral massage repairs itself more quickly and more easily than an immobilized one. A great number of fractures of the humerus are amenable to this same treatment, all those from the finger to the elbow and those which are superior to the insertion of the deltoid. Adult and aged subjects are those most benefited by this treatment. These principles apply not only to fractures but also to all tissues which have undergone traumatism. Immobility does not favor the repair of tissues or of organs; movement is as necessary to their repair as to their life. Immobility in surgery is harmful and should become a thing of the past. Dr. Péan acknowledged that the results obtained were all that could be desired, but could not agree to a general application of this method. It is advantageous in transverse fractures when the displacement is slight, but when there is a fracture of the olecranon or an intercondyloid fracture he felt convinced that immobility for some days gives most excellent effects. The method of Dr. Championnière may be all right in his hands, but complications are likely to arise when less experienced surgeons attempt to employ it. Dr. Championnière said that he had been slightly misunderstood. He wished to say that movement never produces pseudarthrosis. Immobility is only useful to avoid deformity. There are fractures in which mobilization cannot be employed, as fractures of the humeral or femoral diaphyses, fractures of the inferior extremity of the tibia, etc.

Olive Oil in the Treatment of Hepatic Colic.—Dr. Barth (*Semaine Médicale*, No. 56, page 441, 1897) states that the work of Chauffard and Dupré in France, and of Rosenberg in Germany, have established beyond a doubt the therapeutical value of large doses of olive oil in hepatic colic, and have partly elucidated the method of its action. When a considerable volume of olive oil, say one hundred or two hundred cubic centimetres, is introduced into the stomach of a patient suffering from hepatic colic, the stomach throws it off and the spasmodic contractions cause the liquid to spread over the whole surface of the stomach and a part is driven into the duodenum; thus the lubricating action of the oil makes itself felt over the entire irritated surface. Willemin and others have noted cases when this remedy acted like a charm, and almost as quickly as an injection of morphine. When the oil is once in the duodenum it comes in direct contact with the orifice of the ampulla of Vater. If the passages are permeable it may penetrate into the bile duct, but if a calculus blocks up the way capillarity comes into play, and the mucous membrane absorbs the oil and conducts it to the foreign body. According to Chauffard and Dupré, the oil cannot dissolve the calculus. Brockbank, by employing a bath of oil at the temperature of the body, has seen a calculus of 1.6 grams lose 1.21 grams in weight in four days, and in another case he has seen a loss of forty-four centigrams in the same time. While the oil remains in the canal it is submitted to the action of the digestive juices and is resolved into fatty acids and glycerin; a part is incompletely saponified and is expelled in the form of small concretions which are often mistaken for calculi, but they are only fatty matter rich in palmitin and palmitic acid. This digestive process is accompanied by an abundant secretion of bile, which commences about three-quarters of an hour after the ingestion of the oil and persists for about three hours. Rosenberg thinks that this phenomenon is reflex. Stewart and Ferrand think, on the other hand, that it is due to the passage through the liver of the glycerin and the fatty acids formed and absorbed in the intestine. However

this may be, the abundant secretion of bile and its passage through the biliary duct favor the progress of the calculus toward the intestine. This hypersecretion also cleanses the intrahepatic passages and expels the mucus, epithelial masses, and dark bile. The usual dose is one hundred and fifty or two hundred grams, taken before breakfast in the morning; a few drops of essence of anise make the oil pleasanter to take.

The Suprarenal Capsules in Experimental Infectious Diseases.—Of all the organs of the body none have been so difficult to study as the suprarenal capsules. In a recent communication in the *Annales de la Société Royale des Sciences Médicales et Naturelles de Bruxelles*, vol. vi., 1897, p. 115, Dr. Rene Wybauw gives the results of an extended research on the suprarenals of the rabbit. He records the normal histology of these glands in this animal and the pathological changes due to diphtheria and other infectious diseases. He also gives the results of a physiological study of the extract of the glands. He believes it fairly well established that the suprarenal capsules, perhaps more than any other organ, are susceptible to the action of toxins and specially to the toxin of Loeffler's bacillus. This susceptibility argues that these organs probably have a very delicate and complicated function from the chemical point of view, and also that they have a very unstable composition. It is of interest to note in this connection that the tissues most markedly affected are those in which the medullary and reticular zones are adjacent; in other words; those in which the blood supply of the organ is richest, and hence by which the greatest quantity of poison could be introduced into the organ. These changes affect the cells and the nuclei, and are brought about rapidly, producing as a result the suppression of the physiological activity of the gland, thus causing a loss of the chief power of the gland—its antitoxic properties; for one of the chief functions of this gland, according to the author's experimental experiences and also those of others, is to destroy the organism's own toxic substances. It is to the suppression of the activities of this gland in the infectious fevers, when there is a great and sudden increase of waste toxic products, in great part at least, that death is due. The author shows that three factors are here concerned: these are: 1. Intoxication by the bacterial products. 2. Diminution of the activities of the emunctories, as the kidneys and other organs undergo degenerations. 3. The diminution of the internal chemical destruction of the poisonous products elaborated by the organism itself, precisely at a time when the body is making such products in enormously greater quantities.

Brain Surgery.—Ernst von Bergmann ("Die chirurgische Behandlung der Hirngeschwülste," Volkmann's "Klinische Vorträge," No. 200, December, 1897) recommends greater moderation in brain surgery. He considers the dangers to be apprehended from shock, infection, œdema, and possible prolapse of the brain substance, and the risk of the formation of scar tissue, inducing epileptic attacks, sufficiently great to contraindicate craniotomy in all cases when a positive diagnosis cannot be made. Tumors of the central convolutions are those easiest to diagnose and most likely to admit of successful removal. New growths in the temporal, parietal, or occipital lobes can be definitely located only when they encroach on the central convolutions sufficiently to give rise to motor disturbances. In addition to the customary motor symptoms, ophthalmoplegic examination is capable of giving much assistance in diagnosis. Choked disc is almost invariably present and its character often permits an opinion as to the probable size of the tumor. General systemic treatment of tuberculous nodules and gummata gives a better prognosis than operation, but when a tumor of another variety is suspected, although the presence of either of the above is possible, craniotomy is indicated.

Cholesterin and Biliary Salts as Chemical Vaccines against the Venom of Serpents.—Dr. Phisalix (*Le Progrès Médical*, January 1, 1898) says that the mechanism by which the toxins of microbes and venoms traverse the digestive canal without producing untoward results has been made the object of numerous investigations. For several years the author has studied this subject and has observed that minimum doses of bile, whether of the serpent or of mammiferæ, are able to neutralize a fatal dose of venom. In addition he has been led to recognize the fact that biliary salts and cholesterin exercise an immunizing action against venom. The following is the train of ideas and facts that has conducted him to this conclusion. Dr. Bertrand, together with the author, has shown that immunizing principles exist in different degrees in the blood of the serpent, the adder, the hedgehog, the guinea-pig, and the horse. The author has observed the same fact in the frog, the toad, and the dog. These principles come, for the most part, from the digestive glands, the superior labial glands, the liver, and the pancreas in the serpent and adder. But they cannot be attributed especially to the digestive glands of reptiles. In the dog the pancreas and liver produce these same principles. It takes, for example, from twenty to thirty milligrams of alcoholic precipitate of pancreatic juice to immunize a guinea-pig against a fatal dose of the venom of a serpent. These different antivenomous substances that are thrown into the blood by internal secretion raise the question as to whether they are also eliminated by external secretion, and whether they aid in neutralizing the action of venom in the intestinal canal. This is what takes place, at least with bile, the effects of which on venom the author has studied. Without going into the details of the experiment, he says that twenty to thirty milligrams of the dried bile of the viper will neutralize a fatal dose of venom in a guinea-pig, or will vaccinate it against this venom. The antivenomous properties of the bile were easily determined. The author found that neither decoloration by animal charcoal, nor filtration through porcelain, nor heating to the boiling-point for twenty minutes would cause the bile to lose these properties. To obtain this result it is necessary to keep it at a temperature of 120° C. for twenty minutes. These experiments did not give sufficient information as to the nature of the antivenomous principles, and the author studied separately the substances that entered into the composition of bile, and especially the biliary salts and cholesterin. The following points were observed: Biliary salts exercise a very marked neutralizing action against the venom of a viper. Cholesterin possesses the same property, but in addition has an antitoxic effect. The biliary salts exercise the same chemical neutralization as does the entire bile. In both cases this property is destroyed by heating to 120° C. for twenty minutes. They act as a vaccine but not as an antitoxin. As to cholesterin, the quantity contained in twenty milligrams of bile is insufficient as an immunizing dose. It is not surprising that heating to 120° C. leaves the cholesterin intact but destroys the property of the bile. It is also possible that other antivenomous substances, as yet undetermined, exist in the bile. However that may be, the interesting fact remains that pure cholesterin, in spite of its slight solubility and weak chemical affinity, immunizes against the venom of the viper. This is a difficult fact to explain for the time being, but deserves to be noted as the first known example of a definite chemical compound which acts as a vaccine.

Sphincteral Hysterotomy. — Dr. Defontaine (*Le Progrès Médical*, January 1, 1898) suppresses the functions of the utérine sphincter by a section through the entire thickness of the anterior median line of the uterus, reaching as far as the cavity of the body, and allows the lips of the wound to heal separately. He has, as a result, an easy and lasting evacuation of the pathological contents retained in the uterine cavity by contraction, so frequent and harmful, of the sphincter. As a result, all infection ascending to the tubes is arrested (as after cystotomy infection of the ureters and of the kidneys is checked), and the distended and thickened uterine walls undergo an involution toward the normal state. This new operation is indicated in chronic metritis, when the contraction of the sphincter is marked and the cavity of the uterus enlarged; in uterine flexions rendered painful by concomitant metritis; in different strictures of the neck; in dysmenorrhœas of uterine origin. In blennorrhagic metritis it constitutes a rational means of preventing the infection from ascending to the tubes. Although an absolutely benign operation, it should be limited to only grave cases, as it places an obstacle in the way of conception, for a pregnancy is almost impossible if the uterine sphincter is broken. When the cure of the primitive disease is assured, a subsequent operation may re-establish the functions of the uterine sphincter.

Enterostomy for Ulcer of the Stomach.—Dr. Hartmann (*Le Bulletin Médical*, January 2, 1898) says that, apropos of three cases of gastro-enterostomy reported by Dr. Tuffier for ulcer of the stomach when it was fully developed, he did not think that intervention was advantageous for the patient, as statistics showed eight deaths out of twelve cases, due to uncontrollable hæmatemesis; immediate death by hæmatemesis, in ordinary cases, was exceptional. The writer thinks that the curative influence of gastro-enterostomy on ulcers in the process of evolution may be very advantageous, and he agrees with Defontaine that the operation is indicated in all cases of grave dyspepsias which rebel against medical treatment. In support of this opinion, Dr. Hartmann cites a case of a woman of forty years, who had suffered with her stomach for seven years, and who, for the last three years, had epigastric and vertebral pain, accompanied by vomiting four or five hours after the ingestion of nourishment. During the last few months this woman could scarcely retain even a few drops of milk. Examination showed that there was neither hyperchlorhydria nor dilatation; the stomach simply emptied itself by the vomiting. This patient was cured by gastro-enterostomy, and gained eleven kilos in four months.

Functional Nervous Diseases in Childhood.—In an interesting article read before the Aerztlicher Verein in Hamburg, on February 1, 1898, Dr. Saenger upheld—despite the common impression—the frequency of functional nervous diseases in children. Without any sharp lines of distinction between them, the author has grouped his cases into four classes: 1, neurasthenia; 2, hysteria; 3, hystero-neurasthenia; 4, hereditary neuropathy. 1. The symptoms of neurasthenia consist generally in anæmia; liability to disturbance of the psychical balance; patients tire rapidly; palpitation; feeling of fear; dizziness; increased vasomotor irritability; lack of animation; constipation; sleeplessness (difficulty in falling asleep, "pavor nocturnus"); often trembling of the eyelids when lightly closing the eyes; sometimes real phobiæ. 2. Hysteria. The patients are more intelligent than in the above group: there are a deeply observing, watchful, sly expression of the face; monosymptomatic symptoms, as in the hysteria of adults—aphonia, contractures, paralysis of extremity, cough, tremor, anomalies of contracture positions (hysterical scoliosis, torticollis); blepharospasmus; ptosis; hemichorea; in rare cases amaurosis. 3. Hystero-neurasthenia. This is the most frequent and interesting of the groups. There are but little intelligence; indifference; pain in head and eyes; nervous asthenopia; fear of light; sinking in of the features; loss of conjunctival and of pharyngeal reflex; anuresis nocturna; hallucination; nightmares. 4. In this group there are the presence of hereditary taint; in the first years, frequent convulsions; later, "tic"-like conditions in the form of grimaces and choreic movements; great sensitiveness and sensibility; obstinacy; hasty anger; fear of being alone; wickedness; strong egotistic disposition; tormenting of people and animals. Often the body is more developed upon one side than upon the other, because of retardation of physical development. Boys and girls are equally affected, the favorite age for the disease being between the tenth and fourteenth years. The prognosis of the first three classes of cases is favorable; that of the last is unfavorable. Therapeutically the writer uses, according to the case, general neuro-tonic treatment; douches; cold frictions; baths; electricity; absence from school; improvement of the nutrition; energetic suggestion therapy when the patient is awake, never hypnotic suggestion; protective eyeglasses, often with colored lenses. The causes of these neuropathic conditions Saenger explains by the faulty ways of living, by forced mental study too early in life, by competition for study honors, by sending the children to school when too young, and by the children—that is, among the poorer—being obliged to work without having sufficient sleep and time for recuperation.

A New Anaerobic Bacillus and its Relation to Botulismus (Sausage Poisoning).—E. van Ermengem describes his discovery in the *Zeitschrift fur Hygiene und Infectionskrankheiten*, B. xxvi., H. 1. In cases of poisoning from pickled unboiled ham, which when eaten produced three deaths and made eleven persons dangerously sick, there were symptoms of typical botulismus: more or less outspoken ophthalmoplegia (blepharoptosis, mydriasis, paralysis of accommodation, diplopia, internal strabismus), dysphagia to aphagia from paralysis of the glosso-pharyngeal muscular supply, obstinate obstipation, retention of urine, increased or diminished secretion of saliva and mucus. The cases of Van Ermengem showed very much increased secretion of saliva and mucus, so much so that the patients had attacks of suffocation therefrom, lessened secretion being the rule in botulismus. There were no fever and no disturbance of cerebral function or of sensibility. In other severe cases there were also disturbances of breathing and heart action, which may lead to death under symptoms of bulbar paralysis. From a piece of ham rubbed up in water the author got a very poisonous solution. This solution, when fed to rats, cats, and mice, was borne fairly well; when fed to guinea-pigs, and particularly to apes, it produced death even in small doses. Very much severer, however, was the action of the poison when injected subcutaneously. Cats died in a few days, presenting symptoms similar to those described above in man: the animals became quiet, the mobility of the iris decreased: the tongue hung half paralyzed from the mouth; later the iris mobility ceased entirely, the animals were unable to swallow, and secreted a tenacious mucus amid symptoms of suffocation: the voice became aphonic. In four or five days the animals were very sick: the cerebral function was unimpaired; they died without convulsions, with symptoms of paralysis of the heart and respiration. The poison is just as effective when the emulsion of meat and water is filtered free of germs; thus the disease is an intoxi-

cation, not an infection. By other experiments it was found that the quantity of poison does not increase in the body. The poison, when kept from light and air, remains active many months; it is, however, very rapidly decomposed by warmth. Microscopic examination showed the presence of many spores scattered irregularly through the meat; these spores were those of a bacillus very easily isolated in anaerobic cultures. The "bacillus botulismus" is rod shaped, with spore formation at the end, much resembling the tetanus bacillus, yet differentiated from it by growth peculiarities in culture media. As a rule, this bacterium does not increase in the human body, and has not been found in any quantity in experiments on animals. On the other hand, it was found in the spleen of one of the patients who had died from the poisonous ham. Its non-increase in the human body partly depends upon this fact, that the bacillus does not grow well in a temperature above 35° C. To conclude his chain of evidence, Van Ermengem produced the same results by experiments with the pure culture of bacillus botulismus as with the ham-and-water emulsion. The author is of the opinion that a part of the cases of flesh and preserves poisoning is due to this same bacillus.

Further Contributions to the Study of Rectal Gonorrhœa in Women.—The examinations of Dr. Theodor Baer seem to prove the comparative frequency of this disease in women. The disease very often causes no symptoms, and hence may not be observed (*Deutsche medicinische Wochenschrift*, Nos. 51 and 52). He states statistically the presence of rectal gonorrhœa in 38.2 per cent. of women (four hundred and twenty-nine cases) who had gonorrhœa. The most important causes for this rectal disease are the practice of coitus per anum and the running over of infectious vaginal secretions in the uncleanly. In uncomplicated cases the mechanical treatment of the rectum with a two to five per cent. solution of nitrate of silver produced very favorable results. However, if ulcerative processes or fissures of the mucous membrane are present, milder measures are necessary—iodoform, a one-per-cent. nitrate-of-silver ointment, etc. It may be necessary to excise the ulcer under narcosis.

A New Method of Using Glycerin for Inducing Premature Labor.—This method, as described by H. Saft (*Deutsche medicinische Wochenschrift*, 1898, No. 3), consists in the introduction into the uterus of a catheter armed at its end with a dilatable balloon (a condom), which latter is to be filled with glycerin, forty to one hundred grams. This procedure, when practised upon animals for the induction of premature labor, proved more efficacious and less dangerous than all other methods. The effect depends not only on the presence of the glycerin-balloon acting upon the uterus as a foreign body, but also upon the specific pain-producing action of the glycerin itself. The latter fact is true, even though in this procedure the glycerin can act in but very minute quantities. The author regards this action as due to the fact that the glycerin, by its power of withdrawing water, exerts an irritation upon the uterine nerves and ganglia. He thinks that, instead of glycerin, there may possibly be substituted a non-poisonous, equally endosmotically equivalent substance, *e.g.*, sulphate of sodium.

On the Permeability of the Epidermis.—Dr. W. Filehne has made some very interesting examinations on this subject. He does not here include absorption by the sweat and sebaceous glands, or by the hair bulbs. The skin is to be looked upon as a diffusion membrane, covered with fat and skin sebum and saturated with cholesterin fats. Only such substances can be diffused as either dissolve or can mix with the covering of this diffusion membrane, or in the material (*i.e.*, the cholesterin fats) with which it is saturated (*Berliner klinische Wochenschrift*, 1898, No. 3). The experimenter examined those medicaments, therefore, which can either mix or dissolve in the cholesterin fats, or in what he used as a substitute—lanolin and olive oil. The following substances did not meet these requirements when put in anhydrous lanolin, and hence cannot be absorbed by the epidermis: salt, chloride of potassium, iodide of potassium, carbonate of iron, arsenic, tartar emetic, mercury precipitates. These medicines therefore force their way into the circulation by way of the hair follicles, sweat and sebaceous glands. The following dissolve in lanolin, and hence may be absorbed by the epidermis even in toxic quantities: sulphur, sublimate, oxide and acetate of lead, sulphur and chloride of iron; among organic substances, alcohol, chloroform, ether, oil of turpentine, oil of savin, oil of mustard, croton oil, iodoform, carbolic acid, chrysarobin, camphor, nicotine, cocaine, strychnine.

Urethrectomies.—Dr. Audry, in an article in *Le Progrès Médical*, January 1, 1898, says that it is right to recognize Bourguet as having introduced resection of the urethra into surgical therapeutics. Urethrectomies have been revived by Daniel Mollière and popularized by Guyon, while König and other surgeons, Dittel in particular, have popularized this operation in Germany. The reader is referred to the excellent articles of Vignard, July, 1892, and March, 1894, published in the *Archives Provinciales de Chirurgie*. It is necessary to determine the exact sense of the term urethrectomy. The operation is demanded by the existence of cicatricial and infected masses, more or less voluminous, occupying ordinarily the perineum, and consequently adherent to the superior part of the urethra. This type is furnished by old perineal fistulas, whose existence seems to be more rare than formerly. In such a case the surgeon is led to make an excision of these masses; resection of the urethra is never total; only the adherent part is removed. On the contrary, certain stenoses, such as cicatricial strictures of traumatic origin, require total excision of the cicatrix, which is annular, and of the corresponding section of the urethra. As to partial urethrectomy, it is absolutely impossible to give a precise description of this operation, because the circumstances in which the operator finds himself are so varied. However, three stages of the operation may be noted: (1) examination and opening of the urethra; (2) resection; (3) suture. The examination and opening are carried out in the same manner as in an ordinary external urethrotomy. A catheter has been introduced if possible. The cystotomy position is taken and a large median incision is made. If a guide has been introduced one proceeds with the opening; if this has not been feasible, the catheter should be pushed as far as possible. The posterior segment of the urethra having been reached, the callous masses are extirpated like tumors. In general they have been opened in order to arrive at a knowledge of the urethra. Almost always they are inferior and lateral, and the superior vault of the canal is healthy or nearly so. In resecting, if the callosities are infected, they should be thoroughly removed; it is not sufficient to remove only the very hard and diseased portions. The moderately infiltrated tissues may recover; but it is evident that all cicatricial tissue should be removed. One should be guided especially by the finger as to the state of the tissues, and the scissors are perhaps more useful than is the bistoury. The author thinks that it is better to remove the mass piecemeal than to take out the callosity *en masse*. Generally one is obliged to operate from before backward, because the lesion is often extensive and one cannot always reach

the termination. If the callus is limited and short, it is best to remove it by dissecting and enucleating it with the finger and the scissors before opening the canal. It is necessary to isolate the urethra both in front of and behind the lesion, without opening it. Puncture immediately behind the callosities and be assured of the posterior limit. This technique is applicable principally when one finds himself in the presence of short cicatricial strictures which justify total urethrectomy. In every case resection of the urethra is an accessory of the intervention; it involves callosities especially; in general the loss of substance is on the inferior and lateral portions of the urethra; continuity of this latter is respected above; in a word, the conditions are not very different from those found in the majority of external urethrotomies. If the resection, although partial, of the urethra is as much as twenty-five or thirty millimetres in extent, we should not hope to make a complete suture of the walls edge to edge. We must be content to make a new urethral calibre over a sound to be left *in situ*. Guyon recommends this method, and several of his pupils have shown that a canal, clothed in epithelium capable of retaining a convenient calibre, is formed. One can easily understand, in such a case, how the preservation of the superior urethral vault is important as an aid to the formation of epithelium. The only difference between the suture used for partial resection and that used in external urethrotomy is that here we make the suture in one layer, which brings together the neighboring layers of the urethra and the bulbo-cavernous muscles. It is necessary that the most anterior and most posterior threads should be in immediate contact with the extremities of the urethra. The sutures ought to be very near together. If the loss of urethral substance is less than twenty-five millimetres, and if the walls of the canal are pliable and healthy and can be brought together, the cut extremities of the canal should be sutured edge to edge. It is well in such cases to allow a small sound, No. 15 or No. 16, to remain *in situ*. The catgut sutures should not be too numerous, three or four being sufficient. When possible, the threads should not traverse the mucous membrane; it is very necessary that the edges be in exact contact. The perineum is restored in the usual manner. Total urethrectomy consists of excision of the entire urethra. As to the examination and opening up of the urethra, this ought to be done freely but prudently, for it is in this exploration that we can judge of the possibility and of the indication of intervention. It is necessary to isolate, as far as possible, the cicatrix from the neighboring tissues, and to note its extent and its relation to the surrounding tissue and the necessity of making a resection of the entire canal, *i.e.*, comprising its superior wall. As to the resection, after having obtained the necessary information, when the excision does not exceed twenty-five millimetres and the surfaces of the section of the urethral wall are healthy enough to be mobilized and to be sutured we proceed to resection. In such a case it is preferable not to slit the stricture, as in external urethrotomy and partial urethrectomy. We cut the urethra immediately back of the stricture and assure ourselves of the posterior limit by threads or pincers, these latter having the inconvenience of wounding the tissue. Then the urethra itself is cut immediately back of the cicatricial tissue, and with the fingers we proceed to enucleate and dissect out the fragment and remove it. This done, hemorrhage being controlled, a sound of small calibre, which is to be left in place, is passed. A suture is made as in the previous operation, only here the placing of the superior thread gives some trouble, and sometimes it can scarcely be made to pass in the urethral lumen. It is preferable to cut off the threads as they were placed. The threads take in as much tissue as possible and are left immediately beneath the mucous membrane. In the post-operative treatment it is preferable to leave a sound *in situ* four or five days. About the tenth day, pass a catheter in order to investigate the condition of the canal. In all cases it is well to commence with the guiding bougie, to which is attached a Phillipp sound. In regard to post-operative accidents, there is no more to fear from hemorrhage than from infection, especially if one leaves in a small drain. It may happen that the reunion is only partial, but the fistula which remains repairs itself spontaneously in a short time. Total urethrectomy is capable of giving results more brilliant than when the canal repairs itself. The indications for this operation are exceptional. It is necessary only in the presence of cicatricial strictures of traumatic origin, short enough not to require an opening of more than twenty-five millimetres and extensive and compact enough not to be amenable to longitudinal urethroplasty. On the other hand, partial urethrectomy is an excellent operation, expressly demanded by the existence of callosities and of old infectious foci in the perineum. Cicatrices of traumatic origin that are very extensive create unyielding strictures, demanding always more or less extensive operation. The chances for performing this interesting operation are very rare.

Laryngitis Acuta Rheumatica Circumscripta (Nodosa).—Besides the previously described forms of rheumatic angina and laryngitis, Uchermann (*Deutsche medicinische Wochenschrift*, No. 47) calls attention to a less frequent form, which he designates by the above name. This appears as circumscribed, very sensitive, reddish or blue-red, fairly hard infiltrations. They may be unilateral or bilateral. If they have their seat in the region of the crico-arytenoid articulation, then a pseudo-ankylosis with immobility of the affected vocal cord will occur.

The Diazo Reaction in the Urine of Nurslings.—Dr. Umikow (*Deutsche Medizinal-Zeitung*), as a result of an extensive experience, arrives at the following conclusions: 1. The diazo reaction never appears in the urine of healthy children. 2. High fever has no influence upon the occurrence of the reaction. 3. The acute and chronic catarrhal pneumonia run their course without the presence of the diazo reaction in the urine. The reaction is also wanting in diphtheria, varicella, otitis media, coryza, facial eczema, lymphangitis, hereditary syphilis, laryngitis, bronchitis, pleuritis, enteritis, and erythema after the injection of diphtheria antitoxin. 4. Erysipelas and measles practically always give the diazo reaction in the urine, and more distinctly the greater the severity of the disease. 5. One or two days before death the diazo reaction appears regularly in most cases, irrespective of what form of disease the child suffered from. 6. In measles the reaction is occasionally seen in the prodromal stage.

Dulness on Percussion over Lung Apex without Pathological Changes being Present.—During a period of seventeen years, in the vast material of a St. Petersburg hospital, Dr. V. Kernig (*Russisches Archiv für Pathologie, klinische Medicin, und Bakteriologie*, Bd. iii., Heft 1) collected from thirty to thirty-five cases showing bilateral dulness over the lung apex, in which at subsequent autopsy no pathological changes were demonstrable. The dulness occurred in patients who from various causes (frequently diarrhœa) were emaciated and had been confined to bed for a long period. The dulness was always bilateral and symmetrical, involving both sides equally. Auscultation elicited diminished, seldom normal vesicular breathing, never mucous râles or bronchial breathing. The rare occurrence of the latter symptoms is noteworthy. In ex-

plaining this condition the author lays some stress on the emaciated condition and long confinement to bed of these patients, who as a consequence require and consume less oxygen, and make feebler respiratory movements; as a result the lungs are not distended with air to the ordinary capacity. Since the intensity of a percussion note is relative to the volume of air contained in a given space, it is possible that by a certain amount of shrinking or collapse of the lung apex the volume of air is diminished to such a degree that percussion elicits a dull note instead of the normal resonance. The dulness spreads over the supraclavicular and infraclavicular grooves and the supraspinal fossa. The differentiation between this condition and dulness due to tuberculosis may become very difficult; in such cases we must recall (1) the emaciated condition of the patient and the long period of confinement to bed; (2) the bilateral nature of the dulness; (3) the absence of abnormal auscultatory signs (with the exception of diminished breathing); and (4) the rarity of this condition.

Lenticular Necrosis of the Lung and the Formation of Lung Stones.—According to Dr. Arnold (*Munchner medicinische Wochenschrift*, No. 47, 1897), the formation of concretions in the lumen of the bronchi (inspissated and calcified mucus or blood; calcified, broken down bronchial glands; incrusted foreign bodies) is not very infrequent. Also in a similar manner, stone formation may occur inside the air vesicles; less often such processes take place on the walls of pulmonary cavities, in which a portion of the wall becomes incrusted or impregnated with dust of various kinds, and is afterward thrown off by necrosis. The author had an opportunity to examine both clinically and anatomico-pathologically a case of the latter variety. It was a case of lenticular necrosis in a stone-cutter's lung, which progressed to the formation of small pneumoliths in a cavity and the expectoration of the same. The autopsy showed in the right lung apex a cavity with many branches and recesses, in which small, hard, black, angular stones in large number (seventy) were found. One sharp-pointed, jagged, stone of larger size was wedged in between the wall of the cavity and a branch of the pulmonary artery. The stones varied in size up to seven millimetres; some were round, others flattened, others prickle pointed—most often spotted, always very hard. They consisted of concentric layers of a hyaline and highly pigmented substance. The fibrous nodules embedded in the lung tissue showed the same structure: the stones were formed from small particles of the calcified lung tisssue thrown off by necrosis, thus differing in their formation from other bronchial and lung stones. Dr. Arnold has previously demonstrated the formation of similar fibrous nodules in the lung tissue; they originate either from shrunken, inspissated masses of dust and cell elements contained in an alveolus, with subsequent thickening of the alveolar wall and perialveolar tissue; or from a fibrous peribronchitis; or from a fibrous perivasculitis; or from a fibrous perilymphangitis.

Tuberculous Meningitis Produced Artificially.—At the meeting of the Society of Biology, held in Paris on March 5th, Dr. Louis Martin gave a demonstration of how tuberculous meningitis could be produced in guinea-pigs and rabbits by injecting tubercle bacilli into the cerebro-spinal fluid. He took a slightly curved needle and put it into the cavity of the cranium, passing through the ligaments joining the occiput to the atlas, keeping the needle against the occiput, and using this bone as a guide so as not to injure either the medulla or the cerebellum. This operation in the guinea-pig is one of extreme delicacy. When the injection is made it must be made very slowly, so as not suddenly to increase the tension of the cerebro-spinal fluid. Guinea-pigs injected with tuberculous cultures in the cerebro-spinal fluid die on from the ninth to the fifteenth day. After the injection the animal suffers from fever, but it does not waste and there is no paralysis. Three or four days before death the coat stares; the guinea-pig rolls itself into a ball and loses weight very rapidly; paralysis appears during the last day or two and especially affects the hind limbs; the animal is very ill and dies with its temperature much raised. Dr. Martin has generally noticed flattening of the abdomen. In the rabbit the operation is very easy and these animals are much less sensitive to tubercle than are guinea-pigs. The progress of the malady is less rapid; wasting and paralysis do not appear before the third week or even later. The rabbits die after five weeks or even two months, and on post-mortem examination tubercle is found surrounding the vessels, and there is general gelatinous œdema spread over the peduncles of the brain exactly in a similar manner as in children. By the courtesy of Marfan Dr. Martin was enabled to use some cerebro-spinal fluid from a child who had died from tuberculous meningitis. Half a cubic centimetre was injected into a guinea-pig in the manner above described, with the result that it died in eight days, and under a microscope the meninges were found to be swarming with tubercle bacilli. Dr. Martin cultivated the meninges and obtained a culture of the tubercle bacillus. A control guinea-pig inoculated under the skin with the same dose died in four weeks. Dr. Martin also obtained some cerebro-spinal fluid from a tuberculous patient during life by means of a lumbar puncture and inoculated this fluid into the cerebro-spinal space of a guinea-pig. The animal died in eighteen days. A control guinea-pig inoculated hypodermically showed only a small ulcerated patch at the point of injection. In two months after the injection the animal was still alive. With the view of finding out if this investigation would be a help in the diagnosis of tuberculous meningitis, Dr. Martin drew off some cerebro-spinal fluid from rabbits infected with tuberculous meningitis, and, having injected it into guinea-pigs, observed that they died after an interval of time in direct relation to the date at which the rabbit died. From a rabbit already showing signs of paralysis Dr. Martin drew off two cubic centimetres of cerebro-spinal fluid, and on the next day the rabbit, which had been lying motionless on its side, was able to stand upon its feet; the improvement, however, was of short duration for the rabbit died six days after the operation.—*Lancet.*

On the Nursing of Patients with Hypertrophied Prostate.—Dr. P. F. Richter lays great stress upon the importance of adhering to the strictest antiseptic rules in catheterization (*Zeitschrift für Krankenflege*, 1897, No. 6). Hygienic and dietetic rules are necessary to prevent congestion of the pelvis and consequent retention of urine. The patients should subsist on bland articles of diet, but very mildly spiced; thirst is best alleviated by drinking milk or lemonade; alcoholics (red wine) are to be allowed only in very small quantities; tea and coffee should not be allowed. Every call for urination should be immediately answered; this is of great importance. Tendency to constipation should be avoided by appropriate remedies, but no saline cathartics should be given; cascara, either alone or with aloes and rhubarb, is best for this condition. Patients should wear woollen underclothing the whole year. To lessen the work of the kidneys friction of the skin and massage are of value, also lukewarm full and sitz baths; cold douching and spraying are to be avoided. Walking and other exercises are helpful.

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TREATMENT OF TYPHOID.

IT is probably true that no single medical disease has been talked about in the societies and written about in the journals to a greater extent during the past eighteen months than has the subject of typhoid fever. Not to enter upon the question of why this is so, it may perhaps be profitable to look over the field that has been so laboriously worked and see what conclusions have been reached, and to note such claims as have been put forward for new remedies or new methods, so that they may be compared with the older. The progressive practitioner of the day usually has for his motto, "Be not the first by whom the new is tried, nor yet the last the old to lay aside," and, acting upon this guiding principle, he is always ready to accept the new way, when it has been shown to be the best one.

Unfortunately, perhaps, in typhoid as in almost every other morbid process, there can be no single royal road to cure applicable in every case. While, however, each individual affected must be treated more or less according to the conditions presenting themselves, there are certain general principles of management which apply to all.

In a recent discussion by the Lenox Society almost all the members agreed that a generous dose of calomel at the onset of decided symptoms of typhoid was in order, and not a few believed that subsequent smaller doses might do much in the way of establishing antisepsis of the intestinal canal by their effect in calling forth normal secretions which are antagonistic to germ life rather than by any direct action of the remedy itself upon the germs. The abortive plans, and especially that of Woodbridge, have been much discussed. If the data, as given in recent reports, are to be accepted on their face, one need scarcely look further, since the mortality is less than two per cent. in a series of cases running into the thousands.

The figures presented have not, however, been universally regarded as above honest doubt, and many authorities still maintain that antiseptic plans *per se* are not to be relied upon. Modified forms of the Woodbridge method are, however, springing up here and there, with reports to demonstrate their value. This would seem to indicate that there is more worth in antiseptics than many are willing to admit, unless the plan of administration is of their own device.

Advocates of the bath treatment appear to be increasing in number, and, while all do not agree as to the exact method of tubbing to secure the best effects, it is generally conceded that excellent results are to be obtained by judicious cold-water treatment, and the closer the Brand method has been followed the better the reports seem to be.

Among recent devices for decreasing the disagreeable features of the bath are a tub on wheels, to be brought close to the bedside; a hammock for lifting the patient in and out, with a minimum of discomfort for the latter and of labor for the attendants; and a folding rubber tub with inflatable sides, which can be inserted like a sheet beneath the patient, filled, emptied, extracted, leaving him undisturbed in bed.

The serum treatment has as yet met with slight success, though an antitoxic would seem to be the ideal method. Some successful trials of antityphoid serum have been reported from England.

Hygienic and dietetic measures still have to be mainly depended upon, and Delafield's dictum that milk is the best food for typhoid patients is generally acquiesced in; but many practitioners have learned to watch for evidences that the too exclusive milk diet is causing injury, and they know that in a sudden rise of temperature, otherwise not to be accounted for, milk is to be wholly withdrawn and broths, soups, gruels, eggs, etc., substituted for a time. Aside from securing mental and bodily rest, keeping the temperature within bounds, supplying sufficient fluids, and giving proper foods, each subject of typhoid must be treated according to the symptoms he presents. For the majority of patients showing high fever it is probable that tub baths will be found efficacious, since there is no longer question that the mortality has been greatly reduced by this method of treatment.

SOME MODERN OUTLOOKS IN THERAPEUTICS.

EMPIRICISM still holds sway in modern therapeutics, yet it is far from the rule of thumb of our forefathers in the healing art. Little by little, rational therapy has advanced, to be met with the too prevalent attitude of therapeutic nihilism. Patient pharmacological students, aided by all the allies of the biological sciences, have begun to occupy the middle ground between empiricism and sceptical inertia, and are laying the foundations of a truer knowledge of drugs and their actions.

It has been within recent years only that investigators have come to a realizing sense that drugs are extremely complex bodies, and that even when their proximate principles are obtained, even then the pure products—alkaloids, glucosides, resins, etc.—have a complex molecular structure, which has a profound influence upon the action of the drug and to which the chemist alone is able to furnish a clew. It is thus a sign of new and better things when students are to be found turning to the investigation of the relationship of the physiological action of a drug to its chemical constitution. The great flood of synthetic

remedies is an exponent, from the chemical side, of the remarkable activity of this recent therapeutic movement. Some recent English work, entitled "A Comparison of the Physiological Actions and Chemical Constituents of Piperidine, Conine, and Nicotine," by B. Moore and R. Row, *Journal of Physiology*, vol. xxii., 1898, p. 273, is worthy of attention. The authors first discuss the chemical structure of these three liquid alkaloids, and then present the results of an extended series of experiments upon their physiological actions. Their conclusions show that: "The three alkaloids are very similar in physiological action, although the intensity of action varies, and we believe that this similarity is due to the presence of a reduced pyridine (or pyrrol) ring in each molecule; and, further, that the intensification of the action is due to the introduction of an organic radical as a side group into this ring. The points of similarity of physiological action may be summarized as follows:

"1. The subcutaneous injection of each drug (in frogs) in sufficient doses causes complete motor paralysis.

"2. This motor paralysis is mainly due to paralysis of the intramuscular part of motor nerves. This is shown by the fact that muscle remains irritable, directly, but not through its nerve, when the poison has been allowed to circulate through the muscle, and that an unpoisoned muscle may be caused to contract reflexly through a spinal cord which has been subjected to the poison. We have not been able to demonstrate that there is no central action; but this, if present, must be slight.

"3. The excised frog's heart is somewhat slowed and the duration of the systole prolonged by each of the three drugs.

"4. The heart *in situ* (in mammals) is at first slowed, but afterward unaffected.

"5. The arterial blood pressure is enormously raised, and the rise is due to constriction of arterioles and not to increased heart action. This constriction of arterioles is independent of connection with the central nervous system, and is probably due to vasomotor excitation in peripheral ganglia.

"6. At a certain stage this vasomotor mechanism would probably become paralyzed, for further administration of any of the three drugs no longer affects the arterial blood pressure."

THE TRAINING OF GIRLS IN RESPECT TO THEIR PHYSICAL DEVELOPMENT.

The manner in which girls are brought up nowadays is vastly different from that of but a short time ago. Mothers even of the past generation would have eyed askance the methods now used in the mental and physical training of daughters, and which are regarded as indispensable to the production of a nineteenth-century woman. But the question is whether the course pursued is in every respect a wise one, and whether the old system of teaching a woman to read a little and to write a fairly grammatical letter, while allowing her to reserve sufficient strength and energy to develop into a healthy mother and housewife, had not much to commend it. That a girl should have the opportunity of being thoroughly educated is freely granted—in fact, in the existing state of affairs it is necessary that she be able to earn her own living; but the tendency of education now is unduly to develop the mind at the expense of the body. It is true that physical culture plays a part in the training of the girl of to-day, but it is doubtful if the methods employed are the ones best calculated to attain the desired result. Up to the age of puberty there is comparatively little difference between the sexes. When, however, that period arrives, the entire system undergoes a change, the asexual girl becomes a woman, and it is at this time that the greatest care should be exercised in her training. The old-fashioned girls' boarding-schools, with their perfunctory education, have passed out of existence, and the movement for the higher education of women has, after much jeering and scoffing, gained a firm foothold. This is, without doubt, an advance in the right direction, but nevertheless the system has its defects, and discretion is needed in carrying it out. The great fault with those in charge of these modern establishments is that they do not or will not understand that the sexual question is of any importance, and still cling to the belief that a girl between the ages of fourteen and twenty is able to undergo an equal amount of physical and mental exertion as a boy of the same age. That this is a mistaken view is plain on the face of it. In the schools for boys perhaps the attention given to exercise is excessive; on the other hand, in too many of the girls' schools it is not sufficient. What is required in the establishments for the education of girls is that more time should be allowed for health-giving, out-of-door exercise; if this were done, the number of neurotic women would be greatly lessened, and the services of the doctor could in most cases be dispensed with. In the words of Dr. Playfair: "It is not the work which in my judgment hurts, but the perseverance in work after nature has hung out its danger-signals; work in an unhealthy body; the attempt, in fact, to fight nature. Then, indeed, the careless, prejudiced, or unwise mistress or parent may well find that 'over-pressure,' the very existence of which so many deny, is a stern reality and may shatter the whole future of the girl."

Dr. Harriet E. Garrison, in an able paper on "The Physical Development of Women," read at the meeting of the American Medical Association held at Philadelphia, and printed in the *Journal* of the association, deals with the same subject in an instructive way. After discussing the point as to whether there is much inherent difference between the physical capacity of the sexes, and concluding from the fact that in many foreign countries the women perform most of the hard manual labor, that the difference is but slight, she goes on to say: "If our girls were turned loose to amuse themselves spontaneously, to run up hill and roll down, to skip and jump without rhyme and reason, except as it is supplied by the exuberance of their own innocent natures, there would

be less headache in adult life. . . . Fresh air, fresh water, and sunshine should be the inalienable right of every child in this land of the free and home of the brave, but our women are starving for these very things. Not only are the girls from the sweat shops and factories, who are shut in for ten or twelve hours where no sunshine or fresh air can reach them, but the woman of social position must give at least ten hours daily to her duties, shut in as closely from fresh air and sunshine as her humble sisters."

These are true remarks, especially in regard to the condition of the poor. Exception may perhaps be taken to Dr. Garrison's view that there is but little inherent difference between the physical capacity of the sexes. The *British Medical Journal* says: "Some of us were of the opinion that by a little courage and habit, and in a higher state of bodily vigor, the menses might be disregarded in regular callings and exercise. We have rendered this opinion, and have convinced ourselves that girls and women are unwise in pursuing their exercises, whether of body or brain, during the first two days of the period." With the contention of Dr. Garrison that fresh air and exercise are essential to the well-being of every woman and girl, we cordially agree and hopefully look forward to that time when this fact will be fully appreciated by those who are responsible for the training of the young female population.

News of the Week.

Dr. Frank P. Maguire has been appointed by the commissioner of correction physician to the city prison.

The Determination of Sex.—If the reports to the daily press are to be credited, the long-promised and much-advertised book by Schenck, of Vienna, on the determination of sex, is a fake of the purest order. The book was published on April 28th. The entire question, in the opinion of Dr. Schenck, appears to be one of the varying proportions of albumin and of sugar in the organism of the mother, and therefore boys or girls may be turned on or off at will by simply regulating the amount of carbohydrates in the diet of the mother. It appears that an excess of sugar favors the female sex, so that science comes to the support of sentiment and we find that the sweet creatures have a physiological right to their appellation.

Volunteer Army Surgeons. — Surgeon-General Sternberg has prepared a circular letter to be sent in reply to the many offers to the government of services from physicians, which now aggregate nearly fifteen hundred. "The surgeon-general highly appreciates the patriotic motives which have induced this offer of services, in many instances by men prominent in the profession and enjoying a lucrative practice, but the labor of answering these numerous letters interferes with the necessary work of the office, which has been greatly increased by the exigencies connected with equipping the regular and volunteer armies for field service. It therefore becomes necessary to acknowledge letters offering service, and inquiries relating to the medical department, by the circular letters. No appointments are made in the regular army except after examination by an army medical examining board, and all applicants must be graduates in medicine and less than twenty-nine years of age. The surgeon-general of the army has nothing to do with the appointment of medical officers for the volunteer army. Comparatively few contract surgeons (acting assistant surgeons) are likely to be required, and it is the intention to employ for service with troops going to Cuba or at hospitals on the Gulf Coast only such as are immune to yellow fever. All applications and offers of service will be placed on file for future reference, and for selection of the most available persons for the special duty required, in case of need."

Mortality of the Plague.—Up to March 1st the total number of deaths from the plague in Bombay had been 71,000, the mortality for February (7,845) having been the highest for any one month since the appearance of the epidemic.

The American Representative at the Congress of Hygiene.—Major Girard, surgeon, U. S. A., who was an official delegate to the International Congress of Hygiene and Demography at Madrid in Easter week, has arrived again in this country, having left the Spanish capital a few days before the war began. The correspondent of *The Lancet* thus refers to Dr. Girard's participation in the opening exercises: "Dr. Girard, surgeon-major in the United States army, was now called upon to respond. To avoid causing any irritation he had refrained from putting on his uniform and was not at all anxious to speak. The occupants of the platform, on their side, applauded his approach, and Dr. Girard, so as not to incur the risk of any aggressive interruptions, spoke so low that it was impossible to hear him at a few feet from the platform. He said that he desired to express, on behalf of the official delegation from the United States, their high appreciation of the very kind reception which had been shown them since their arrival in Spain. This was particularly gratifying under the present political circumstances. He wished the congress all the success it so well deserved, and hoped that before the congress had terminated its labors the difficulties existing between Spain and the United States would be smoothed over. The occupants of the platform could not but be gratified by these judicious remarks, while the people who crowded the hall could not hear what had occurred. Thus this episode, which if less prudently managed might have given rise to some demonstration which would have still further complicated the political situation, passed quietly and terminated in a graceful exchange of bows as the American delegate withdrew from the platform."

An Important Health Decision. - - An important and far-reaching decision has recently been rendered in Albany County in the case of Cartwright against the board of health of Cohoes. The case was heard before a referee, and after dragging along two years a decision was rendered last week in favor of the defen-

dant with costs. The local board had ordered the plaintiff to fill a vault which had been declared a nuisance; she refused and the board had it filled, whereupon the plaintiff promptly dug it out again, and when the board started to refill it she secured an injunction and began a suit against the board. The testimony filled three hundred and eleven typewritten pages. The referee held that the board of health had power to abate the nuisance and that the plaintiff had violated the public health laws and the regulations of the board of health. The decision is important, inasmuch as it seems to be the first of this character rendered in the State and as the local board was acting upon the advice of the State board. If affirmed, it will be of great value to health boards in enforcing the public health laws.

The Degree of M.D. in Prussia. — The Prussian government has decided that, after this year, the degree of M.D. will be given to no one who has not passed the state examination and so become legally qualified to practise medicine in the German empire.

The Cumberland County (N. J.) Medical Society. —The annual meeting of this society was held at the Doughty House, Millville, Tuesday, April 12, 1898, Dr. H. W. Elmer presiding. The officers for the ensuing year were elected as follows: *President*, Dr. Judson, Newport, N. J.; *Vice-President*, J. B. Ware, Bridgeton, N. J.; *Secretary*, Hamilton Mailly, Bridgeton, N. J.; *Treasurer*, Joseph Tomlinson, Bridgeton, N. J.; *Reporter*, J. C. Applegate, Bridgeton, N. J.; *Delegates to American Medical Association*, H. W. Elmer, T. G. Davis, W. L. Newell; *Delegates to State Medical Society*, L. L. Hand, M. K. Elmer, J. B. Ware, Ellsmore Stites, D. H. Oliver, and Rulon Dare; *Delegates to Gloucester County Society*, Ellsmore Stites, D. H. Oliver, and J. C. Applegate.

Dr. Weir Mitchell Asserts Himself.—An English contemporary, having spoken of Dr. Weir Mitchell as "the late," received the following: "Sir: On page 321 of *The Medical Press and Circular* for March 23, 1898, is a brief but very flattering notice of 'Hugh Wynne,' by the 'late' Dr. Weir Mitchell. I beg to assure you that I was never 'late,' and am just now punctually present. As it is not enough to assert that a man is 'the late' among the unrecognized tests of the presence of life, possibly a letter from the unbelated may be reasonably taken into account as proof of the incorrectness of your certificate of the demise of yours truly, S. Weir Mitchell."

Dispensary Practice has been affected by the war. In a down-town district a falling-off in attendance at one of the dispensaries was noted for a few days, which could not be accounted for until it was found there was a "run" on a neighboring bank and the patients were busy drawing out their deposits.

The New York University.—The executive committee of the council of New York University announces that the Medical College will be enlarged and strengthened for the year 1898–99. A full statement of plans, equipment, and faculty will be presented to the students and graduates of the Medical College not later than the date of the annual commencement at the Metropolitan Opera House, May 18, 1898.

Dr. Edward S. Peck has been appointed professor of diseases of the eye at the New York Post-Graduate Medical School and Hospital.

Fourth International Congress of Physiologists. —This congress will be held at Cambridge, England, August 23 to 27, 1898, under the presidency of Prof. Michael Foster. The meetings will take place in the physiological laboratory of the university, and the members of the congress will there be afforded all possible facilities for experimental demonstration, as well as for the exhibition of preparations and of scientific apparatus. The official languages of the congress are English, French, and German. Each member of the congress is required to contribute the sum of ten shillings toward defraying the expenses of the meetings, in receipt for which a card of membership of the congress will be issued by the local secretary, Dr. L. E. Shore, Physiological Laboratory, Cambridge. In connection with the congress, an exhibition of physiological apparatus will be held. Exhibits may be contributed by members of the congress, by directors of physiological laboratories, and by makers recommended by any member or director. The exhibition of apparatus will open on Monday, August 22d, and remain open for the five following days.

Dr. William P. Northrup, of this city, delivered an address on April 12th before the Philadelphia Pediatric Society, on "The Portal Entry of Tuberculosis in Childhood." The meeting was largely attended, and after it a reception was tendered Dr. Northrup.

The Omaha Medical Society.—At the recent annual meeting of the Omaha Medical Society, the following officers were chosen for the year: *President*, Richard C. Moore; *First Vice-President*, Elenore S. Dailey; *Second Vice-President*, E. W. Lee; *Secretary*, J. M. Aikin; *Treasurer*, W. R. Lavender; *Board of Censors*, D. C. Bryant, B. B. Davis, and C. C. Allison; *Committee on Programme*, W. O. Bridges, Louis Swoboda, and H. B. Wilson. Eighty members are now enrolled. The society meets bimonthly. Efficient work, scientific and legal, is being accomplished by the society. Members of the profession, not residents of Omaha, but visiting in the city during the exposition, will be cordially received by the local members, if they will announce their presence.

The Lycoming County (Pa.) Medical Society held its annual meeting at Williamsport on April 5th. The following officers were elected for the ensuing year: *President*, Sidney Davis; *First Vice-President*, W. E. Delaney; *Second Vice-President*, C. M. Adams; *Secretary*, W. F. Kunkle; *Treasurer*, B. H. Detwiler; *Censor*, George D. Nutt; *Trustees*, J. A. Klump and C. W. Youngman.

The Cuyahoga County (Ohio) Medical Society met in fourteenth annual session in Cleveland on April 7th. The following officers were elected for the ensuing year: *President*, F. E. Bunts; *First Vice-President*, W.

W. Rogers; *Second Vice-President*, Charles Hintzelman, *Secretary*, Charles C. Stuart; *Treasurer*, L. S. Chadwick; *Censors*, A. J. Brockett, Frank Payne, D. S. Hanson; *Trustee*, W. A. Knowlton.

Wisconsin State Medical Society.—The fifty-second annual meeting of this society was held in Milwaukee, May 4, 5, and 6, 1898. Dr. William Mackie is president, and Dr Charles S. Sheldon secretary of the society.

The Tri-State Medical Society.—The following officers were elected at the annual meeting of this society in Dubuque, Iowa: *President*, C. E. Ruth, Keokuk; *First Vice-President*, Dr. Murphy, St. Louis; *Second Vice-President*, F. H. Martin, Chicago; *Secretary*, J. W. Fowler, Dubuque; *Treasurer*, D. S. Fairchild, Clinton. The next meeting will be held at Quincy, Ill.

New York County Medical Association Transportation Committee.—The New York County Medical Association has formed a committee of transportation for the purpose of commuting fares to Denver on the occasion of the coming meeting of the American Medical Association. Communications may be addressed to any of the following gentlemen constituting the committee: Drs. J. J. E. Maher, A. E. Gallant, F. H. Wiggin, Louis Fischer, and W. R. Dalton.

Beriberi at Matanzas.—The sanitary situation at Matanzas City is reported to be wretched. An epidemic of beriberi prevails there, and three hundred people are afflicted with that disease at the public jail and the hospital.

Medical Meetings at Denver.—The following is the list of medical societies the annual meetings of which will be held in Denver in June: The American Medical Association, the American Academy of Medicine, the American Medical Editors' Association, the American Publishers' Association, the Association of American Medical Colleges, the Rocky Mountain Interstate Medical Society, and the Colorado State Medical Society.

An Aseptic Newspaper.—The publisher of a daily paper in England has profited by the occurrence of a mild epidemic of small-pox to announce to his alarmed readers that each issue of the paper will be impregnated with a disinfectant. In this way the enterprising purveyor of news says that he will convert his paper into an agency for the widespread distribution of disinfecting influences and for the provision to all the readers of the means of safeguarding the home and the person. What a chance there is in this idea for the pink and yellow journals on this side of the water! It could be extended to the cure as well as prevention of disease. Special editions might be issued with impregnations for the cure of special diseases. Thus the man with a cold in his head can send out for the rhinitis edition of the *Morning Prevaricator*, or the one with appendicitis for the olive-oil edition of the *Evening Cablegram*, and slowly chew his paper as he reads, refreshing and renewing mind and body. With the first consignment of Florida cucumbers could be issued a diarrhœa extra impregnated with the *Sun* cholera mixture, and so on. The idea is grand, and the English publisher is a genius.

The American Neurological Association. — The twenty-fourth annual meeting of this association will be held at the New York Academy of Medicine, No. 17 West Forty-third Street, on Thursday, Friday, and Saturday, May 26, 27, and 28, 1898. There will be two sessions daily, one from 10 A.M. to 12:30 P.M., the other from 2 P.M. to 4:30 P.M. The annual dinner will be given on Friday evening, May 27th.

New Periodicals: A Protest.—Nine new German medical periodicals were announced in the last months of 1897, and medical literature in other countries is almost equally prolific. Von Düring writes to the *Deutsche medicinische Wochenschrift*, protesting against this multiplication of professional organs as a waste of energy, time, and money, rendering it impossible for any one to keep an intelligent oversight of medical literature. "Each new journal," he says, "contains possibly one or two important articles during the year, but these might just as well have been contributed to some established journal. The rest of the contents—news, abstracts, etc.—are found almost simultaneously in all the leading established journals." He therefore appeals to his confrères not to allow themselves to be cajoled into lending their name and prestige or contributing to these sprouting journals. If they will take *Punch's* advice to those about to marry, "Don't!" they will save the rest of the profession much time and money, while maintaining the dignity of science, which will inevitably be impaired by the "*Vielschreiberei*" necessitated by a host of new periodicals. And the new publications, refused the name and support of prominent members of the profession, would "die aborning."—*Journal of the American Medical Association.*

Taxing Medical Men. — In Italy physicians are taxed upon their incomes, the amount of which is fixed arbitrarily by the tax collector, and against the assessment no protest is of any avail. The amount so charged against the medical man is often so excessive that he cannot make the balance of his income cover his expenses. The Rome correspondent of *The Lancet* writes to that journal that Prof. Enrico Bottini, of the University of Pavia, has actually been driven out of practice by the extortions of the tax collector, and has published the fact in the following declaration, made February 8th: "Oppressed by a return for income tax which I hold exorbitant, and, having no further means of defence, I declare that I renounce entirely the private exercise of my profession. In good faith, Prof. Enrico Bottini."

"El Criterio Católico en las Ciencias Médicas" is the title of a new medical periodical published in Barcelona. It is stated to be the official organ of the Medico-Pharmaceutical Society of SS. Cosmas and Damian, and will fill the place formerly held by *El Sentido Católico en las Ciencias Médicas*, which suspended publication about six years ago.

Clinical Department.

AN UNUSUAL CASE OF UTERINE SARCOMA.

By JOSEPH WIENER, Jr., A.B., M.D.,
NEW YORK.

Mrs. P. T——, aged twenty-six, first presented herself to me in November, 1896. Her family history was good. Her father had died of endocarditis; her mother was alive, and had always been well. I could obtain no history of a malignant growth in either of her grandparents. She had lost neither brothers nor sisters; those living were well.

Her personal history was as follows: Aged twenty-six years; had never had any serious illness. Menstruation began at fourteen years—regular, four-weekly, moderate flow, not associated with much pain. A perfectly healthy girl, then of seventeen years, when she married. Soon after marriage she became pregnant, and was delivered at full term of a healthy girl, alive to-day. Her second gestation terminated in an abortion at two months. Her third gestation, five years ago, terminated with the birth of a male child, still living. Her fourth gestation, two years ago, terminated in an abortion. Owing to hemorrhage, she was curetted at that time, no anæsthetic being employed. Following this she menstruated regularly and was entirely well. According to her history, taken a year ago, she had come from California to New York nine months previously. She flowed on the train, and has been flowing off and on since then. She was treated for several weeks by a physician who promised to cure her with douches. At first she merely noticed more profuse menstruation; then she began to have metrorrhagia. Still the physician persisted with his douches. After a few months the patient noticed that her abdomen was increasing in size, and she began to have abdominal pain. Her appetite became poor and she lost some flesh and strength, especially during the past two months. Micturition was not painful; the bowels were a little constipated.

On examination I found a fairly well-nourished, somewhat pale young woman. Heart and lungs normal. Pulse about 100, of fair quality. On examination of the abdomen, a round hard tumor could readily be mapped out. It was centrally located, not freely movable, and somewhat painful to the touch. On bimanual examination the tumor was found to be quite low in the pelvis and to move with the uterus. The cervix was enlarged and hard; and there was a slight bloody discharge from the uterus. As the patient had lost considerable blood of late and was quite anæmic, it was decided to wait a few weeks to improve her general condition. An exploratory operation was then proposed to the husband, who readily assented. This was performed at St. Elizabeth's Hospital on December 19, 1896.

A median abdominal incision was made. The abdominal parietes were œdematous, and owing to many adhesions the peritoneal cavity was opened with difficulty. The omentum was found adherent to the abdominal wall as well as to the fundus uteri. The uterus was enlarged to the size of one at the fourth month of gestation. The adhesions between the omentum and the uterus were tied off with several silk ligatures, and the omentum was raised. It was then found that the posterior vaginal and anterior rectal walls were infiltrated by the new growth, which extended upward along the spinal column almost to the liver. All idea of a radical operation had to be abandoned. I removed a small piece of the growth from the fundus of the uterus, and closed the abdomen. The patient recovered from the effects of the operation without any untoward symptoms, and was able to leave the hospital and return to her home after twenty days. The abdominal wound healed, with the exception of two small fistulæ, which continued to discharge what looked like necrotic tissue.

Ten days after her return home I began a course of injections of Coley's toxins of bacillus erysipelatis and bacillus prodigiosus. I injected this through the abdominal wall directly into the tumor. For six weeks these injections were made three times a week, and were followed each time by a chill and rise of temperature—the chill lasting from a few minutes to an hour, the rise of temperature at times being as high as 105° F. After these six weeks the injections were continued for five weeks longer, but only twice weekly. During all this time the patient was able to be up and about, even go out for a walk. Her appetite improved and she gained in flesh and strength. She lost scarcely any blood from the uterus, but pain was present at times, especially on the right side, never, however, severe. Three months after the injections had been discontinued, the patient, after a ride in an elevated railroad train, had a severe uterine hemorrhage, which stopped on tamponade. This was in July last. From that time on she became steadily worse. The pain, which had been moderate, became severe, and there was a bloody discharge almost constantly. On August 23d there was a profuse hemorrhage from the uterus, and four days later the patient died.

The chief points of interest in the case are:

1st. The youth of the patient, twenty-six years.

2d. The probability that if the uterus had been curetted and the scrapings examined when the patient first came to New York she might have been cured.

3d. The temporary improvement from the use of Coley's extract.

4th. The anatomical structure of the growth, a small, round-celled sarcoma with alveolar arrangement—a rare form of uterine growth.

HYDROCEPHALUS AND SPINA BIFIDA.

By H. H. VINKE, M.D.
ST. CHARLES, MO.

The accompanying illustration is from a photograph of a case of congenital hydrocephalus complicated with spina bifida. The little girl was born at full term on the 6th of September, after a tedious and difficult labor, but no instruments were used. The head is enormous, measuring eighteen and one-half inches in the fronto-occipital circumference, eleven inches from external meatus to external meatus, and thirteen inches from root of nose to occiput. The occiput is poorly developed, and the bone proper has not yet united with the condyloid pieces. The different bones of the cranium are more or less widely separated by intracranial pressure, and different parts of individual bones are not as yet united. Most widely separated are the parietal bones from the occipital bone, and the bulging out at this point causes the distance between the root of the nose to the occiput to be so great and out of all proportion to the circumference of the head. The head is very soft and compressible, and could be moulded by the maternal structures in such a manner that it escaped from the vulva like a long bladder filled with water, and explains how a child with such a large head could be born without instrumental aid. The hydrorrhachis is at about the middle of the dorsal region, and has a broad base. The thyroid body cannot be felt, and I am certain that this gland is either rudimentary or absent. Should I be permitted to make a post-mortem, I could determine this point definitely.

There is no deformity of the roof of the mouth or the uvula. She constantly moves her hands and has complete control over the lower extremities. There is nothing abnormal about the pulse or temperature. The child refuses to take the breast, but takes the bottle readily. She cries but little, sleeps much, and is of

but little trouble to her mother. The parents are perfectly healthy; this is their first child. It is certainly surprising that such a frail and deformed being should live so long.

A CASE OF HALLUCINATION.

By T. J. HUTTON, M.D.,
MILLINGTON, ILL.

A MAN, aged fifty-eight years, sought my opinion of his own case. He said that by day he had no trouble whatever, except a fearful dread of night. And this dread of night was caused by the fact that the moment he lay down in bed at night a woman dressed in black came in through his bedroom window, lay down on his bed, and kept up a conversation with him until he fell asleep, which did not occur until far into the night.

Was this man fooling, or was he drunk, or, worse still, was he mad? I soon satisfied myself that he was not fooling, and that neither was he drunk; but it took me a little longer time to decide that he was not insane. He himself considered that he was becoming insane, and confessed that he thought of committing suicide.

He had the drink-habit history. I diagnosed alcoholic thickening of the sheaths of the optic and auditory nerves in the inner part of their course through the cranium, where they traverse a common canal; that in the dorsal decubitus this thickening caused irritation or compression of these nerves—perversion of function and the strange dual illusions. Acting on this theory, I put him on iodide of potassium, and in less than three months he was completely cured.

Prof. Adolf Baginsky of Berlin, director of the Kaiser and Kaiserin Friedrich Children's Hospital, has been made an honorary member of the Societ of Paediatrists of Moscow.

DYSTOCIA DUE TO ASCITES IN THE FŒTUS.

By I. C. EISENBERG, M.D.,
NEW YORK.

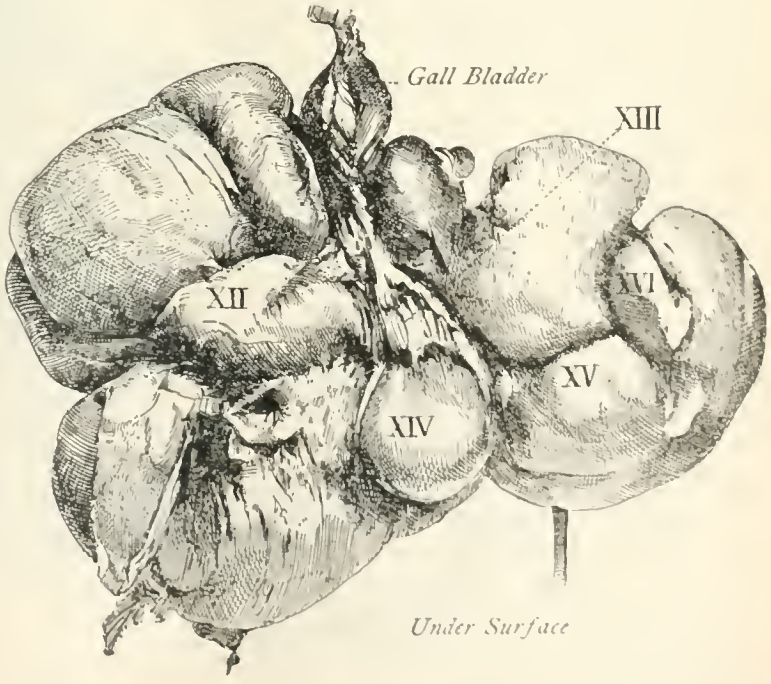
ON the 29th of August last I was called in haste to attend Mrs. B. F—— in her confinement. She was nineteen years of age, healthy, primipara; period of gestation, the eighth month; presentation, L.A.O. Being satisfied with the position and presentation of the fœtus, the condition of the mother, and the good labor pains, I expected an easy and normal labor. An hour later the head was delivered, but then labor was arrested. I recognized that dystocia was caused by the distention of the fœtal abdomen, but waited, thinking that delivery might possibly be effected naturally, in consequence of the gravitation of the fluid from one part to another. But I saw the woman becoming prostrated, and decided that the only resource was in evacuation of the fluid, and so I punctured the abdomen near the insertion of the cord. A large amount of brownish watery fluid was discharged, and labor was soon terminated. Examining the child to see if possible the cause of the ascites, I found that it was a hemiteratic and cryptorchid. In lieu of penis there was a long, solid, cylindrical, curly, muscular appendage, without urethra, corpus cavernosum, spongiosum, or meatus. The abdominal cyst was due in all probability to retention of urine. The child died ten minutes after delivery.

A LIVER WITH SIXTEEN LOBES.

By W. MOSER, M.D.,
BROOKLYN, N. Y.,
PATHOLOGIST TO ST. CATHERINE'S AND ST. MARY'S HOSPITALS.

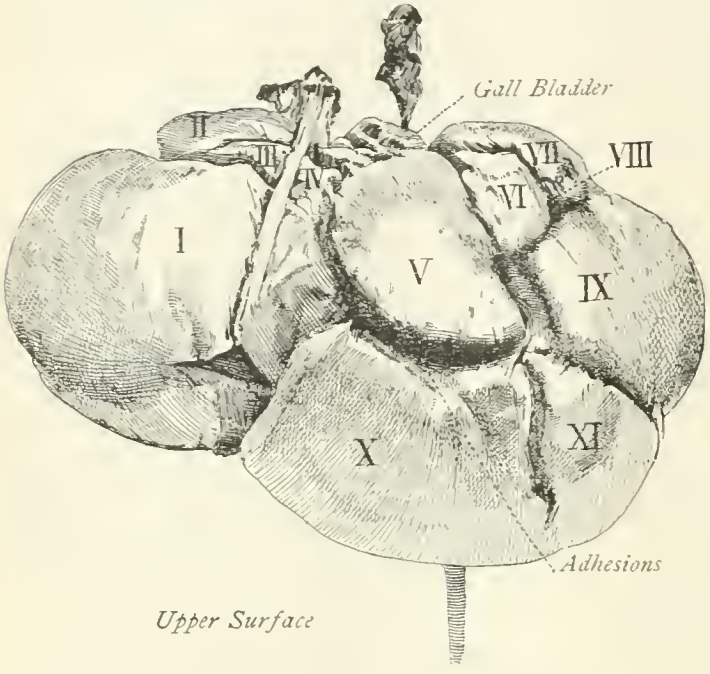
ACCESSORY or supernumerary lobes of the liver are not common; nor are supernumerary livers common, most of which appear to have been situated or attached to the suspensory ligament. They are not so frequently encountered as a supernumerary spleen or spleens.

The liver normally consists of five lobes, viz.: 1, right; 2, left; 3, lobus caudatus; 4, lobus quadratus;



5, lobus Spigelii. With these five lobes another or accessory lobe may sometimes be found. McPhedran has encountered an accessory lobe of the liver in a few laparotomies, and in fact, in a few instances there have been operations for an alleged tumor of the right hypo-

chondriac region. In place of one accessory lobe we may have as many as sixteen. Such a specimen was found recently at an autopsy at St. Catherine's Hospital. The upper surface of the organ contained twelve distinct lobes, the under surface four. These lobes were separated by deep fissures, so that, in place of the usual five lobes, eleven accessory lobes were found.



Upper Surface

Strange as it may seem, this liver was not much enlarged, for the reason that the right and left lobes were subdivided into several lobes. While such a liver is mainly of anatomical interest, I believe with McPhedran that cases of accessory lobe or lobes of the liver could be mistaken for tumors. If we bear in mind the occurrence of accessory lobes of the liver, their smooth, elevated surfaces and abrupt depressions (corresponding to the individual fissures), it might prevent error. If the liver be enlarged, then liability to error is enhanced. A liver with sixteen lobes reminded me of the lobulated kidney indicative of arrested development. In the liver, however, I am unable to explain their origin.

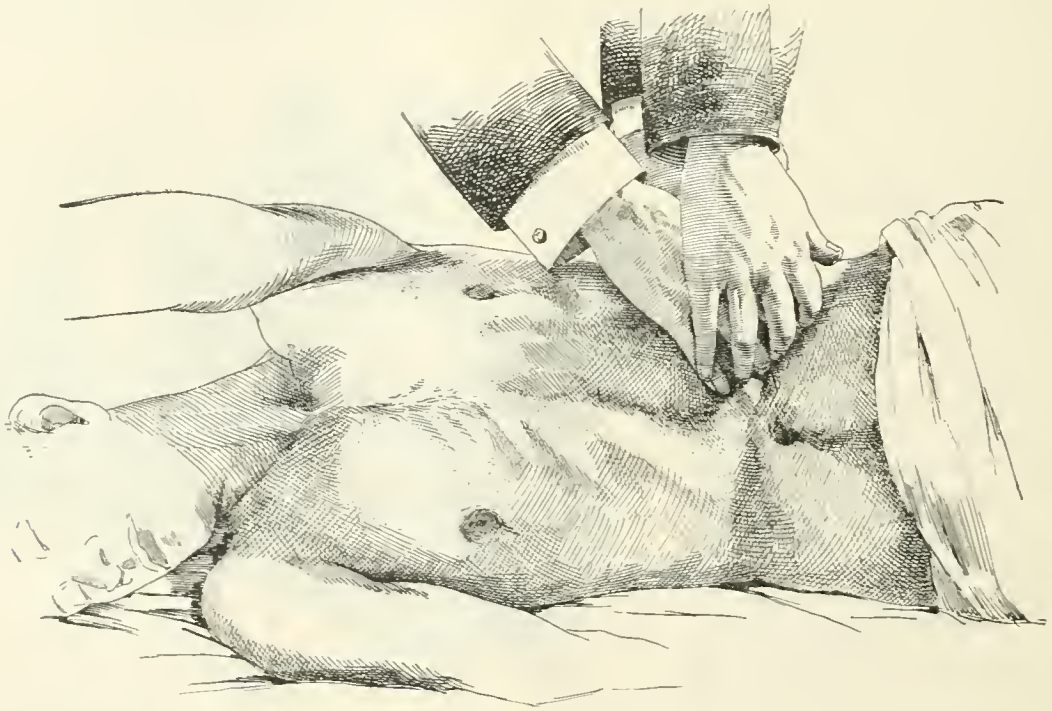
A SUGGESTION TO INSTRUCTORS IN PHYSICAL DIAGNOSIS.

By J. N. HALL, M.D.,
DENVER, COL.

The uncertainty as to whether a student hears, with the stethoscope, the sound which we intend that he shall hear, especially in cases in which the sound is an inconstant one, has been quite effectually obviated by the use of the multiple stethoscope; for by its use the instructor can at least be certain that the particular sound to be heard is present and audible at the time the student listens for it. I have often doubted, however, whether a student actually felt the edge of the liver, the spleen, or a pyloric tumor, in spite of a halting affirmation that he was pretty sure he did feel it. The interlocking of the fingers of the student with those of the instructor, as in the illustration, gives the latter opportunity at least to make certain that the object to be felt is actually under the fingers of the student, so that, at the least, he should feel it. In movable tumors, particularly, I have found the procedure of considerable value. After the student once knows what he is to feel for, half of his difficulties vanish, and the smile which lights up his face after he first distinctly feels by this method the edge of an enlarged spleen, for example, is better evidence to me than his oral statement as to what he has found.

(I am indebted to a senior student, Mr. F. W. Rumsey, for the excellent photograph from which this illustration is made.)

A Biography of Ernest Hart.—It is announced that Mrs. Hart is preparing for publication a life of her husband, the late editor of the *British Medical Journal*, and she requests all those who have records of public work done in conjunction with Mr. Ernest Hart, who have letters of interest from him, or who can give personal reminiscences of him, to communicate with her, as she is anxious to collect the material for the proposed biography at an early date.



Society Reports.

SIXTEENTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Wiesbaden, April 13, 14, 15, and 16, 1898.

(Special Report for the MEDICAL RECORD.)

Wednesday, April 13th—First Day.

President's Address.—PROF. MORITZ SCHMIDT, of Frankfort, in welcoming the members of the congress took occasion to say that much was to be hoped for in medicine from such meetings. Medicine was no longer in the position where advances were made only by geniuses and where we must wait for genius to light the way before we could go on. Much more was to be gained by the gradual accretions to medical knowledge of a number of seemingly unimportant contributions from very ordinary mortals, but which, taken all together, showed that natural process in the evolution of knowledge which so closely imitated nature, and whose results were as lasting as nature's own because they had come in her own good way. Much of the future of medicine, he said, must depend on animal experimentation. This did not mean the infliction of unnecessary cruelty on animals, nor did it mean that we must be heartless toward animals. So great a vivisector as the distinguished Leipsic physiologist, Ludwig, had been the president of the Society for the Protection of Animals. The movement among hypersensitive females to do away with vivisection could not but do harm if it became popular. The triumph of animal experimentation was the serum therapy of diphtheria. With the glorious prospect this opened up of relief to millions of human beings suffering from manifold ills, no false and foolish sentimentality could deter the medical man from vivisection. In the beginning animals were given to man, who was to rule over them, and in this was involved the right of life and death.

The Clinical Teaching of Medicine. — Professor von Ziemssen, of Munich, and Professor von Jaksch, of Prague, had been invited to open the discussion of the question of the clinical teaching of medicine, the first as it regarded the German, the latter, the Austrian universities.

VON ZIEMSSEN thought that the present teaching method was defective in the matter of the practical technical training of physicians. To remedy these defects he considered it necessary to have: 1. A longer medical course, at least ten half-years (semesters) instead of nine as now. 2. Practical laboratory experience in chemistry, anatomy, physiology, pathological anatomy, and pharmacology. 3. A course of lectures covering the whole ground of general and special pathology and therapeutics. 4. Practical courses with demonstrations in all diagnostic and therapeutic methods. On the teaching of these therapeutic methods he laid great weight, as he considered that the greatest fault of modern clinical medical instruction was its neglect of practical exercises, especially in therapeutic methods. These practical matters he thought could be best learned in connection with a dispensary, where the students, under proper control of a teacher, would themselves have to assume responsibilities in the treatment of the patients and visit them at their homes. All this practical work would have to be shown to have been done before the student would be admitted to examination, and the clinical professor would himself have to take care that the dispensary practice did not degenerate into mere routine. Besides all this, however, the graduate before he entered on practice should have a year of practical work in a hospital. This ought to come after graduation, because before that everything was learned with an eye solely to what would be needed for the examination.

PROFESSOR VON JAKSCH demanded instead of ten semesters at medicine, as they now had in Austria, twelve semesters. He thought, however, that two of these semesters might be taken from the preparatory years at the gymnasium and devoted at the university to zoölogy, botany, and mineralogy, to which should be added a certain training in photography and in the management of electrical apparatus. There was a tendency to too great decentralization in medicine, and the invasion of specialism would tend to make mere mechanics of physicians. Even Billroth shortly before his death seemed to think, as he wrote in a private letter to Professor Wölfler, that the future medical school would have to consist of a number, a large number of almost independent special departments. This, of course, would be fatal to scientific medicine. The way to avoid it was to reclaim for internal medicine her position as the mistress in the medical household, in which her status had been somewhat impugned by impudent handmaidens. A regular course of didactic lectures would be most desirable, but the students would not attend them. It was true that a student could not go home and read up a subject to grasp it in the way he could after its presentation to him in a lecture, but even the great Billroth had found his didactic lectures unattended. Into the clinical presentation of a case must be put the ideas that the students would get in didactic lectures; and a variety of cases to carry the series of clinics c er the field of special pathology and therapy must be selected. He believed that during the regular medical course the specialties should be taken up only so far as they referred to the general diseases. For those who wished to devote themselves to a specialty, a year in a special clinic or under a specialist's care should be required. Specialism must not be allowed to undermine the solid foundation of general medicine or the effect would be fatal. With regard to mental diseases, the speaker said that they had become so important of late years that their study and a special examination in them should be obligatory.

The discussion was continued by JÜRGENSEN, HOFFMANN, SCHULZE, QUINCKE, and others. The general agreement seemed to be that clinical teaching of practical medicine must work out its own salvation in the course of time, and no definite plan, in view of the diverse opinions held, could be agreed upon just now.

Chlorosis.—The remaining hours of the first day were devoted to papers on pathological blood conditions and their treatment. The discussion of the treatment of chlorosis showed that the profession in Germany was still waiting for some method of treatment that would prove successful in severe and relapsing cases of chlorosis. Von Noorden's definition of chlorosis and anæmia and their differentiation passed without question. Chlorosis was a disease of the blood-making organs; anæmia, a symptom of defective blood composition, that might be due to a variety of causes. Good words were said of diaphoretic treatment for chlorosis, and even the suggestion to venesect chlorotic patients for the sake of the stimulant effect on the blood-making organs was not thought inadvisable.

ROSIN, of Berlin, advised hot baths up to 110 –115° F., or as hot as the patient could stand them. Hot baths were excellent when one was very tired and they had a correspondingly refreshing effect upon the perennially tired feeling of chlorotics. This tired feeling was the result of muscular malnutrition in both cases —in the fatigued from the exhaustion of the nutritive material stored in the muscle: in the chlorotic from the bringing of insufficient nutriment and the gases for its proper consumption by the disordered blood.

Determans, of St. Blasien, thought the blood plates portions of the protoplasm of the red blood corpuscles which had been constricted off. This occurred more frequently when the red blood cells were not in normal health. The number of blood plaques then could be taken as an expression of the coefficient of the vital resistance of the red blood cells to disturbing influences. They were not characteristic for any disease, but they were an expression of the degree to which the red blood corpuscles had fallen victims to the underlying disease. As such they formed an important clinical symptom.

Dr. Engel, of Berlin, demonstrated in the blood of human and animal embryos a special form of large nucleated red blood corpuscle, which was differentiated from the ordinary normoblasts and megaloblasts of embryonic blood by its reaction to Ehrlich's triacid stain, and especially to orange G. This new corpuscle he called a metrocyte (a mother cell). It was found in the blood also of those suffering from pernicious anæmia, and constituted the only absolutely sure means of diagnosticating genuine progressive pernicious anæmia from any severe anæmia, a differentiation which had become one of the most important points in modern blood pathology. The finding of these metrocytes in the blood of a pernicious-anæmia case made the prognosis absolutely bad.

Thursday, April 14th—Second Day.

Diabetics.—Professor Leo, of Bonn, read a paper on the treatment of diabetes. He did not believe in the absolute diet without vegetables that Cantani had suggested, as in bad cases it led surely to more rapid accumulation of acids in the blood, and diabetic coma was an acid intoxication. He believed with Naunyn that vegetables contained certain salts absolutely necessary to the organism. Even in the lightest cases, however, he believed that for two or three weeks three or four times a year absolutely no carbohydrates should be taken, as thus the metabolic faculty for sugar which had been injured was given that strictly physiological rest so conducive to its recuperation. He had shown by a series of experiments on animals that glycosuria could be produced by the administration of a ten-per-cent. sugar solution, in which fermentation had been allowed to begin by the addition of yeast. He did not think that this meant that beer might directly produce diabetes, since the disease occurred more frequently in women than in men; but he had no doubt that beer in people disposed by heredity or otherwise would increase the tendency to the development of the disease.

Von Jaksch spoke of his attempt to replace grape sugar, which the organism had unlearned how to use, by some chemical equivalent of sugar, of which the system might be able to avail itself. His experience with methyl peritose, the arabinose of commerce, had been encouraging. He did not believe that the physician's attention should be given so much to making the urine absolutely free from sugar. It was another such a mistake as the treatment of fever by antipyretics, the sad mistake of some years ago. No one now thought of making typhoid run an afebrile course by giving large doses of antipyretics, and in a few years no one would think of making the urine free from sugar, but of furnishing such a diet that, despite this, bodily metabolism might be kept up.

Minkowski reported a series of good results from the administration of pancreas extract in dogs, in which diabetes had been produced by the removal of the pancreas.

Von Jaksch believed that not all cases of diabetes were due to defective function of the pancreas. He had seen a number of cases, notably of phosphorus poisoning, in which the lesion had been in the liver.

Then began a lively tilt between Minkowski and von Jaksch as to pancreatic and hepatic diabetes. Minkowski suggested that in phosphorus poisoning the pancreas was affected as well as the liver. Von Jaksch had after autopsy in his cases been able to find no lesions of the pancreas. Minkowski thought that pancreatic lesions always existed, though present technical and microscopical methods were not refined enough to detect them.

The mention of the subcutaneous injection of sugar as a nutritive agent brought out the fact that with care in the avoidance of infiltrations at the point of injection sugar might be with safety introduced into the organism, though the procedure had not been sufficiently tried as yet to indicate that it would be of any material assistance in the treatment of diabetes.

Leube, of Wurzburg, and Jacob, of Berlin, had used olive oil often by subcutaneous injection in gastro-intestinal diseases, and had had no trouble with it and some excellent results.

As to saccharin, all were agreed that it was not merely the indifferent sweetening agent that it was considered.

Boas thought it hindered fermentation in the intestinal tract.

Von Jaksch thought it caused gastro-intestinal trouble, and thought that Boas' explanation would account for its interference with digestion by inhibiting the normal digestive ferments.

Bornstein had seen dyspeptic symptoms after its use, so that the substance should not be readily prescribed for patients, and, above all, they should not be given *carte blanche* to use as much of it as they liked.

Urotic Acid.—Minkowski, of Strasburg, described a new nitrogenous substance which he had found in the urine of dogs fed on calf's thymus. He called it urotic acid, and believed that, like uric acid, it was an oxidation product of the nuclein bases, especially of adenin. He thought that in its chemical constitution it was an amido-pseudo-uric acid. Up to the present time it had been absolutely overlooked, though it occurred in the urine of thymus-fed dogs in more than twenty times the amount of uric acid. He believed it to be an intermediate compound that had escaped from the organism before all the usual processes of oxidation were completed, and that it consequently played a rôle in the human organism as a step preliminary to the formation of uric acid, and that it might thus be of clinical and pathological importance.

Pseudo-Tabetic Spinal-Cord Degenerations.—Professor Edinger, of Frankfort, demonstrated artificially produced tabes-like degenerations in the spinal cord of rats. The animals had been first subjected to a *régime* which made them anæmic, and then compelled to work hard for a certain number of hours. This overexertion while they were in a run-down condition had produced lesions very different from those usually found in anæmia alone. In anæmia the edges of the cord all round, though more particularly in the posterior and lateral columns, showed spots of degeneration. In these cases of Edinger the degeneration, as shown by the Marchi method, was limited to the posterior columns. Edinger thought that the real etiology of tabes was the degeneration of nerve fibres called on to do much work when they were in an abnormally susceptible condition, as a result of heredity—for instance, in Friedreich's ataxia; or of syphilis, as was usually the case in locomotor ataxia; though the disease might be from other toxic influences as well. Tabes was a progressive disease under these circumstances, because, once a number of nerve fibres had degenerated, then others were easily subjected to overwork and so followed in the degenerative process, especially as they, too, had been affected by the toxin that

lowered the vital resistance of the first fibres. Edinger called special attention to the fact that with these degenerations and this etiology as their basis, a great lesson in prophylaxis was taught. Anæmic, rundown people must be warned of overexertion, and the same was true of syphilitics. Once the process had begun, then the extremest care as to anything like overexertion must be taken. It was no unusual thing to find that in a case in which the tabes had been at a standstill for years, it suffered a new exacerbation after injudicious and unusual exertion. The modern movement therapy for locomotor ataxia, now so fashionable, was liable to lead to serious consequences in this respect, unless most judiciously employed.

Dr. Friedel Pick, of Prague, called attention to the fact that the preparations shown contained certain points of degeneration at the periphery of the cord, such as Ehrlich had shown to occur in cases in which the aorta was compressed for a time. These represented the association fibres binding together different segments of the cord, but not fibres from the posterior roots.

Streptothrix Hominis.—Petruschky, of Dantzic, demonstrated cultures and preparations of streptothrix hominis, a sort of mould which was pathogenic for man—at least he had found it in the sputum in two cases of lung affections. He thought that it was the etiological factor in a disease that occurred in Dantzic and had been called malaria, but in which no hæmatozoa could be found in the blood.

Von Ziemssen, of Munich, had found the same form of parasite in certain atypical lung affections with a slow course, and he, too, regarded it as of pathogenic significance.

Roentgen Demonstration of the Results of the Schott Treatment of Heart Disease.—Dr. Schott, of Nauheim, exhibited some skiagrams showing that reduction in the size of the heart had become less after a course of his exercises against graduated resistance than it had been before (see page 436).

Friday, April 15th—Third Day.

Intestinal Sepsis and Antisepsis.—Müller, of Marburg, and Brieger, of Berlin, read papers on "Intestinal Auto-Intoxication" and "Intestinal Antisepsis." Professor Müller reviewed the subject as far as the ingesta were concerned, whether these were poisons or poisonous food products or bacteria. He absolutely refused to accept the conclusions of Bouchard and Charrin, of France, that it was through the intestinal walls under slightly abnormal conditions that bacteria entered the blood, to set up such diseases as meningitis, pneumonia, influenza, etc. Except in the presence of gross anatomical lesions, bacteria did not penetrate mucous membranes. The symptoms of auto-intoxication as we knew them were not bacterial, certainly not due to the ordinary saprophytic bacteria of the intestine, but the results of the absorption of chemical poisons, and these were always formed in the gastro-intestinal tract whenever there was stagnation of its contents, whether in the stomach or in the intestines. As to the urotoxic coefficient, especially as it was determined by the injections of quantities of urine into animals, though so much had been heard of it of late years from French and Italian sources, Müller pronounced it utterly untrustworthy.

Brieger and Ewald took the same position, which seemed to be the generally accepted one here in Germany. As to intestinal antisepsis, very little could be hoped for from it. The best treatment was a purgative, or an emetic if there was stagnation of the stomach contents. As to the treatment of auto-intoxication, as in the treatment of poisoning cases generally, after elimination as far as possible had been effected, then the treatment was purely symptomatic.

Boas reported cases in which with symptoms of acute auto-intoxication he had found the quantity of urine passed in twenty-four hours very much reduced—as low as three or four hundred cubic centimetres. He considered a diuretic always indicated, and thought it fortunate that the best-known intestinal antiseptic, calomel, was also an efficient diuretic.

A Pathogenic Protozoon.—Dr. Jacoby, of Berlin, described a protozoon, hitherto not known to be pathogenic for men, which accompanied dysenteric symptoms in several patients.

Reaction of the Intestinal Contents.—Professor Mathes, of Jena, had been testing the intestinal contents of dogs immediately after the death of the animals, and had not found that they were simply alkaline in reaction, as the physiologists had been teaching up to this time. He found that they were amphoteric. While they reacted constantly alkaline to litmus and certain other test substances, they reacted usually distinctly acid to rosolin and another series of reagents. The salts contained in the food had a good deal to do with the reaction, and the consumption of vegetables rich in certain salts, especially the various phosphates, had a distinct effect on the reaction of the intestinal contents.

Dural Infusion.—Dr. Jacob, of Berlin, said that Quincke's lumbar puncture had not fulfilled its promise as a therapeutic or diagnostic measure, although its almost universal use showed that it was not a serious procedure. This had occasioned the idea that after the evacuation of a certain amount of cerebro-spinal fluid, a medicated liquid might be introduced in its place. Jacob had tried, first, ordinary salt solution, and afterward carbolic solution and solution of iodide of potassium. Only in cases in which excessive amounts (over one hundred cubic centimetres) were introduced did any unpleasant symptoms develop. Some animals bore one hundred and fifty cubic centimetres of medicated fluid without the slightest inconvenience. Solutions of iodide of potassium were injected then in severe syphilitic cases in men and borne very well, the iodine appearing in the urine in fifteen hours. Dr. Jacob believed that this new therapeutic measure would be of the greatest service, after improvement in its technique, in leading to the rapid absorption of gummatous processes in the cortex and cord before they had had time to degenerate and produce sclerotic changes.

Disorders of Cutaneous Sensibility in Visceral Disease.—Dr. Seeffer, of Halle, showed the regions of cutaneous nerve endings that in affections of various internal organs were rendered either hyperæsthetic or hypæsthetic. The determination of these sensible disturbances was made with a very sensitive æsthesiometer, the invention of Head. The studies had two practical applications: 1st, the local hypæsthesia or hyperæsthesiæ of hysteria or neurasthenia might thus be traced to the organ which perhaps by it sfunctional derangement was disturbing nervous equilibrium; 2d, the question of counter-irritation took on a more exact meaning, and the region in which alone counter-irritation would be of effect was definitely indicated.

Saturday, April 16th—Fourth Day.

Micro-Organisms in Syphilis.—Van Niessen, of Wiesbaden, but now working in the laboratory of the Imperial Institute of Experimental Science in St. Petersburg, demonstrated the micro-organisms he had found in the primary sore in syphilis, in the epiphyses of hereditary syphilis, and in the blood, especially that obtained by cutaneous incision, since the bacteria

seemed to be distributed on the surface, of tertiary syphilitics. He believed that no single form of micro-organism was responsible for the manifold lesions of syphilis, and his demonstration included such varied forms as staphylococci, diplococci, and streptococci, as they were found in various characteristic lesions of syphilis. These took the ordinary stains, the carbol-fuchsin and Gram's being the two methods used in the specimens exhibited. The micro-organisms had undoubtedly been seen by other observers, but the facts that Virchow admitted to his *Archiv* some time ago one of Van Niessen's articles, and that after this the Russian government called Van Niessen to St. Petersburg to continue the distinguished Sperk's researches into syphilis, gave these discoveries an extraneous interest. Van Niessen claimed to have produced syphilis-like lesions in hogs by the injection of specific infectious material.

The Urine in Pneumonia.—Dr. Friedel Pick, of Prague, reported a special characteristic of the urine in pneumonia just after the crisis. While during the disease it was uniformly acid, twenty-four to forty-eight hours after the crisis it became neutral or even alkaline, or in rarer cases its acidity was much decreased. This lasted for from twenty-four to thirty-six hours, when it became normally acid once more. Pick thought this alkalization of the urine was due to the absorption of the exudation in the lung, especially of the sodium salts.

Pathogenic Action of the Proteus.—Dr. Kühnau, of Breslau, claimed that the proteus had a special pathogeneity. It was dangerous in surgical infections, but especially dangerous when it attacked mucous membranes. That it caused severe enteritis and cystitis, he thought was clear. In two recent cases he had found it as the probable cause of a deeply destructive ulcerative process in the soft palate, pharynx, and tonsils, in cases which ran a fatal course. He had found it in a fatal tuberculous empyema that became deeply destructive. He regarded it as the most probable cause of the ulcerative complications of scarlet fever and diphtheria. As more than twenty forms of it were supposed to exist, and its morphology was most inconstant, a simple change of culture medium serving to change entirely its appearance, a most difficult problem in microbiology would seem to be opening up.

The next congress for internal medicine is to be held in Carlsbad, in April, 1899.

CONGRESS OF THE GERMAN SOCIETY OF SURGERY.

Held at Berlin, April 13, 14, 15, and 16, 1898.

(Special Report for the Medical Record.)

Wednesday, April 13th—First Day.

Professor Trendelenburg, of Leipsic, the president, opened the congress with a short address, in which he welcomed the new and the old members, and recalled the painful loss the society had suffered during the year in the death of several of its members. The most important donation to the society during the year was by the Langenbeck family, of 50,000 marks ($12,500). The interest on this capital was to be used for the purpose of giving German health officers and civil physicians, in case of war outside the empire, the opportunity to obtain military surgical experience; or to serve as an aid in furthering scientific war surgery.

The Latest Methods to Improve the Aseptic Treatment of Wounds.—Professor Mikulicz, of Breslau, first gave his method for sterilizing silk. Boil one-half hour in four-per-cent. carbolic-acid solution, place in five-per-cent. iodoform in ether for twenty-four hours, and preserve till needed in a four-per-cent. carbolic-acid solution in alcohol (about seventy-five per cent.). He described an addition to a surgeon's armamentarium, in the shape of a gauze mask, to be worn over the nose and mouth while operating. The mask was made to rest on the bridge of the nose, below the spectacles, and extended to just beneath the chin, fitting closely around it. Its sides rested on the cheeks. It was held in place by wires similar to those on spectacles, curving over the ears. This invention was the outcome of a series of experiments carried out by himself and his assistants. They talked, coughed, and sneezed at reasonable distances from agar plates, and then counted the colonies. In most cases they were innumerable. They repeated the experiments while wearing the mask, and the number of colonies was decreased to one or two and in some cases there were none at all. The speaker concluded by showing the gloves he uses in doing all operations, and recounting their advantages over bare hands. His gloves, he said, were made of linen. They lessened the danger of infection from the operator's hands; being antiseptic, the suture material was preserved from contamination, and they protected the operator himself from infection.

Professor Landerer, of Stuttgart, said he was convinced that the skin played a large rôle in the septic infection of wounds, since it was so difficult to make sterile. He also attributed, like Mikulicz, much to the air, though he added that he did not believe it necessary to work in an atmosphere absolutely free from germs. He had always had success in his operations after careful washing of his hands and previous preparation of the region to be operated on, by means of formalin. He did not believe that we could always argue from the results of bacteriological experiments to the conditions which were found in the living patient.

Dr. Perthes, of Leipsic, believed gloves were necessary, and advocated a glove made of silk and rubber. Linen gloves, he held, were not practical, because as soon as they became wet they would allow micro-organisms to pass through them. Those made entirely of rubber, as advocated by Wölfler, he did not like, as they were too thick and so the sense of touch was disturbed. Especially in emergencies and in military surgery did he find gloves useful, because in the first case one had not the time thoroughly to disinfect the hands, and, in the second, there was in addition often a lack of water. He showed a very pretty pair of silk-rubber gloves fitting the fingers tightly and reaching to the elbow. Each was covered first by a white linen mitten or stocking, and was pulled on the hand while inside this. When both were on the mittens were removed, leaving the gloves without the hands having touched them. He was, however, scarcely through his description before a hundred voices had cried out, "The price—but what is the price!" He answered: "Well, gentlemen, I must acknowledge they are dear, but we expect to have them made cheaper later. They cost 10 marks [$2.50] a pair." The crowd seemed to think this a little too expensive.

Professor Döderlein, of Tübingen, thought there were too many kinds of gloves in use—linen, tricot, tricot treated with xylol and paraffin, rubber, and now silk-rubber. Examination showed that cloth gloves were worse than useless, since when wet they allowed perspiration and whatever bacteria might be in it to pass. All such gloves examined after operations were found full of bacteria. In certain cases, as, for instance, sudden hemorrhage with no time for sterilization of the hands, rubber gloves might be useful, but he strongly recommended a return to the old methods with the naked hands.

Dr. Bunge and Dr. Prutz, both of Königsberg, did not believe in the usefulness of the gloves, and found alcohol an excellent and sufficient disinfectant for the hands.

Dr. Zoge, of Manteuffel, had for a long time used the ordinary rubber gloves of the chemist, and found that the number of his septic cases was diminished. He also advised the use of instruments as often as possible, saying that the fingers should never be used when forceps could take their place.

Professor Wölfler recommended leather gloves which had lain several days in xylol solution. He had introduced cultures of prodigiosus into these, then worn them for varying periods, wetting them, etc., but no bacteria were found on their exterior.

Professor Mikulicz closed the discussion by saying that he no longer recommended plain linen gloves, but only such as had been rendered impermeable.

Aseptic Treatment of Fresh Wounds. — Professor Friedrich, of Leipsic, showed by experiments on animals that the infection of fresh wounds remained superficial for from six to eight hours. He cut into the triceps muscle of animals and introduced dust and earth. Then after two, four, six, and eight hours respectively he cut out the wound and the surrounding flesh and examined them. Up to the sixth hour bacteria were never found below the surface, and then not in any marked degree, nor were they found in all cases till the eighth hour. He concluded, therefore, that the proper treatment of open wounds not yet six hours old was to freshen the cut surfaces and stitch the edges accurately together. When the wound was more than eight hours old it should be packed and treated without stitching.

Dr. Noetzel, of Königsberg, confirmed Schimmelbusch's conclusions, that from fresh wounds bacteria were resorbed with wonderful rapidity. Ten minutes after infecting a wound with anthrax bacilli he had discovered them in the body. But he believed, nevertheless, that those which were so rapidly taken into the circulation always died, and that probably this quick resorption was a measure of self-protection on the part of the body.

Dr. Schloffer, of Prague, in examining wounds which had healed by first intention had always found bacteria. But he thought too that he was able to prove that the secretion of all such wounds had bacteria-destroying properties.

Local Anæsthesia.—Dr. Hackenbruch, of Wiesbaden, described his method of local anæsthesia, consisting in the injection of one-fourth-per-cent. cocaine-eucaine solution, warm, around the field of operation, which was as much as possible deprived of its blood supply by means of an elastic ligature above. He had done with it a large number of operations, some serious ones, with the best success. Schleich's infiltration anæsthesia had not been successful in his hands.

Dr. Braun, of Leipsic, had made many experiments with Schleich's infiltration anæsthesia and proved especially its anæsthetic effect. He used salt solutions of different strengths, increasing and decreasing the proportions of the different ingredients, but he had been able to improve it in only one way, and that was by the omission of the morphine. He believed that if the morphine was omitted the result would be the same, and there would be done away with much of the œdema which so frequently followed the use of the solution. He claimed it was the specific action of the morphine on the blood-vessels that caused the œdema. In the removal of malignant tumors or large purulent collections he did not consider this method practical.

Dr. Rubinstein, of Berlin, thought cocaine the most practical anæsthetic for small operations. He had seen teeth pulled successfully after infiltration of the surrounding gum, he had done operations for hemorrhoids with the thermo-cautery under cocaine anæsthesia, and he had found it useful in many operations in the joints and for the removal of superficial bone disease. In case of tuberculosis of the bone it was necessary to infiltrate only the periosteum with the Schleich solution, the bone itself being insensible.

Dr. Mankiewicz, of Berlin, thought the employment of morphine as recommended by Schleich particularly useful to allay the pain subsequent to the operation. He did not agree with Braun that it had anything to do with the œdema.

Dr. Gottstein, of Breslau, said that in Mikulicz's clinic they had most favorable results even in large operations, such as cœliotomies, with Schleich's method.

Dr. Wohlgemuth, of Berlin, said that the mixture of eucaine with cocaine was not to be recommended; first because the injection of eucaine was very painful, and, second, because it caused an inflammation of the tissues.

Thursday, April 14th—Second Day.

Resection and Extirpation of the Stomach. — Professor Krönlein, of Zurich, gave some of the details of the extirpation of the stomach performed by Schlatter, as reported in the Medical Record. The patient is still living and well, and since the operation has gained thirteen pounds. Besides bearing witness to the remarkable success of the operation, the patient is now the subject of a scientific study in relation to certain physiological processes of digestion. The speaker had performed twenty-one resections of the stomach for cancer. Five patients died as a result of the operation. Sixteen of these operations were done within the last ten years; of these sixteen, only two patients died as a result of the operation. Of the sixteen patients who recovered from the operation two died of intercurrent disease within ten months, eight died of a recurrence of the cancer, and six were still living and well, two of these having survived the operation more than four years.

Regeneration of an Exsected Stomach. — Dr. Schuchardt, of Stettin, said: stomach carcinoma appeared in three different forms: the first spread quickly, attaching itself early to the surrounding tissues, making a radical operation very difficult; while the other two, the infiltrating and tumor forms, could often be easily removed after having existed a long time. He mentioned a case of almost total extirpation presented at the congress two years ago. In this case there seemd to be no impairment of digestion, and the patient remained healthy and well nourished till she died of pleurisy a short time ago. The autopsy revealed complete regeneration of the stomach from the slight portion left. The specimen was passed around, and macroscopically it appeared like a normal stomach.

Gastro-Enterostomy. — Dr. Stendel, of Heidelberg, gave the results of stomach operations in Czerny's clinic. In cases of stricture of the pylorus they never attempted to dilate but did perform gastro-enterostomy. This operation was also done if a malignant tumor of the pylorus was found inoperable. Even in those cases in which a malignant tumor was left behind untouched there was marked improvement, the patient often living for a long time after the gastro-enterostomy; in one case for three years. He believed that not only was life prolonged in those cases by the growth of the tumor coming to a standstill for an indefinite period, but that there was even a retrograde change in the tumor itself. Gastro-enterostomies had been performed with the aid of the Murphy button, the results as regarded mortality having been twelve per cent. better with the button than without it. The button was passed by the natural way in all the

cases, though sometimes not for some days; in one case only after three months.

Professor Mikulicz, of Breslau, after exhibiting numerous pictures and specimens showing different kinds and intensity of infiltration of carcinoma of the stomach, said it was only by the knowledge of these different conditions and by attention to them during the operation, that surgeons would be able to improve the results of resection. He said that in doing such an operation it was necessary to understand and know its technique perfectly. In doing this, as well as any other cancer operation, it was absolutely necessary to remove, as far as possible, the lymph glands that were diseased. He exhibited pictures showing how the lymph glands increased in number on the smaller curvature as one approached the cardia, there being oftentimes none at all at the pyloric end; but on the greater curvature the contrary was true, the glands increasing in number toward the pylorus and only an occasional one being seen at the cardiac end. He mentioned a case in which in dissecting out the posterior wall he had once accidentally tied the splenic artery, but no bad results came from it. He did not favor Billroth's operation of resection, but said that the end of the duodenum should be sewed up, a new opening made in it, and then by means of a button joined to the stomach.

Dr. Doyen, of Paris, presented a new method of resection with gastro-enterostomy. The principal thing was his use of a large broad-ligament clamp and the crushing of the wall of the intestine. Having located the tumor, he clamped the duodenum at a sufficient distance from it, and slowly but carefully crushed the entire wall of the gut, without going through it completely. The serous coat remained intact. In the groove made by the clamp he put a strong silk ligature which went entirely around the gut. An ordinary clamp having been placed on the intestine on the side of the tumor, he cut through the intestine between this and the silk ligature. The stump was touched with a Paquelin cautery, and a purse-string suture superadded to the ligature. *Mutatis mutandis*, the same was done on the side of the stomach, except that a temporary elastic ligature or guarded clamp was put on about twenty-five millimetres from the tumor and the crushing done between this and the tumor. In doing a gastro-enterostomy he first put in the stitches in both intestine and stomach, then he crushed the wall of one after the other, and cut into them in this groove, the rest of the operation being done as the operator preferred.

Dr. Loebker, of Bochum, said he had seen cases in which surgeons thought they had removed almost the entire stomach, but the autopsy showed the most of it still remaining. In cases of hour-glass constriction he thought one might easily be deceived. When he found attachments to the pancreas, he cut away part of the pancreas too.

Professor Hahn, of Berlin, gave his statistics of one hundred and forty-one cases of gastro-enterostomy and twenty-eight of resection. Of these twenty-eight, eighteen were cured. As to ages, of six patients between thirty and forty years, three died; of twelve between forty and fifty years, two died; of four over sixty, all died. When patients were very weak he recommended the operation of resection in two stages—first the gastro-enterostomy, and after some days the resection.

Professor Wölfler said that all resections with gastro-enterostomy previously performed, whether done according to Mikulicz's or Doyen's method, should be called Billroth's, as at most they were only modifications of the latter's procedure.

Professor Jordan, of Heidelberg, reported a case in which, on opening the stomach, no tumor or pathological condition was found, but the patient was much improved for months.

The Murphy Button, Frank Coupler, and Wolfler Button.—Dr. Storp, of Königsberg, presented a paper on the Murphy button, of which he was a strong advocate. But the general discussion that immediately followed brought up the other two.

Dr. König, Jr., of Berlin, described the Frank coupler and his experiments on dogs. He concluded that it was more suitable for side-to-side anastomosis than for end-to-end.

Professor Wölfler said he had tried to improve the Frank coupler. His button was absorbable and consisted of a tube with two rings on it that came slightly apart and sprang fast together.

Dr. Storp found the Frank coupler of more practical use and not so quickly absorbed if kept from twenty-four to forty-eight hours in formalin.

Shot Wounds of the Intestine.—Professor Poppert, of Giessen, reported a case in which he made five resections of the small intestine for shot wounds (twelve wounds in all), with complete recovery.

Meckel's Diverticulum.—Dr. Sprengel described a case of acute inflammation of a persistent Meckel's diverticulum which resembled very closely a perityphlitis.

Dr. Walzberg, of Minden, and Dr. Stubenrauch, of Munich, described cases of intestinal trouble due to persistent diverticula.

Forcible Reduction of the Deformity in Pott's Disease.—Professor Hoffa, of Würzburg, described and advocated Calot's method of applying pressure to the prominence while extension was being made. When the hump had disappeared the patient was fixed in the position of correction by a carefully applied plaster jacket, retained, or replaced by a similar one, until the tuberculous process had ceased. The contraindications were, if the deformity was of very long standing, if several (more than two or three) vertebræ entered into the formation of the kyphosis, or if purulent collections surrounded the diseased vertebræ. Paralysis of the legs was not a contraindication; on the contrary, some paralyses had been cured by the procedure. The most suitable cases were those in which the prominence was just appearing. To determine whether or not in a long-standing case the procedure ought to be tried, he advised that extension be made without anæsthesia; if the kyphosis partly disappeared, the further operation might be performed; if not, further procedure would probably be useless.

Professor Lorenz, of Vienna, said the disadvantages of the procedure were that a pressure sore could easily be caused at the point of the kyphosis, and that, on account of the bandage, there was no way of treating it.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 25, 1898.

Arthur M. Jacobus, M.D., President.

An Important Practice-Law Decision.—The salient features of a hard-fought legal battle over a question of the right to practise medicine were presented to the society in the following report. The case was that of the People *vs.* Benjamin W. Hawker, and the suit was brought by the society on the ground that the law forbade any person who had been convicted of a felony to practise medicine. In 1878 the defendant had been convicted of having produced a criminal abortion, and had been sentenced to ten years' imprisonment. Having served his sentence and resumed practice, he was indicted in 1896 for illegally practising medicine. His counsel argued that such a construction of the law

added a new punishment for his crime, and was therefore unconstitutional. On the other hand, the people contended that the law was constitutional, and that the State had, in its police power, the right to exact good moral character as one of the qualifications for the practice of medicine. The first trial before Judge Fitzgerald resulted in a verdict of guilty and an imposition of a fine of $250. The case was then taken to the appellate division of the supreme court, and was tried before five judges, who, on January 5, 1897, after two months' consideration, set aside the conviction, Justice Ingraham delivering a vigorous dissenting opinion. The case was then carried to the court of appeals in Albany. This court, in handing down its decision on March 16, 1897, reversed the judgment of the appellate division and restored the conviction. Eight judges held that the State had the right to exact good moral character of an individual who desires to practise medicine, but they stated that from the record they were not sure that the defendant was a duly licensed physician at the time of his conviction. The defendant then took the case to the supreme court of the United States in Washington, D. C., because of the question of the constitutionality of the law being at stake. The case was argued on December 10, 1897, before eight judges, and was reargued on March 10, 1898, before the full bench of nine judges. On April 18th they delivered their decision, which confirmed the conviction and sustained the constitutionality of the law. Many cases and decisions were cited to show that the State of New York had the right to exact a good moral character, and that in the exercise of that right could exclude those of bad character. The exclusion of the defendant from the practice of medicine was, therefore, not an additional punishment for past offences. The general effect of the decision is thought to be of profound value in securing a proper enforcement of the laws relating to medical practice.

Mother's Milk as an Infant Food.—Dr. S. Henry Dessau read a paper with this title. He emphasized the overwhelming superiority of mother's milk as a food for infants, yet admitted that some mothers did not secrete milk suited to the digestive powers of their infants, or did not secrete the milk in sufficient quantity. A very common fault was an undue proportion of solids and a high specific gravity of the breast milk, leading to indigestion. It seemed to him rational that more attention should be given to the mother's condition rather than to modifying cow's milk or maintaining that satisfactory substitutes could be found. The condition of the mother's stomach could be determined by giving a "test meal," the condition of the blood by ascertaining the percentage of hæmoglobin and examining the blood with the microscope. Both before and after labor it would be found that the hypophosphites were very useful. Retracted nipples could be improved by instructing the mother to seize the nipple between the thumb and finger, and pull it out, repeating this process many times a day.

Galactagogues.—Faradization with a gentle current, the positive pole being applied to the nipple, would be found a useful measure in increasing the secretion of milk. In arranging the diet, it should be remembered that beans, lentils, parsnips, and most foods containing phosphorus were beneficial in increasing the quantity of milk. One of the best foods for a nursing mother was cow's milk, which should be taken in quantities of three or four glasses daily. The internal administration of the fluid extract of the leaves of the castor-oil plant had achieved a considerable reputation as a galactagogue. They had also been used externally in the form of a fomentation of the green leaves applied to the breast. Above all, in these times when the social temptations to shirk nursing were so great, the physician should give all the encouragement and moral support possible to those mothers who were minded to do their whole duty by their offspring.

Raw Cow's Milk for Infant Feeding.—Dr. Edward F. Brush read this paper. He said that clean raw milk, devoid of pathogenic germs, constituted the best substitute for the mother's milk in feeding the infant. Boiled milk was practically dead and sterile; raw milk, on the other hand, retained a certain degree of vitality inherent to such animal substances. Other things being equal, the germs which predominated would be likely to produce the first specific change in a substance like milk. Naturally the first change which took place in ordinarily clean milk was lactic-acid fermentation. After this came butyric-acid fermentation, and then putrefaction and the development of ptomains. He believed that lactic-acid fermentation played an important rôle in infant feeding. In many cases the lactic-acid fermentation would aid the feeble digestion of infants, provided this process had not extended far enough to allow the development of a thick, hard curd. In milk that had been pasteurized or sterilized, this lactic-acid fermentation could not take place. Nature did not attempt such a nice adjustment of the elements of milk as the advocates of modified milk imagined they had achieved. Dr. Brush said that it had been his practice for many years, when milk was becoming sour, but not coagulated, to hasten the coagulation by heat and break up the coagulum. This form of milk he had never known to cause digestive disturbances in infants. It was, of course, foolish to advocate feeding infants in a large city from the general milk supply, because there were too many chances for contamination and infection. Boiling the milk caused a considerable proportion of the albuminoid material to become insoluble. This passed into the intestine unchanged, and led frequently to putrefactive changes. The poisons in milk resulting from nervous disturbances in the animal, or excreted in milk from the food, were not affected by heat. Many years ago, when he was in charge of the New York Infant Asylum at Mount Vernon, where there were two hundred and forty children, ranging in age from two weeks to two years, there were no deaths from intestinal disease, notwithstanding the fact that the infants were fed on raw cow's milk.

Home Modification of Milk.—Dr. William L. Baner discussed this phase of the subject. He said that the most rational substitute for the mother's milk was cow's milk properly modified. It was not generally appreciated that any desired formula could be readily obtained by appropriate and simple combinations of whole milk and cream. The use of separated milk must be regarded only as one of those economies which were necessary when the process was carried on on a large scale. With whole milk, part of the fat was furnished by it, thus allowing the use of lighter cream. The method of calculation for home modification must be extremely simple. The scheme which he had suggested in a recent article was based upon the fact that good cow's milk practically contained four per cent. of fat and four per cent. of proteids. The fundamental facts were: (1) the proteids and fat were practically equal in whole milk, each being about four per cent.; (2) the cream must be always thought of as whole milk plus a certain percentage of fat, *e.g.*, twenty per cent. cream represented whole milk plus sixteen per cent. of additional fat. From this it followed that the extra fat available in any cream was four per cent. less than its total fat content. The desired proteid percentage could be established by properly regulating the quantity of whole milk introduced into it. The total whole milk must always be kept at the desired proteid percentage, *i.e.*, four. A mixture of one part of whole milk and three parts of water would contain about four per cent. of proteids:

hence by multiplying one-fourth the entire amount of the mixture by the desired percentage, any other desired proteid percentage could be obtained. As the vast majority of percentage mixtures called for more fat than proteids, cream must usually be added. Any mixture of whole milk, cream, and water might be considered as having a sugar percentage equal to its proteid percentage. If, therefore, it was desired to modify milk so that an eight-ounce feeding would contain four per cent. of fat and 1.5 per cent. of sugar and proteids, the calculation would be made as follows, using twelve-per-cent. cream: Divide the total quantity (8) by the extra fat (8), and multiply by the difference between the fats and the proteids (2.5). The result was 2.5, the number of ounces of twelve-per-cent. cream which must be added. The quantity of whole milk to be used was determined by multiplying the total quantity (8) by the proteids (1.5), dividing this by 4, and then subtracting the quantity of cream (2.5). This would give half an ounce as the quantity of whole milk required. The rest of the mixture—three ounces—was water.

Wheat Products of Infant Feeding.—Dr. L. Duncan Bulkley read this paper. At the outset he said he wished to proclaim his unqualified adherence to the idea that, when it could be taken, milk furnished the best and the only proper nutriment for infants. He also spoke disapprovingly of the many proprietary preparations which had been foisted upon the profession and the public, mainly for commercial purposes. Nature and all human experience, he said, testified that milk was the proper food for infants. For infants whose nutrition was at fault, especially when this was indicated by persistent and recurring eczema, he had found the greatest possible benefit from the addition of the wheat product about to be described.

Directions for Cooking.—It was essential that the directions be very accurately followed. A teacupful of the ordinary wheaten grits or crushed wheat was put in a pint of cold water, in a china receptacle in a double rice or milk boiler. This was placed on the fire at the time of preparing the evening meal, and was allowed to cook slowly for two hours. It was then set aside, properly covered, and allowed to stand all night. In the morning it would be found to be more or less jellied. Some water was now added so as to make it quite thin, and it was placed on the fire to cook for two hours more. It was next turned out upon a fine sieve and rubbed with the bowl of a spoon, more water being added, if necessary, until the finer portion passed through, leaving the hard wheat behind on the sieve. The gelatinous mass so obtained passed easily through the feeding-bottle, and contained all the nutritive portion of the wheat. It should be prepared fresh every day. The quantity to be given would vary considerably with the individual case. For very young infants, one or teaspoonfuls should be added to each feeding; older children would take as much as a tablespoonful. The indications for its use were found in the conditions of the digestive system. It was a little laxative in its action, but he had not known it to disagree when prepared and used in the right manner. By the prolonged and slow heating all the soluble elements of the whole wheat were extracted, including not only the starch and gluten, but also the phosphates, and all were made to combine, while the hard and undigestible portions were left behind on the sieve. The slow process of preparation possessed an additional advantage, *i.e.*, the setting up of a certain fermentative change, which led to a partial digestion of the mass. This fermentation was checked by the second cooking in the morning.

Advantages of this Food.—The advantages of this prepared wheat were: (1) the whole wheat kernel represented the nearest approach, next to milk, to a complete food; (2) it was a perfectly soluble, partially digested, and thoroughly cooked material, ready for immediate assimilation; (3) if prepared rightly, it was a uniform product; (4) it was a very cheap food, easily procured even by the poor. The labor of preparation was relatively slight, and easily accomplished when once it had become a routine. The plan described differed essentially from others for using wheat—*e.g.*, prolonged boiling of wheat flour in a bag. The essential point was the employment of the whole wheat, whereby, in addition to the starchy portion, all the other elements of nutrition were retained, including the phosphates. A weak solution of this wheat jelly would be found an excellent substitute for barley water when it seemed to the physician desirable to make such an addition to other infant foods. The speaker said he had employed this method with the greatest satisfaction for the last ten years.

A Theory Concerning the Absorption of Milk.—Regarding the absorption of milk, in both infants and adults, Dr. Bulkley said that he believed that milk, if taken into the healthy stomach at certain periods, did not undergo the various fermentations already alluded to, but was absorbed as a whole through the lacteals, and passed from there into the vena cava, and did not pass at all through the liver. This theory supposed that the milk was placed in the stomach in the absence of all other food that might excite the action of the gastric juice. He had had a discussion with the late Dr. Dalton on this subject, and the latter had accepted the theory as probably correct. On mentioning it to Dr. Andrew H. Smith, that gentleman had remarked that it explained something that he had noticed many years ago and had been unable to account for. While experimenting upon kittens, having wounded the jugular vein, he was surprised to find that the blood was whiter than that obtained elsewhere in the body. He had repeated the experiment on a number of kittens that had been suckled by the mother, and with the same result.

Dr. Bulkley said that his personal experience had shown him that there was a great difference in the individual toleration of milk, dependent upon whether it was taken with other food—even cracker—or whether it was taken entirely by itself on an empty stomach.

Dr. David P. Austin said that it was difficult to suppose that an infant that had been fed exclusively on milk from birth up to the end of the first year had never used its liver in digesting the milk. During this year the bile must have been obtained from the milk. Regarding the interval between nursings for infants, the speaker said that it took at least two hours for a meal to be digested by an infant, so that, allowing twenty minutes for a nursing, there would be only an interval of one hour and forty minutes left for the digestion of each nursing. A long experience had taught him that the shortest safe limit should be three hours—better longer. The child should never be nursed until the stomach was absolutely empty. He thought much infantile indigestion would be avoided by having the baby nursed at 8 and 11 A.M., 2, 5, and 8 P.M., and at midnight, and not again until eight o'clock the next morning. Fresh clean milk from every healthy cow would not suit every infant.

Dr. Dessau said that the rule to have the infant nursed only once in three hours was good in theory, but he did not believe mothers could often be persuaded to put it in practice. He did not see how Dr. Bulkley could account for fæces in an infant's bowel if the milk was absorbed by the lacteals as such.

Dr. Brush said that cow's milk and goat's milk, being the secretion of cud-chewing animals, was intended to be curdled for digestion. Dr. Bulkley's theory was based on his own personal experience with the digestion of cow's milk; *i.e.*, he had found that if

he swallowed milk very rapidly without allowing it to be mixed with the saliva, it would agree with him; but unfortunately there were other individuals who could digest milk only when it was allowed to trickle slowly into the mouth.

Dr. Bulkley said that his theory that milk was absorbed by the lacteals did not imply that the liver did not act at all. His remarks on the absorption of milk were not by any means based upon his own personal experience; but he was willing to waive the question of the correctness of the theory, provided he could persuade physicians to give the method a fair trial. A very large portion of the fæcal mass was made up of the secretion of the intestinal glands, and not of the food, hence the presence of fæces in the intestine was not incompatible with his theory.

The Fate of the Dispensary and Health-Board Bills.—The committee on legislation presented a preliminary report relative to the dispensary bill. It was stated that, although it had been ascertained unofficially that the Homœopathic State Medical Society approved in a general way of the bill, it was learned afterward that if it had been presented to it for formal consideration opposition would probably have been avoided. The bill was received favorably by the assembly, and would have undoubtedly passed had it not been held in committee by one man for purely personal reasons. It had been found that much of the opposition to the bill had arisen from unauthorized and misleading statements made by certain recalcitrant members of this society.

Dr. T. E. Satterthwaite reported that the health-board bill had been smothered in a committee of the assembly, through the influence of the chairman, who had boasted that no amendments to the charter would be allowed to go through.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE MEDICAL COUNCIL AND THE MIDWIVES—MENSTRUATION AND OVULATION—ACTION OF TISSUE EXTRACTS ON COBRA POISONS—STEWART CLARK—SMALL-POX.

London, April 15, 1898.

The General Medical Council has given a new face to the midwives question. To the surprise of many, a discussion which threatened to be of great length has been closed by a determination to reply to the Privy Council in a few resolutions on the general principles that should regulate legislation on the subject, instead of giving a detailed answer to the many points raised in the bill before Parliament. The chief recommendation offered is that, instead of midwives being registered as proposed, they should be licensed, the license to be issued for a small fee and renewed annually. It is hoped that this will have the effect of keeping the midwives under supervision and will prevent them from becoming an order of inferior practitioners. Considering that the question has been discussed by the council at intervals since 1872, it seems rather too hopeful to conclude that we have at length done with it, more especially as there seems little chance that Parliament will pass the bill this session. It is indeed down for second reading on May 11th, but the Irish local-government bill is likely to stop the way.

It is curious to notice how little is really known about menstruation and ovulation. The relation of these processes was considered at the late meeting of the Obstetrical Society, when Mr. Walter Heape read a paper on the subject, in which he related his observations on a large number of monkeys. In these animals he found that ovulation and menstruation are not necessarily coincident, and frequently menstruation takes place without any sign of ovulation. He does not, indeed, hold that the two processes are as distinct as some observers maintain, but either may occur without the other, though we know also that they do often occur together. For the origin of the stimulus which sets up these processes, he thinks we must look to a capacity for storing up excess of nutriment existing in all female animals under satisfactory conditions.

Dr. Horrocks mentioned the clinical evidence that ovulation occurred without menstruation, pregnancy occurring during periods of amenorrhœa or lactation, and in India even before menstruation has begun.

Dr. Griffith accepted the evidence as conclusive, and added that there was quite as much proof that menstruation takes place without ovulation, though Dr. Horrocks demurred to this.

Dr. Herman thought the discussion showed the fallacy of the idea that the date of menstruation could be determined from the rupture of a Graafian vesicle. He is disposed to believe that menstruation depends on and does not occur without ovulation; for there is no menstruation when the ovaries are absent, and when it occurs after their supposed removal probably the removal has not been complete.

The president protested against the way in which loose statements on this subject, on which so little is known, are servilely copied by one text-book from another.

Mr. Walter Myers has brought before the Pathological Society a research he has made as to the action of tissue extracts on cobra poison. Experimenting on guinea-pigs, he finds that the suprarenal body neutralizes the poisons. No other organ seems to possess this power. In seven experiments the result was negative in three, but in one of these there were only trivial symptoms after seven hours, though the control animal died in two and one-half hours. In the other cases there were no symptoms in six and three hours respectively, by which times the controls were dead. Experiments were made with a number of other tissues, but the results were uniformly negative, the animals dying in about the same time as the controls. Positive results were obtained also with the suprarenal of the sheep in three cases.

The current number of the *Westminster Review* has an article on Stewart Clark, an Indian medical officer, whose services during the mutiny were of the utmost value, but who nevertheless had to fight for the rights of the doctors who were transferred from the company to the crown. Stewart Clark served in many civil appointments in which science, tact, and zeal were required. He was postmaster-general at the time of the mutiny and director of the government workshops where the mail carts were made. When the factories were destroyed and all the wood burned by the rebels, Clark devised a plan of drying green wood in a few hours, reorganized the works, and forwarded troops at a time of the utmost difficulty. The provincial secretary, the governor, the Indian secretary, and other of the highest officials acknowledged his services, and Lord Canning was heard to say that he would see that he was rewarded. But Lord Canning died, and Stewart Clark was a doctor and had to fight for his rights—so he remained untitled. He received the thanks of the Queen as well as the whole array of officials, but, having fought the war office, nothing further. He retired in 1872, and died about a year ago. A memoir from the pen of his widow has just appeared, under the title of "Stewart Clark, One of Nature's Noblemen." It is curious that our London medical papers gave no obituary account of him when he died. Per-

haps that may have been due to the fact that on retirement he dropped the "Dr.," and his death was announced simply as that of Stewart Clark.

Middlesborough is not yet quit of small-pox, although the epidemic seems declining. From three to ten cases a day were notified during the week. The disease has also appeared on the Tyne.

The Jenner Society has issued a pamphlet by Dr. Bond, comparing the present epidemic at Middlesborough with that at Gloucester last year. Taking the same period, the mortality of the former has been fourteen per cent., while the latter reached twenty-five. He shows pretty clearly that the excess of deaths at Gloucester was due to the greater number of unvaccinated persons who were attacked. An analysis of the age incidence is equally instructive, and once more enforces the necessity of revaccination.

OUR BERLIN LETTER.

(From our Special Correspondent.)

BALNEOLOGICAL CONGRESS — PHYSICIANS' CLUB — A CHAMPION FOR THE RIGHTS OF THE GOVERNMENT MEDICAL APPOINTEES AND OFFICERS — PROTOZOICAL DISEASES.

BERLIN, March 31, 1898.

THE congress of the German balneologists, which usually is a welcome change in the March programme of us Berlin physicians, was held this year for the first time in Vienna. Professor Liebreich presided, and the attendance of German and Austrian physicians was a very large and appreciative one. It is of universal interest to note what one of the cabinet council says regarding the increase in the use of mineral baths. Within fifteen years the number of those needing such treatment and taking it has increased from 100,000 to 200,000: and the number of bottles exported has increased from ten million to nineeen million yearly. Not the least factor contributing to all this has been an improvement in travelling facilities, more comfortably arranged cars, and cheaper rates. At the opening of the proceedings, more by way of a jest than seriously, the question was debated whether or not Priessnitz was the discoverer of hydrotherapeutics. Liebreich stated that from history we know the Roman physician Antonius Musa had used the water treatment with success with the Emperor Augustus, who suffered from a disorder of the liver. So successful was the treatment that he as well as all other physicians who employed these same measures were exempted from military duty. Dr. Kish, of Marienbad, spoke of the scientific elaboration of the balneological question. He asked that there be erected or established at each of the larger baths a laboratory in which physiological and chemical investigations, as well as those relating to the metabolic changes and processes of the body, might be conducted by experts. Römpler, of Görbersdorf, spoke of the contagiousness of tuberculosis as compared to its heredity. His vast experience had led him to attribute to the factor of heredity a much greater influence. It was decided to erect a monument in Görbersdorf, the place of his activity, to the deceased Herr Brehmer, who had accomplished so much in the therapy of phthisis. Finally, at the close of the congress, many of the members made a trip to Kaltenleutgeben, the place where Winternitz has his sanatorium.

A physicians' club, which aims to be a cheerful home for Berlin and all other physicians, has recently been established in Berlin. Three hundred physicians have already joined, notwithstanding the annual dues are 50 marks (about $12). Because of these high dues the club has been dubbed the "Association of the Carriage-Riding Physicians."

The proceedings in the Abgeordnetenhaus, at the beginning of this month, relative to the withdrawal of the medical department from the jurisdiction of the minister of ecclesiastical affairs and of instruction, were of general interest to us all. Some of the representatives wanted to have a separate ministry for medical affairs established, but the government declared itself opposed to this scheme. Virchow championed the medical cause, and put in a strong word for the improvement of present conditions. He wished that the appointees might be so well salaried as to admit of their public duties being their main employment. The conditions relating to the extraordinary professors and the assistants in the universities should be improved. If an assistant derives an extra income from giving courses, he is a Rothschild in the eyes of the ministry. Nowadays only sons of rich parents can afford the luxury of becoming assistants; the poorer ones must decline, and herein lies a great social injustice. Virchow requests therefore at all events an increase in the salary. The minister opposed him, and replied that many extraordinary professors in Berlin have a larger income than a minister has. The chances for a reform are at present by no means bright.

At the Berliner medicinische Gesellschaft, Jürgens, a pupil of Virchow, demonstrated a case of multiple sclerosis of the brain. In a six-months-old child, which *intra vitam* suffered from convulsions and paralysis of the right arm, there were found signs of an acute brain sclerosis. In addition, there were peculiar egg-shaped patches in the heart muscles. Within these areas as well as the sclerosed ones of the brain, Jürgens found protozoa which proved fatal to animals. A fine emulsion of the brain was prepared. In one drop of the upper layer of this emulsion there were hundreds of thousands of protozoa. Six rabbits, inoculated each with such a drop, died in six days. The heart muscle showed cloudiness and contained protozoa. It was thus proven that the lesions of the heart and of the brain of the child were etiologically related to each other. The heart lesion appears to have been primary; that of the brain secondary. It was impossible, though, in this case to learn anything more definite of these protozoa. In the discussion Katz related a case of a man who had acquired a malignant tumor of the testis eighteen years after a blow upon it. The main portion of the swelling showed carcinomatous growth, and contained a remarkably soft, yellow tumor, in which living organisms were found. They had a long torpedo-like shape. On the second day they showed no motion, and on the third they were no longer to be found, though they were plainly visible in the hardened specimens. Certainly these two cases add to our knowledge of the etiology of malignant tumors, but the proof that malignant tumors are caused by the emigration of protozoa is still very remote.

Dr. Playfair, in a lecture on the progress of obstetries and gynæcology, reported in *The Lancet* of March 19th, makes the following pertinent remarks: "A man's skill as an operator depends on his brains and on his fingers, not on the letters he writes after his name. I know fellows of the College of Surgeons whom I would not trust to vaccinate a baby, and I know fellows of the College of Physicians to whom I would unhesitatingly confide any operation they chose to undertake; and, *per contra*, if I were asked to select as obstetric physician to a hospital between a man who was an M.D. and F.R.C.P. Lond. whom I knew to be an inferior man, and a man who was a simple M.R.C.S. whom I knew to be a superior man, I would certainly select the better man of the two, irrespective of his qualifications."

Medical Items.

From Butcher Boy to Royal Surgeon.—An English journal is responsible for the following sketch of Dr. Zakharin, the late Tsar's favorite physician. "Dr. Zakharin started life as a humble butcher-boy. The turning-point of his career was reached when a local surgeon took him in hand as his page boy. Turning his attention to medicine, he soon attracted the notice of his sovereign, and, becoming the best-known doctor in Russia, before middle age had acquired a handsome competency. He was somewhat of a character, and his feats of eccentricity added to his fame. When the state of the late emperor became alarming, the governor of Moscow received a message from St. Petersburg, ordering him to send Professor Zakharin without delay. The governor dispatched his aide-de-camp to the doctor. "In two hours," said the officer, "the express train will start." "The express! What do you mean?" exclaimed the professor. "The emperor is ill, and you talk to me about leaving in two hours! Go to the railway manager and command him to get a special train ready for me in twenty minutes." At the end of that time the train was speeding out of the depot with the doctor aboard.

Leprosy in Hawaii.—While the reports show that the number of lepers at the settlement, December 31, 1895, was ten hundred and eighty-seven, and on December 31, 1897, there were eleven hundred, still the fact remains that leprosy is diminishing in the islands. The government physicians and agents of the board testify to this fact. The chief reasons why the numbers at the settlement have not decreased are the more thorough enforcement of the law of segregation, and the fact of the more complete removal of all persons afflicted with the disease in its earlier stages. During the years when the law was less strictly enforced, a much larger proportion of those taken to the settlement were in the advanced stages of the disease and death followed sooner. The mortality rate is becoming smaller.

The Ehrlich Diazo Reaction.—Solution 1: Acidi sulphanilici, 5; acidi hydrochlorici pur., 50; aquæ destillatæ, 1,000. Solution 2: Potassii nitrosi, 0.5; aquæ destillatæ, 100. Take fifty cubic centimetres of solution No. 1 and one cubic centimetre of solution No. 2; add equal parts of urine, and one-eighth volume of ammonia; shake thoroughly. The rose-colored froth proves the test.—KLEMPERER.

A Nose Competition at Milan.—The nose has at all periods of their history possessed a peculiar significance for Italians. As a symbol of intelligence it figures in familiar speech, ancient and modern, a *homo nasutissimus* being Seneca's equivalent for a very clever man, and *naso* a name held in honor by the Otacilian, Octavian, Ovidian, and Voconian *gentes*, while *nasica* was a cognomen of the Scipios, one of whom, Publius Scipio Nasica, was, as the most virtuous man in the state, chosen to accompany the image of the Mater Idæa to Rome. In the Italy of to-day, *aver naso* and *esser di buon naso* (to have nose, to be of good nose) are the first of a series of phrases turning on that feature in its symbolic sense, and giving rise to proverbs infinite in the variety of their application. The great Napoleon was true to his Italian origin in his preference for a "big nose," and the late Lord Beaconsfield, descended from Venetian Jews, never concealed his scorn for the "flat-nosed Frank." He held, in fact, that to be *simus* was the first step toward being a *simia*, or ape—a "retrocession in evolution," admitted by some among the "facts for Darwin." Such a horror have Italians of any lesion costing the face its nose or robbing the latter of its due proportions, that rhinoplasty among them has long been one of the "surgical fine arts," and the great Bolognese anatomist, Tagliacozzi (1546-99), has for all time given his name to an ingenious method of replacing the feature when lost. Quite in keeping, therefore, with all precedent as well as with the fitness of things, it is in Italy that we find the "cult of the nose" as vital as ever, insomuch that within the last seven years she has had two *concorsi di nasi* (or nose competitions), in which the owners of the feature received prizes according as they could present it in greatest perfection as regards type, size, beauty, and olfactory power. The former of these *concorsi* was held in 1891 at Padua, on the initiative of the students of that medical school, and the citizens were invited *con ischeda segreta*, by universal suffrage and secret voting, to name the possessor of *i nasi piu soiluppati e rispettabili* (noses the most pronounced and respectable) of the ancient Venetian town. The prizes, consisting of pocket handkerchiefs and snuff boxes, were in due course awarded by plurality of votes. At Milan and quite recently a much better ordered and conclusive competition of the same kind has just come off, the whole proceedings being controlled by a committee and the "examinations" conducted in a *nasoteca* furnished with drawings and watercolors of heads well provided with noses such as would have gladdened the artistic sense of William Hogarth. The competitors numbered thirty-six, but not more than twenty-three appeared before the "examiners." The first prize (gold medal) was won by a Venetian, Fortunato Michieluth by name, a vender of lucifers, whose nose was found to be of *proporzioni inquietanti, lungo, deciso, ardito, tagliente come una lama di cottello* (formidable proportions, long, well pronounced, aggressive, trenchant like a knife blade). The second prize fell to one Antonio Pozzi, possessed of a nose *prepotente, presumtuoso, con nari larghe e cavernose* (domineering, assuming, with nostrils wide and cavernous). The award for this was a medal in enamel; while the third prize (a silver medal of the first order) was adjudged to Carlo Ascani for the refined, symmetrical proportions of his nasal feature. The last two prizes (the fourth and fifth, silver medals of the second and third order respectively) were given for a nose "without pretension, ingenuous, but solid and well planted," and for one "considerable, regular, and worthy of respect." The candidates who were unsuccessful—perhaps ploughed would be a more suggestive word—shared the festivities with which the committee concluded its labors, and so the *concorsi di nasi* became a thing of the past, till the *buon temponi*, merry makers of a future year or another city, think fit to revive the harmless, not inartistic, though dubiously "scientific" competition.—*The Lancet.*

Poisoning in the Old Times.—The ancient Egyptians were acquainted with prussic acid prepared from peach kernels, as appears from the words, "Pronounce not the name A. I. O., under the penalty of the peach," deciphered by M. Duteil on a papyrus in the Louvre. Here is evidently a threat, to such as reveal priestly secrets, of water distilled from the peach kernel, which we know to contain prussic acid. From Egypt the knowledge of the fatal potion seems to have passed to Italy. A Roman knight in the reign of Tiberius, accused of high treason, swallowed a draught of poison and fell dead at the feet of the senators. Unless we fall back upon the theory of some sudden syncope from natural causes, nothing but prussic acid, and that fairly strong, can account for this sudden death. A further example of the use of prussic acid in Rome is the murder of Britannicus by his brother Nero. Hot water was a favorite drink in fashionable Roman cir-

cles at the time. One day after dinner a slave brings to Britannicus his beverage. It is too hot. Cold water is added, presumably containing the poison. Immediately on drinking, the victim lost power of speech. The breathing ceased. His mother and sister were horror stricken. Nero, the murderer, looked coldly on, remarking that such fits often happened to him in infancy without evil result. In a minute or two the banquet proceeded. If this again were not sudden death or brain disease, the cause of death must have been the prussic acid. Owing to the loss of ancient knowledge of anatomy and physiology possessed by the Egyptian embalmers, no post-mortem was possible. In the absence of such knowledge much importance was attached to outward signs. Doubtless many persons must have died from poison, and the reason of their death remained unknown: while others who died naturally, but whose bodies putrefied rapidly, were supposed erroneously to have died from poison.—*Scientific American.*

Byways of the Brain.—In *Harper's Monthly* for April is an able article, entitled "Some Byways of the Brain," by Dr. Andrew Wilson, drawing attention to the evidence which may be deduced regarding the effects of deficiency in one hemisphere of the brain. He says: "The cases from which one may quote may be divided into two sets or series—those in which disease or want of development is responsible for such deficiency, and those which represent the results of actual injury to the brain. Thus, in the notable case of Bichat, one of the foremost anatomists of his day, one lobe of his brain was found markedly smaller than the other. He was, in fact, deficient in one-half of his brain, and yet his mental and physical life was in its way notably of a high order. In another case, reported by Cruveilhier, a man died in hospital at the age of forty-two, from heart disease. He exhibited no lack of intelligence, yet after death it was discovered that his left brain was practically destroyed and replaced by a watery substance. Another case, reported by Andral, was of a man who died at the age of twenty-eight. He had suffered from a fall when three years old, and as a result was paralyzed on his left side. The right half of his brain had practically disappeared, so that the parts below this half constituted the floor of an empty space. Andral says of this man that he had received a good education and had profited by it; he had a good memory, his speech was free and easy, his intelligence was such as we should expect to find in an ordinary man."

The "Revue des Revues" contains an illustrated account of the laboratory of physiological psychology at the Sorbonne, under the auspices of the École des Hautes-Études, directed by M. Binet. It appears from the article that, in addition to the laboratories at Paris, there are laboratories at Rennes, Louvain, Liege, and Geneva.

A lady doctor has been appointed by the London county council as inspector under the new "infantile-life protection act." The advantage of the trained eye in discerning the real state of the babies in the farms is plain, but it is only the larger towns that will be able to afford a salary sufficient to engage a registered medical practitioner.

Quacks in Germany.—The "Fatherland" is not a happy hunting-ground for quacks, as probably many of the fraternity have found to their cost. The latest quack nostrums are those of which the late Count Mattei made himself the commander. His successors and the German public have just been informed that the Mattei treatment has nothing to do with Hahnemann or his disciples, and is to be considered utterly worthless.—*Medical Press.*

The Roentgen Rays.—Two investigators have recently used the Roentgen rays to very good purpose. The first of these, Prof. H. C. Bumpus, was by their aid enabled to note accurately the number of vertebræ and record the position of the pelvis in one hundred specimens of Necturus. The other, W. C. Cannon, used the rays to obtain figures showing the changing shape of the stomach during digestion, using for the purpose a cat. The animal's food was mixed with subnitrate of bismuth, and the wave-like movements of the pyloric portion of the stomach were made clearly visible. The total number of waves passing over the antrum during the seven hours a cat was digesting a meal was about twenty-six hundred.—*Science.*

TO MY ANTI.

What cures my head when full of aches,
All joy my racking brain forsakes,
And all life's pleasures seem but "fakes"?
My Anti.

What cools me when I feel as hot
As Dives when below he'd got
And envied Lazarus' happy lot?
My Anti.

What helps me when I have the fits,
And every one who round me sits
Immediately gets up and "gits"?
My Anti.

What fills the German chemist's purse,
And incidentally perhaps the hearse?
What always terminates my verse?
My Anti.

The Alert Prescriber.—A man in the car was telling how good his doctor was. "Clever?" said he; "well I should say he was. The other day I called him in when I had swallowed five cents. He said if the coin was not counterfeit it would pass, and made me cough up two dollars."

Vaccination Shield.—Dr. John Winslow, of Ithaca, N. Y., improvises a convenient vaccination shield of rather fine wire gauze, cut to fit the number of insertions, pressed into a dome-shape by the fingers, and bound around the edge with rubber adhesive plaster. This plaster is better than isinglass to hold the shield in place.

Health Reports.—The following statistics concerning small-pox, cholera, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended April 30, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Mobile	April 16th to 22d	2	
Arkansas, Pulaski County	April 20th	42	
Dist. of Columbia, Washington	April 22d	4	
Ohio, Columbus	April 16th to 22d	1	
South Carolina, Charleston	April 22d	1	
Texas, Columbus	April 2d to 22d	18	

SMALL-POX—FOREIGN.

Bohemia, Prague	April 2d to 9th	5	
China, Hong Kong	March 6th to 12th	1	6
England, Leeds	March 19th to April 9th	4	1
Leith	April 2d to 9th	1	
Newcastle-on-Tyne	April 2d to 9th	3	
India, Bombay	March 22d to 29th	..	4
Calcutta	March 12th to 19th	..	3
Madras	March 12th to 25th	..	14
Italy, Messina	April 9th to 16th	..	1
Norway, Christiania	April 2d to 9th	..	1
Russia, Odessa	March 2d to 9th	1	2
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DRY LABOR—ITS DANGERS AND TREATMENT.[1]

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THIS subject, dismissed in a few words in many of our text-books and treated far too lightly in obstetrical works generally, seems to me to be one of sufficiently great importance to merit special consideration. The dangers of a premature rupture of the membranes are, as we shall see, manifold, and so grave are the effects at times that cases in which the accident occurs should receive the most careful attention. Strictly speaking, a dry labor is one in which the membranes have ruptured at some time prior to or with the first labor pain. But for practical purposes it will be better to broaden our definition, so as to include all cases in which the membranes rupture during the first stages of cervical dilatation, when as yet the "water wedge" has much to accomplish

It is surprising to note the frequency with which such early rupture occurs. From observation of a large number of cases during my service as resident physician of the Sloane Maternity Hospital, I found that in fully fifteen per cent. of all cases the membranes ruptured either before or with the first labor pain. In other words, about fifteen women in every hundred have labors which are strictly dry, and if we add to these fifteen cases all of those in which the rupture of the fœtal sac takes place early in the first stage, we have a comparatively large number in which certain dangers may arise and which should be given special attention Fortunately the accident, for such it must be called, occurs nearly twice as often in multiparæ as in primiparæ. It is true that in the former class of cases this early rupture seems often to be followed by no untoward results, but in other cases, and especially in primiparæ, the course of the labor may be modified in various ways, varying from the degree of mere discomfort and tedious protraction to that of great danger to the child and possibly to the mother. Even though the point of danger is not actually reached, a dry labor, particularly in a primipara, is usually more painful, and indeed, as one can readily appreciate, almost necessarily so, from the fact that now dilatation must be accomplished by some fœtal part, usually the head, in place of the fluid dilator, the bag of membranes. In normal labor, during the intervals between pains comparatively little if any pressure is made upon the cervix, but in dry labor the presenting part is often "wedged" down into the cervix, in such a way that pressure upon it is almost if not quite continuous, with a consequent increase in the amount of pain suffered. Such continuous pressure, too, is liable to and often does cause œdema of the cervix and other soft parts. Again, some of the worst cases of protraction with which we have to deal, in both multiparæ and primiparæ, are those in which the labor has been dry or practically so. That infant mortality is much higher in such cases there can be no question, yet many lives are lost through the failure to recognize the danger, and therefore to make use of the correct treatment at the proper time.

Before entering, however, upon the detailed discussion of the serious aspect of these cases, the full knowledge of which is so important for successful treatment, let us consider for a moment the several ways in which rupture of the membranes may occur. In the majority of the cases, in my experience, no cause can be found, the woman perhaps being perfectly quiet or even asleep at the time liquor amnii begins to come away. There are cases undoubtedly in which disease of the cervix "thins out" the membrane lying near it, thus making rupture easy; or some exertion or trauma may be the apparent cause, the fœtal sac being perfectly normal. Occasionally the accoucheur, while making a digital examination in the attempt to make a diagnosis of position, or perhaps while introducing a bougie for the purpose of inducing labor, accidentally punctures the fœtal sac At times the rupture takes place high up, at some distance from the most dependent portion of the sac, and as the presenting part descends the opening becomes obstructed and further escape of fluid is prevented. This, indeed, is a fortunate occurrence, for usually when the flow has once begun it will be more or less continuous during the entire labor, and thus large quantities of fluid be lost.

Now, what are the dangers of a dry labor, or one made practically dry by the early escape of amniotic fluid? How are the dangers to be recognized? And, finally, how are such cases to be treated?

Let us consider, first, the dangers to the child. These are two in number—asphyxia and meningeal hemorrhage, the two being frequently associated. The higher infant mortality in cases of dry labor is to be attributed to one or both of these conditions, the child being stillborn or dying within a few hours or days after birth. It is surprising to note the frequency of asphyxia of different grades, and I am positive that the mortality is much higher than it is generally believed to be. I am of the opinion, however, that with close observation and careful treatment from the very first the prognosis for the child will be very much improved. The reasons for the presence of asphyxia are several, and it is not difficult to understand the frequency when one considers for a moment the conditions present in such cases. When the liquor amnii has drained away or is escaping constantly from the uterus, the latter contracts much more tightly about the child, with the possible result of compression of the placenta or cord between the body of the child and the uterine wall. Again, the cord is much more likely to be compressed at any point than if surrounded by amniotic fluid, and the compression is more apt to be continuous because of the closer proximity of the uterine wall to the child, thus preventing at least perfect freedom of motion and in some cases practically all. Such compression means necessarily interference with the fœtal circulation, and hence asphyxia to a greater or less extent, depending on the amount of pressure and

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its continuation. Then, again, as we well know, the uterus in a dry labor tends to become exhausted much sooner than it normally would, the tonic contraction interfering greatly with the circulation in the uterine sinuses, this in turn affecting the child seriously.

In regard, secondly, to meningeal hemorrhage. In the absence of the "water wedge," so called, dilatation must be accomplished, as a rule, by the fœtal head. This means usually, especially in primiparæ, the formation of a large caput succedaneum and oftentimes very extensive moulding. In this process, the vertex is naturally exposed to great pressure, and a pressure, too, which from the nature of the labor (in the absence of fluid) is apt to be more or less continuous. As a result we have hemorrhage into the meninges, with symptoms of pressure, in varying degrees, with perhaps the death of the child several hours or days later. In many ways, then, the life of the child may be in grave danger, and the study of the danger signals becomes one of great importance.

Before taking up the discussion of these points, let us consider for a moment the dangers of dry labor to the mother. As I have already said, the great dangers are those of any protracted labor—laceration of soft parts, to which the œdema predisposes, pressure necrosis, hemorrhage, liability to sepsis, and slower convalescence, not to mention rupture of the uterus, either spontaneously or during difficult efforts to extract the child.

Turning now from the dangers, let us take up the signals or signs pointing to them. Firstly, with reference to the child, we see a number of labors in which all seems to be going well, until meconium is found escaping from the vulvar orifice, or when the examining finger is withdrawn covered with meconium, or liquor amnii tinged with it. This occurs at times in the first stage, but more usually in a protracted second stage. In any case (with the possible exception of a breech, in which the presence of meconium could be easily accounted for) the sign of danger must not be overlooked, for as a rule, unless methods are at once resorted to for the delivery of the woman, the probability of asphyxia is great, with, in some cases, the death of the fœtus *in utero*. We cannot promise, however, to save the life of the child under such circumstances, even by prompt interference, for asphxyia may be already too deep. I am sure that many of you will recall, as I do, cases in which the labor, although dry, had been apparently not unduly prolonged, and yet, in spite of prompt interference, the child was either stillborn or very deeply asphyxiated. Another sign which may indicate embarrassment of the fœtal circulation is that of unusually vigorous movements on the part of the fœtus. This unusual activity in many cases leads us to believe that the child is beginning to suffer from the lack of pure blood, and when examination is directed to the fœtal heart we are able to distinguish changes there. This brings us to the consideration of the fœtal heart sounds. By careful observation the normal rate of the heart action can be known for each case. Any marked deviation from what is normal for the case under consideration must be looked upon with great care. There is no fixed rule for the danger line, but by a series of examinations one can detect readily whether there is a decided tendency for increased or decreased rapidity. In general, one may say that fœtal heart action above 160 or below 120, in a case whose normal is between those limits, should be the object of careful attention, for oftentimes it will be seen that the rate is becoming steadily higher or lower. Of course it is not difficult to suspect trouble when the heart rate gets to be 170 or 180, or when it becomes as slow as 80 or 90, but it should be our purpose to detect the very commencement of trouble, for by so doing the chances for a successful termination will be much brighter. Then, again, an irregular or intermittent action in a case previously normal should invite close attention; but it must be remembered that some fœtal hearts do beat intermittently or irregularly at various times when no cause can be discovered, labor not having commenced in some. When asphyxia begins the heart beats are sometimes "muffled," so to speak, or indistinct, although the rate may remain the same. In other cases an umbilical souffle develops, showing probable compression of the funis. One case of that kind comes vividly to mind, in which the souffle developed immediately after the replacement of a prolapsed cord by means of a bougie, showing obstructed circulation at some point. Important as observations upon the fœtal heart are in cases of normal labor, in dry labor they become of even greater value, because of the greater likelihood of complicating asphyxia.

Protracted labor, in its effects upon the mother, need not detain us long. The rise of pulse, temperature, and respiration, the restlessness, anxiety, and despondency, the diminished vaginal secretion, the weak inefficient pains, are all so plain as to be recognized with comparative ease. In some cases of dry labor, when protracted, we find an odor also, putrefactive changes having already started in. Mild sapræmia is not uncommon after dry labor, but it generally yields to treatment readily. Many cases of sapræmia do well with no other treatment than that of simple cleanliness, the elimination of putrefactive material proceeding rapidly, drainage being free. In my opinion, warm antiseptic vaginal douches will answer the purpose in almost every case, but should be given with every possible care as to cleanliness, and given very gently, in order not to open new channels of infection by removing the protective covering of abrasions in the vagina and vulvar orifice. In some few cases a uterine douche seems indicated, and if given with all possible care will be productive of good. The vulva and vagina should first be thoroughly cleansed, and the douche nozzle when carried into the uterus be simply held in its cavity, for what is loose and ready to come away will be washed out, and the active use of a douche nozzle as a sort of curette has been followed by serious results, owing to the laying bare of denuded areas and increased absorption of infective material. At times severe symptoms will follow even the gentle irrigation of the uterus. In one instance in my experience, within thirty minutes after a uterine douche had been given in the hands of a careful assistant, the patient had a sharp chill, followed by a temperature of 106.4 F. As a rule, however, one or a few uterine douches will be sufficient, and with care little if any harm will be done.

Passing now from the dangers and their symptoms, we come to the treatment. To my mind, many cases do badly for the reason that they are treated as cases of normal labor. I maintain that the early rupture of the membranes puts a new phase, so to speak, on the labor, and certain plans of treatment, which in normal cases are unnecessary and unadvisable, seem to produce good results in cases of dry labor. Let us take up for consideration, first, those cases in which the membranes rupture before labor sets in. In every case, whether before labor or during labor, even though an examination has been made a short time before, a careful examination should be made as soon as possible after the rupture of the membranes or their reported rupture. Some women are mistaken in their diagnosis of the condition, but it is far better to assure one's self of the exact condition of affairs. By doing so we verify or disprove the woman's statement, detect any accident, such as that of a prolapsed cord or small part, and, moreover, are able to make the diagnosis of presentation and position an accurate one.

Again, it is perhaps needless to state that, if the case be one of malpresentation, operative interference immediately after the rupture of the membranes will be possible, and with excellent chances of success; whereas the failure to learn of the exact condition at once may result in the death of the child, the correction of the abnormal presentation being later impossible. After one careful examination has been made, however, further efforts should be infrequent, and then not be prolonged, for in some cases, as I have already said, the presenting part in its descent blocks up, so to speak, the point of exit of fluid, and further escape is thus prevented. This is, of course, most favorable to the child, and we may in further examinations undo, as it were, the assistance which nature has kindly given us. After the rupture of the bag of membranes, the sooner labor commences the better, as a rule, will be the prognosis. My plan in these cases is to administer at once a large dose of castor oil and glycerin, followed shortly after by ten grains of quinine sulphate, to be repeated every three hours, with one-thirtieth grain of strychnine sulphate every two hours, careful watch being kept for unpleasant effects of either. These drugs, I believe, aid in the induction of labor, and, given during labor, seem to increase the number and strength of the contractions, in some cases at least. Under close observation they can do no harm, and serve to stimulate the patient to a certain extent as well. At this time women are able, it has seemed to me, to take much larger quantities of these two drugs than at any other time, without unpleasant effects. Before the digital examination is made, the genitals should be scrubbed with soap and water (the officinal sapo viridis being preferable); then with a solution of bichloride, 1 to 2,000, or a solution of lysol, one per cent. After the examination a sterile pad of gauze, covered over with a towel or small vulvar pad, should then be placed over the vulvar outlet, and changed as often as saturation with amniotic fluid makes necessary. In this way the vagina can be kept free to a certain extent from the entrance of "outside" infection. Another procedure, which in my experience has been followed by excellent results, is the use of vaginal douches of lysol in one-per-cent. solution, as hot as can be borne, one being given every six hours, to the amount of about three quarts. These douches will keep the vagina sweet and clean, will leave the mucous membrane smooth and soft (acting in just the opposite way from bichloride solution), will stimulate uterine contraction, and in some cases seem to soften the cervix somewhat. Here again the importance of absolute cleanliness must be emphasized, for unless these douches can be given with the greatest of care they may easily be the cause of the introduction of septic material. When, now, the membranes rupture during the first part of labor, the treatment as outlined above is carried out, with the exception of the cathartic perhaps. This can be given or not, according to the necessity. The use of chloral and opium in dry labor must be a guarded one, the danger of asphyxia and protraction being always kept in mind, and it being remembered that these cases often need stimulation rather than a period of rest, during which time more and more fluid is escaping. The fœtal heart should be carefully noted before such drugs are administered. I can recall one case in which chloral was administered in the latter part of the first stage, the fœtal heart being then somewhat more rapid than it had been during the earlier part of labor. Very soon afterward the fœtal heart became so much more rapid that the forceps was used, the cervix offering practically no resistance. Meconium was found when the blades were introduced, and in spite of a quick delivery, made more difficult by the sluggish action of the uterus induced by chloral, the child was born deeply asphyxiated and was with only the greatest difficulty resuscitated. Several months ago, at the Sloane Hospital, in the attempt to induce labor on a patient with deformed pelvis, the membranes were accidentally ruptured and a considerable amount of amniotic fluid escaped. When informed of the condition of affairs, Dr. Tucker, who was then in charge of the hospital, advised that the vagina be tightly tamponed with sterile gauze, in order to hold back as far as possible the escaping fluid, both for the sake of the child and to aid in softening and dilating the cervix. This procedure, of such great value in abortion and placenta prævia with rigid cervix, proved in this case to be of apparently great assistance, the cervix dilating perfectly within a very few hours. Having seen the good effect of the tampon in one case, the question has arisen in my mind, "Would it not be a good plan to apply such a tampon as a routine procedure in all cases of dry labor?" At present I am unable to state any results from following such a plan, but theoretically at least it should be successful. When the progress of labor is very slow, I believe it is best to stretch the cervix a little every few hours, a preliminary vaginal douche of lysol having been given. Care must be taken also that the strength of the patient be kept up in every possible way, by the use of plenty of nourishment and stimulants if necessary.

Now, is operative interference ever advisable during the first stage of a dry labor, except when complicating conditions—such as eclampsia, hemorrhage from placenta prævia, etc.—arise, or when from any cause the condition of mother or child strictly indicates operation? In my opinion, there is one condition of affairs in which much good can be accomplished, namely, in breech presentation. When a breech labor is protracted in the first stage, even though as yet no symptoms of danger are present, I think we are justified in giving the patient a little chloroform, the vagina having been first thoroughly cleaned, and in introducing the hand for the purpose of bringing down one foot, preferably the anterior, with which to make traction from time to time. If this be done early, it can usually be accomplished with no great difficulty, whereas later on it may be a very difficult matter. If both legs are extended, the operation will accomplish even a better result, in that it will have broken up the existing "wedge," at a time when the operation is comparatively easy. After the escape of a large amount of liquor amnii, it is sometimes a difficult task to grasp a foot lying high up in the uterus, and the difficulties increase the longer the operation is delayed. If danger symptoms are present, or if for any intercurrent condition it becomes necessary to deliver at once, the usual methods of cervical dilatation, forceps or version, are to be used.

When we now come to the consideration of the second stage of dry labor, the statement just made with reference to the first stage holds true here as well. But in the absence of danger symptoms the question arises: How long shall we wait, in the second stage, for its natural termination? It is very difficult and, in fact, impossible to fix any definite period of time; but in my opinion, if in one-half hour after the commencement of the second stage there has been little or no advance, the forceps (or extraction if the breech presents) is advisable, chiefly in the interest of the child, but with the welfare of the mother also in view. I have never had occasion to regret early operation in the second stage of dry labor, but there have been many, many children lost owing to delay at that time and the failure to interfere promptly.

Reference has already been made to lysol for vaginal douching, and its use preliminary to all operative measures is a most excellent one. It not only cleanses the parts very thoroughly, but leaves the mucous mem-

brane smooth and soft, thus making any operative procedure much easier and the liability to laceration far less. Early interference in these cases is obviously in the interest of the soft parts of the mother, for time can be allowed to preserve their integrity, whereas if operation be undertaken when meconium is being passed or the fœtal heart is already bad, the welfare of the child demands speedy delivery, with consequent laceration oftentimes of vaginal and perineal tissues.

In closing, allow me merely to emphasize in a few words the great importance of dry labor, the possible dangers, chief among which is fœtal asphyxia, and the belief that with close observation and prompt energetic treatment our statistics both for mother and child will be greatly improved.

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PERSONAL OBSERVATIONS IN PULMONARY PHTHISIS.[1]

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After an experience of twenty-five years I desire to present some conclusions which I have arrived at as the result of my own personal observations in pulmonary phthisis. I use the term advisedly on account of its comprehesiveness, including as it does all that has been known and taught from Laennec to Koch. I am convinced that the preparatory or premonitory conditions which almost invariably exist in all cases of phthisis do not receive the attention which they deserve. It is the little leak, at first no bigger than a straw, which could be easily checked, that causes the dike to give way and carry death and destruction in its resistless flood.

Let us apply this principle of early recognition of these little departures from functional and organic integrity to the disease in question. They deserve to live who, by careful attention to the various functions of the body, strive to keep them in harmonious rhythm. Ignorance does not pardon in the eye of the law, and the penalty must be paid even though it may cost the life.

Max Nordau says, "The degenerate must die." An inheritance of conditions which must inevitably end in an early death is the result of ignorance, crime, and fatuitous circumstances, many, if not all, of which might have been avoided.

To educate the people out of this phenomenal darkness, and, where they cannot be educated, to legislate them out of it, is the duty of the medical profession. Out of the complex phenomena of a disease which presents such a diversity of symptoms and conditions, it has been my aim to determine what is the first appreciable departure from health, the most constant symptom discernible by patient and physician alike, which would lead us to suspect that the individual in question is in danger of ultimately becoming tuberculous. Many of the disagreements between physicians as to the natural history of diseases have arisen from the fact that they have observed from different standpoints and from different starting-points, the latter being of much greater importance than the former, for the standpoint may be changed from day to day, but the starting-point can be changed only as a confession that the *fons et origo* have not as yet been discovered.

A few years ago I arrived at a conclusion from which I have seen no reason in later years to depart. I have been more and more convinced that the first symptom (aside from general malnutrition) is a slight cough or hack, repeated two or three times on an average on reclining at night. This cough antedates the morning cough by a considerable period, varying in length in different subjects. It is a little thing, but its etiology is important beyond measure. The nearer we get to the spring the narrower is the stream. It is the diagnostic symptom, which, having been found and understood by the physician, gives him an enormous advantage in the prevention and cure of phthisis.

The patient believes himself to be in fair health. He has no pain, no cough at any other time, no disturbance of any other function, is only a little below par, and will sometimes deny that he has any cough until told by the members of his family that they have repeatedly heard him cough when he has lain down at night. This same evidence has been repeated to me so many times that I do not doubt its significance, and I consider it the test question, "Does he cough on reclining?" If there is a symptom prior to this, I have been unable to find it. The etiology of it I believe to be that the mere change of position from the erect to the recumbent has produced an immediate change in the circulation of the blood and air in the pulmonary structure, disturbing the equilibrium which always exists in healthy chests, controlled by the natural tension through the vasomotors. A temporary passive congestion or hyperæmia is produced thereby, due to an insufficient expansion of the finer tubes and vesicles. The blood pressure being out of proportion to the air pressure and the coats of the vessels being overdistended or varicosed from lack of support, the blood currents come under the influence of an extraneous force, gravity; this never occurs in vessels whose coats are normal, except by complete inversion of the body or in the hypostatic congestions of long illnesses. The change to the recumbent posture immediately causes an increase in the distending force within the blood-vessels and a decrease in the amount of air in the tubes and cells. As a result of this, a backwatering of blood into the bronchial vessels and a sensation of fulness or tickling are perceived in the region of the head of the sternum.

The cough that occurs is nature's own effort to remove this fulness, which it accomplishes at first with only a few long breaths and coughs. If this pathological condition is not relieved early, it goes on until it requires stronger and more prolonged effort in the act of coughing to remove it. The objective symptoms of this condition are found in a slightly diminished resonance of a higher pitch, slight depression under the clavicles follows this, and still later the mucous click or catarrh of the apex. Mensuration shows a deficient expansion above, normal often below, except in women from the effects of corsets and other tight clothing, which they invariably insist is not tight, being convinced only by ocular demonstration with the tape line. (The tape line should never be out of the physician's pocket except when he is using it.)

Auscultation reveals a still more important point, viz., a diminished or absent true respiratory or vesicular murmur. This symptom I consider of greater importance than all the other objective symptoms, and it is invariably found somewhat before and always associated with the gravitation cough.

In the wondrous mechanism of the lungs we find the ramifications of the pulmonary artery intertwining among the air cells, forming a close and delicate network of capillaries in the interspaces, supported by the highly elastic structure of the air cells. Elasticity is one of the most distinguishing characteristics of these cells. They are in health never empty and in death can be emptied only by force. With every in-

[1] Read before the Clinical Society, December 7, 1897.

spiration both air and blood are aspirated into the lungs. When air is in excess we have emphysema, when blood is in excess we have congestion, which, being continued indefinitely, brings on in time an endless chain of pathogenic conditions, which must end in death if not relieved by proper systematic treatment. Of emphysema I need not speak further than to say that the emphysema which results from spasmodic bronchial asthma is antagonistic to phthisis.

Now I believe that all the influences which diminish nervous and muscular force—and their number is great, such as sedentary pursuits, the dark side of life, residence in low and malarial regions, clothing that prevents a perfect action of the diaphragm and chest walls, dissipation, indoor occupations, worry, and many others—these all tend to shorten the respiration and diminish its depth. As a result of this a gradual dilatation of the capillaries takes place. In that part of the lungs where the vesicles are least distended a passive congestion is produced, and thus is furnished a soil that will grow tubercles.

The frequent increase in the force of the heart's action by excitement, by stimulants of any kind, by muscular effort, alteration of the normal tension of vessels by chilling of the cutaneous surface, and many other causes aid in producing a dilatation of the pulmonary capillaries; and thus the blood currents, coursing through vessels which have lost their contractility, come under the influence of this extraneous force—gravity. It is to this immediate influence that we are to look for the explanation of this cough on reclining, which we may distinguish as the gravitation cough. This condition is so important that it seems to me deserving of a distinctive name in our nomenclature of disease symptoms.

Upon the correct explanation of this cough depends the entire treatment of phthisis, whether bacillary or non-bacillary, and I invite your kindly and thoughtful criticisms to this particular point. I have often declared to anxious patients and friends that it is as easily gotten rid of as to walk, and even when the conditions have gone on so far as to produce cough in the morning with expectoration and pain in the subclavicular and interscapular regions from congested pleuræ. These last two stated conditions occur in the order in which they are mentioned—the cough in the morning with expectoration, as a result of a longer continued gravitation blood pressure during sleep producing exudation into the bronchi, which is expectorated on arising. This exudation may not come on until weeks or months have elapsed since the gravitation cough began. The pain in the pleuræ comes on still later as a result of the damming up of the blood currents and vasomotor paresis, producing congestion in that tissue.

I have associated these three symptoms or conditions before speaking of treatment, because they are all removed by the same method, viz., mechanical expansion. The function of respiration, unlike the functions of the other vital organs, is placed under the control of the will, whereby the integrity of the pulmonary apparatus may be preserved by maintaining a perfect function of these organs. This is indeed an important safeguard. It is impossible to maintain a perfect organ without a perfect function. This principle applies to all of the voluntary organs of the body, and more especially to the breathing apparatus, exposed as it is to the vicissitudes of climate and the dangers of infection by bacteria.

Jacobi has truly said that the "tubercle bacillus never attacks healthy tissue," and I believe it to be equally true that when they have found a lodgement in the tissues of the lungs we have as yet no drug that can be administered by way of the stomach or through the blood by hypodermatic injections of sufficient strength to destroy them. We may counteract the effect of their toxins and increase the resisting power of the tissues against their encroachments, and there our drug power ends.

I have used the true mechanical expansion, by which I mean a regular systematic natural method of increasing the capacity of the lungs, maintaining a normal function and regaining it when lost. It is common among physicians to recommend mountain air to their phthisical patients. The benefit to be had by going to the mountains is beyond question, but of the great multitude of patients there are comparatively few who are able to profit by this advice. What shall we do with the thousands who must remain at home? I answer, bring the mountains to them. How can this be done? I answer this question by asking another: In what does the benefit of the mountains consist? When this question is answered we may see in how far we may exert the same influence in homes at sea level. The science of climatology is one of great interest, inasmuch as at the present date it is capable of showing better results in the treatment of phthisis than the more fashionable science of bacteriology or any other. The limits of this paper will permit me to speak only of some of the chief factors, under the head of climatic treatment, bearing upon the disease. We know that there are regions almost entirely exempt from phthisis, others where it is more commonly found, and others where it prevails in great abundance.

Solly, who is recognized as an authority in the science of climatology, says: "Consumption is most prevalent in proportion to the temperature and humidity of the climate: 1st, in damp cold climates, 2d, in damp hot climates; 3d, in dry hot climates; 4th, in dry cold climates: while of curative effects it is true in reverse order. This indicates in a general way that dryness is a benefit and humidity obnoxious to phthisis." He qualifies the statement by saying that "apparently humidity apart from other factors does not in itself produce phthisis." It is my opinion that our phthisis cases here do better in the winter, even with our sudden changes of temperature and humidity, than in the warm, debilitating, moist air of midsummer.

In regard to barometric pressure Solly says: "Statistics show an almost steady rise in the percentage of improvement, from the ocean to the altitudes, and from this we learn that as a rule the consumptive improves the farther he is removed from the sea, as shown in the contrast of percentages of improvement in a large series of cases, to wit: sea voyages, fifty-four per cent.; lowland climates, fifty-seven per cent.; dry desert, sixty-five per cent.; altitudes, seventy-seven per cent. Therefore, while the desert of Arizona will cure more cases of consumption than the sea air of the coast, yet it will not cure so large a proportion as will the mountain air of the highlands."

Hirsch has shown "that decreased barometric pressure tends to confer more or less immunity from phthisis. The marked decrease which is present in all high climates has been demonstrated by Egger and many others to have a remarkable effect upon anæmia, by increasing the amount and quality of the red blood corpuscles and hæmoglobin. That the blood changes are brought about not by the quantities of dryness, sunlight, or other climatic factors in high or other climates, but by the diminished barometric pressure, was proved conclusively by the classic experiment of Regnard, who at sea level kept a rabbit for a month in a bell glass under diminished air pressure equivalent to the atmosphere at six thousand feet elevation. When the rabbit was removed it was found that the same blood changes had taken place as occurred in rabbits transferred from sea level to a climate at six thousand feet elevation." This experiment, instruc-

tive as it is, brings up another question: Would the same changes in the blood have been produced in an animal breathing the same rarefied atmosphere of six thousand feet, with the density of atmosphere pressing upon the external surface of the body as exists at the sea level? That is, was the improvement due to the rarefied air alone which the animal breathed, or was it due to this in combination with the diminished air pressure upon the surface, or was it due to the decreased pressure on the external surface alone?

There are those who claim the improvement in the blood is due to breathing the rarefied air. I do not know of experiments having been made which prove this conclusively. Certain it is that the decreased barometric pressure upon the external surface compels a greater expansion of the chest, opening up a larger surface for the interchange of the gases, and consequently a greater oxygenation of the blood—the greatest of all hæmatinics—with improvement in the digestive system as a result of increased oxygenation.

I believe it is the forced distention of the lungs and bronchi that gives to those who live at an altitude immunity against phthisis. Aside from the barrel-shape chest of emphysema, the full round chest is an acknowledged evidence of healthy lungs; a flat contracted chest is a constant invitation to tubercle bacilli and an evidence of so-called weak lungs. To imitate the effects of altitude has been my practice for over twenty years, and in the lack of suitable apparatus to assist them to teach my phthisis patients the art of mechanical expansion. Among the various ingenious methods which have been devised I could find none that were free from objections, as they almost invariably increase the heart's action, which opposes rather than helps the purpose of their use.

I have practised but two specific exercises, which nature herself teaches. The first is an imitation of the cough, and the second of a person stretching. In practising the first we take in the air through a chink in the lips, about a quarter of an inch in diameter. Some patients do not catch the idea readily or are not accustomed to whistling, and require the use of a tube through which to inspire. When the lungs are filled to their utmost capacity the lips are closed and the cheeks bulged to prevent escape from the nose. The air is held until the excess of blood is driven from the lungs, as evidenced by a sensation of fulness in the forehead and slight reddening of the face. By holding the breath after a full expansion the blood is squeezed out of the lungs into the general circulation, and by frequent practice the lost equilibrium is regained.

This action is equivalent to breathing at an altitude or inhaling compressed air at sea level. The stretching exercise is performed in the same way, with the addition of raising the arms without flexion directly above the head at the beginning of the inspiration and lowering them upon the chest as soon as the lips are closed. The purpose of raising the arms above the head is to lift the chest wall by means of the pectoral muscles. The effect of these exercises is seen in the immediate improvement of the percussion note with lowering of the pitch; a rounding out of the depression under the clavicles; the changing of the voice from a throat to a chest tone; and the removal of the mucous click which has been diagnosed by some pathologists as a sure indication of tubercle. The true respiratory or vesicular murmur, the most significant sign of a normal chest, is restored in its entirety.

A continuation many times a day of these exercises results in a radical cure, with no other medicine than that which is directed toward nutrition and the sustaining of the nervous system. All the symptoms heretofore described may return again as the result of neglect. The price of health is vigilance and effort. To sit quietly and let your boat drift carelessly down the rapids over the falls is suicide. If the phthisical patient would live and be healthy he must work for it, and in the way I have indicated or by some similar method, or he will miserably perish, notwithstanding he may swallow all the drugs in the dispensatory and be injected with all the serums and specifics, so called, which are now obtainable. The expansion method of treatment is nature's method, and it is helpful in every stage of the disease except when there is active hæmoptysis from organic changes, at which time it should be stopped until the bleeding ceases, and then begun again with very slight force at first, gradually increased to the utmost limit after a few days have elapsed.

When pleuritic adhesions have formed, whether bacillary or non-bacillary, the expansion must be so graded as to avoid fresh exudation or inflammation, the sensation of pain being the guide. The greatest obstacle to recovery by this method is ossification of the costal cartilages in a contracted state of the chest. It is like an anaconda; being permanent, it will squeeze the life out. Thus far I have spoken of treatment in the primary stage before organic changes have taken place to any very great extent.

I am often astonished to see what can be done by this method with phthisis cases after they have become tuberculous with muco-purulent expectoration, containing numerous bacilli, with afternoon fever, temperature rising to 101.6° or 102.4° F., pulse of 120, night sweats, anorexia, emaciation, dilated heart. I have seen these cases clear up and remain for years perfectly well, when at the first examination it was impossible to make a diagnosis on account of the foul condition of both lungs, the tubes being filled with secretion giving rise to numerous râles, the pleuræ sore, respiration only tidal, percussion dull. I defy any one to make an exact diagnosis in some of these cases in detail, as to the extent, kind, and location of the disease processes going on, until he has cleaned out the tubes and opened up as many of the alveoli as it is possible by expansion.

An easy diagnosis is made with the microscope, but to drop the diagnosis at that and treat the bacilli instead of the patient is to my mind very unscientific, because we have nothing with which we can destroy the bacilli; and, even if we could destroy them, would it be wise to leave the chest in the same contracted condition, with choked tubes and capillaries, with exudation products in the alveolar walls, and their cavities filled with epithelial elements ready for a new infection? More than twenty years ago, before we knew anything about tubercle bacilli, I treated by this method phthisis patients who had cavities, with all the accompanying evidences which we now know as bacillary phthisis. Some of them are living to-day, well, and performing the duties of an active life. Some have married and borne children.

The following case illustrates the effect of expansion upon hæmoptysis: This patient I saw by request of another physician, in his sixteenth hemorrhage. His disease was purely functional—a case of lazy lungs. I instructed him as to his breathing and he has had no return in the last twelve years, so far as I am aware, he being in robust health.

The following case also illustrates the immediate effect of thorough expansion, without medicine which could affect the fever, in a case which the microscope diagnosed bacillary: The patient had been under treatment about six months before I saw him. Male, aged about forty years; he had considerable cough, had lost flesh and strength, and had some pain in the right chest and back, with diminished expansion. October 12, 1896, I found him with a temperature of 101.6° F., and pulse of 88. October 13th, at the same hour, the temperature was 100.6° F., and the pulse 88. October

14th, temperature, 99.8° F.; pulse, 86. October 15th, temperature, 99.4° F.; pulse, 88. October 16th, temperature, 99.2° F.; pulse, 80. October 17th, temperature, 98.6° F.; pulse, 80. After this the temperature did not rise above 99.4° F. until an attack of grippe on the 28th, when it went to 104.4° F. On the 29th, it was 104.2° F.; on the 30th, 101.4° F.; on the 31st, 100.4° F.

November 1st, it was normal, and so continued, never rising above 99.8° F. during November. His temperature was taken from three to five times a day. During the first half of December the pulse and temperature remained both normal, when my attendance ceased. He continued to attend to his business (which was much in his favor, as he was obliged to walk several miles daily) after his recovery from the grippe, as I could not mend his financial necessities, and I have not seen him as a patient now for nearly a year, during which time he has been about as a travelling salesman, enjoying good health.

The immediate effect of this treatment is often so astonishing to the friends of patients that, in accordance with the prevailing sentiment among the laity as to the incurability of consumption, they will refuse to accept the diagnosis, even of the microscope, and after a time grow careless and forget the advice to keep the chest well expanded, until the same conditions recur, and the patient returns, again to be told the same thing and to go over the same road of treatment, or changes his physician and adopts some other kind of treatment. It is easier to take medicines; it is pleasanter to be told they have "only a little bronchitis" and need a little medicine to stop the cough and ease the pleuritic pain.

A quick confidence is gained in the physician who will thus treat him, but it is a deceptive confidence that lulls the patient to a fatal inactivity, and ere long he turns from one to another until finally he has more need of the undertaker than of the physician. These are the saddest cases we meet. Their day of grace is passed; organic changes have taken place to such a degree that little can be done but palliate symptoms. There are many patients who progress rapidly toward recovery for a few weeks, and hope is high, when all at once they begin to complain of the labor of expansion on account of weakness of the diaphragm and chest muscles.

This is the identical point in their disease at which an immediate change to an altitude becomes (in the absence of suitable apparatus to accomplish the same purpose) an absolute necessity for the removal of a portion of the incumbent atmospheric pressure upon the chest and abdomen, thus lighten the labor of breathing and increasing the nutrition of all the tissues through a better oxygenation of the blood. This is the way in which the resisting power spoken of by others is (in great part) sustained, and it may be aided by the administration of hæmatics—the hypophosphites according to the Churchill method, bathing, suitable food, outdoor life, the patient still remaining under the watchful care of the physician. To those who cannot avail themselves of the altitude treatment, the assertion that they are too tired to expand their lungs marks the beginning of the last stage, when there is no reasonable hope for recovery.

To this class of cases, however, the principles of "pneumatic differentiation" may be applied as an equivalent for altitude, and like effects produced in the patient's home at the sea level as upon the mountains.

The pneumatic cabinet was designed for this purpose twelve years ago, and its action has been proven to be theoretically and practically correct, and it is still held by some of the most distinguished men in our country as second only to altitude, and as "the best therapeutic device ever invented" for the home treatment of pulmonary phthisis.

An insurmountable obstacle to its adoption in general practice has been its great cost. Being a heavy steel cabinet, it cannot be moved from place to place to suit the necessities of the patient; but, being kept at the physician's office, it may be used for twenty or thirty minutes once or twice a day. Those days on which a patient needs it the most he is prevented from using it by the conditions of the weather. What we need is a portable apparatus, of small cost, which the patient can use at his own home under the direction of his physician, using it as often and as long as his case requires. Beneficial as these treatments by the cabinet have been proven to be, in many cases bringing about absolute recovery from bacillary phthisis, their success, it seems to me, is but a finger board pointing to something better yet to be produced, which shall enable the physician to give to his phthisical patients the equivalent of altitude—as much as he requires, with the comforts of home and friends superadded thereto, coupled with his own careful guidance, in everything that pertains to sustaining the vital forces, improving the quality of the blood by food, exercise, bathing, hygiene, clothing, and medicine.

Von Ziemssen, at the Twelfth International Congress at Moscow last August, said: "Looking back over the history of tuberculosis we see a motley conglomeration of methods of treatment. All these have been discarded, and but two agents remain to be considered, viz., tuberculin and climate. Koch's old tuberculin has been forgotten, the value of the new has not been proven, and most people doubt its efficacy. The complexity of the lesions makes a cure by means of a specific seemingly impossible. Fresh air has always been one of the requirements, but it is only of late that the advantage of high altitudes has been clearly demonstrated. Fresh air is not all; it is the altitude that brings about an excitation of the blood-making organs and increases the corpuscular elements in the blood."

Senator regards "altitude second only in importance to fresh air."

Von Leyden says: "So far the only treatment that has given any positive success is the climatic."

The causative relationship of the bacilli to the disease is an important question. Tuberculosis is always produced by the bacillus, but all phthisis is not tuberculous in all its stages. I hold that it is an incident in the course of the disease and not the primary cause of pulmonary phthisis. The tubercle bacillus may be found in the air passages of perfectly healthy individuals. It is not commonly found until after considerable organic change has taken place in the pulmonary structure. It cannot then be rightly considered as the cause of phthisis. Jaccoud enumerates a long list of pathogenic conditions, and says: "These multiple and variable elements are the true causes of the disease; the microbe is only the instrumental agent." Barton says: "Back of the bacillus are causes which are operating to produce malnutrition and a lowered vitality."

The evidence that an imperfect lung function is a causative agent is forcibly shown in the effect of the contraction of extensive scars upon the chest, resulting from burns and scalds, thus favoring a suitable lodgement for the bacilli. Three cases of this sort were reported last year by Dr. Hall, of Denver, in which one side of the chest in each case was scalded during infancy, and pulmonary disease began upon the contracted side.

The night sweats of phthisis need to be considered in this connection, because they are a direct result of insufficient pulmonary aeration and exhalation. The skin with its glands is complementary to the lungs, and supplements their action by elimination of the

water of its exhalation in double the quantity exhaled through the lungs, the daily average being thirty ounces for the skin and fifteen ounces for the lungs.

Now, when for many reasons the function of the lungs is impaired so that the normal quantity of carbon dioxide is not exhaled, the skin supplements their action at a time when the auto-intoxication has become so great as to cause a temporary paralysis of the vasomotors with relaxation of the skin capillaries. The night sweats are always accompanied by increasing weakness of the entire system, and are generally considered the cause of the great prostration which follows them. I do not believe this. The sweat is the result of a specific poisoning, principally by carbonic oxide and the products of metabolism, and is a conservative process, while the exhaustion which follows is a result, not of the sweating, but of the poisoning. We have all seen how quickly the skin responds to the demand put upon it in case of urgent dyspnœa from any cause. If all this be true, as I believe it to be, it certainly is very unscientific to give medicines to check the night sweat, for by so doing the system is still further poisoned, the vitality reduced, and the end hastened. I have not for many years used medicines to control this symptom, but have found that an increase of expansion, systematically carried out, uniformly relieves it.

An instance of this kind was recently seen in a case of phthisis in our own hospital. The action of expansion in relieving and stopping night sweats is the strongest argument I could ask for in substantiating the truth of my statement—that it is the poisoning that exhausts and not the sweating—and I conclude that it is wiser to treat the cause than the effect.

For several years past almost the entire medical profession seems to have been captivated by the discovery of the tubercle bacillus, and has experimented with many methods and drugs with the hope of destroying it by medication. These have all failed. As well try to check the resistless current of a mighty river by catching out the fish in its stream. There is probably not a single case of advanced phthisis in the country to-day under the care of a physician but has been treated with creosote or guaiacol or their carbonates. Creosote and its allies, without affecting the vitality of the bacilli, seem to have a beneficial effect, temporarily at least, upon the general conditions. This I believe to be due to its antiseptic power over germ life in the alimentary canal. The discovery of the bacillus, although an important addition to our knowledge of one of the stages of the disease, has resulted in no therapeutic advantage, but rather has diverted the attention of the profession from the clinical aspect and the various lessons to be learned therefrom to that which is only one of the factors in the disease, one which without doubt may be in some cases primary, but which clinical experience proves to be only a resultant and not the prime causative factor in the greater number of cases of pulmonary phthisis.

To my mind there remains but one method worthy of the undivided attention of the profession, viz., aerotherapy, as indicated in my previous remarks; and although it demands of the physician a greater outlay of time and effort for the benefit of his patient, yet I doubt not that ere long the principles of this science will be understood and practised by the great majority of our hard-working fraternity, because the results which follow are distinct and positive, and because there is nothing else which satisfies the requirements in every case to such a degree as aerotherapy, the science which is destined to take the highest place in all that pertains to the prevention and cure of pulmonary phthisis. As some one has laconically said, "The aerotherapist has come to stay."

SELF-LIMITATION AND IMMUNITY.

By LUKE FLEMING, M.D.,

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The limited duration of an infectious disease, miscalled self-limitation, depends upon the extent of soil open to infection and the rapidity with which it is consumed. Immunity is the result of soil exhaustion. In support of this principle which I presume to advance, I rely upon the fact, now generally recognized, that germs are living organisms and are governed by the same laws that govern life everywhere. Among these natural laws we know that there is one well marked, and which rules that different forms of life differ in their needs and choice of soil. The honeysuckle will not blossom in the bottom of the ocean nor will seaweed grow in our gardens. It ought not then to be a mystery that the pneumococcus finds in the perverted lung secretions its most fertile field and that the bacillus typhosus goes to the Peyer's patches as its fittest home. Reasoning by analogy, we can easily see that the difference in choice of soil is due not to any arbitrary instinct in the germ, but rather to its inherent necessities. The physical and chemical properties of a secretion favorable to one kind of germ may be distinctly unfavorable to another. Recognizing this, what is then more logical than that, a secretion necessary to the life of a particular germ becoming exhausted, that germ should die? It strikes me then that we have here in this simple conclusion one of the true reasons why a germ disease runs a course of definite duration. Typhoid fever furnishes a good illustration of the point I wish to make. The germ of this disease finds in the secretions of the Peyer's glands its best and in fact almost its only human culture medium. It passes unharmed and harmless through all the secretions of the mouth, œsophagus, and stomach, down to its favorite spot in the small intestine, where it stops, grows, and propagates a colony of its kind. One of the products of this new life is a toxin which is absorbed into the system and causes symptoms. And as in the vegetable world one form of cell life may produce morphine, and another strychnine, so is it easily possible that this newly discovered form of cell called a germ, so low down in the scale of life that its proper place is not yet assigned, is capable of producing poisons, in their actions equally severe and wide apart. The poison of typhoid is of such a nature that the system is able to withstand its absorption in gradually increasing quantities, as hour after hour and day after day the colony grows and invades new territory. The Peyer's glands, however, being limited in extent, there comes a time when all the available soil is occupied and the disease is at its height. But after three or four weeks, the soil beginning to give out, the colony grows smaller, and, the toxin gradually decreasing in quantity, the symptoms subside, and finally, all food being eaten up, the colony ceases to exist. This ending is due, it would seem, not to any complex theory of self-limitation and antitoxin, but to the simple fact of starvation. If instead of typhoid fever we take pneumonia, the same course may be traced. A patient subject to undue and severe exposure has the protective secretion of his lungs in whole or in part so acted upon, probably through some reflex nervous action, as to pervert its normal character and make of it a fit soil for the development of the pneumococcus. This pneumococcus is capable of remarkable activity, and in two or three days may have occupied all the soil prepared to receive it. The quick extensive involvement of tissue in pneumonia may be due, however, not so much to inherent activity of the germ as to the physical conditions favoring the invasion. In typhoid fever it is probable that only a few germs reach the Peyer's

glands to colonize them, and they may find these glands difficult soil to work; whereas in pneumonia it is possible to conceive of a great crowd of pneumococci being inhaled, to find the delicate villous membranes of the smallest bronchial tube a very easy field to cultivate. These explanations may account partly for the mildness of the onset in typhoid and its severity in pneumonia. Still between these two germs there is a marked contrast. One is slow and plodding, the other rapid and voracious. So much, in fact, are these latter qualities true of the pneumococcus that in the course of a week it has eaten up its entire food supply. In typhoid, because of the nature of the invading germ, the symptoms grow gradually and subside gradually. But here in pneumonia, owing to the intensity of the colonization, the food is suddenly exhausted, and thus cessation of toxin results in a sudden cessation of toxin symptoms, the so-called crisis.

Passing from these two diseases, which are acute, to phthisis, which is chronic, we see that the same principle of food and starvation holds true, and that in the matter of duration all germ diseases abide by the same law. A germ disease lasts while the food supply lasts, becoming acute when the germ is active and supply limited, and chronic when the germ is slothful and the supply unlimited. It might be better still to say that the duration of an infectious disease is in direct ratio to the activity of the invading germ and the extent of soil open to invasion. In pneumonia and phthisis we have examples of two diseases widely different in their nature and attacking the same tissue. The duration of the former may be counted by hours and that of the latter covers a period of months and years. The one comes like a wild beast, to strike and kill in the night; the other creeps in with stealthy tread, bringing false roses to fading cheeks, like the fairy gifts of story. This variation in mode of onset is surely due to something in the germ itself. While speaking of this, however, there comes to mind the fact that the tubercle bacillus may so invade the lungs as to run an acute course very closely resembling pneumonia. This then brings up another feature influencing the duration of disease, which is called individual resistance. It is owing to variations in this resistance that the tubercle bacillus creates an acute disease in one patient and a chronic in another. This variation in resistance is due undoubtedly to variation in nutrition, a weakened resistance being the result of weakened nutrition, leaving the gateways of the system open through the normal secretions. The secretions of the body, like the circulating blood, possess bactericidal powers; but owing to inherited features, coupled with vicious habits, these powers are in many cases lowered or lost. Such persons become the victims of the ever-present tubercle bacillus. The duration of a disease caused by such a persistent germ, while depending ultimately on soil limit, is measured best by the individual resistance. If we could assume a standard normal resistance, might we not say that a patient below par in resistance develops acute phthisis, one at par chronic phthisis, while in one above par the germ is destroyed when it enters the lungs? Can we not also suppose that a system temporarily off its guard, as it were, allows a localized invasion, but, becoming suddenly alarmed by the absorption of toxin, has its glandular system stimulated by the toxin and thus again throws itself above par, causing the disease to abort? We have absolute evidence of abortion in phthisis, hundreds of autopsies proving this. This result is due probably to improved hygienic conditions; but the fact stands, nevertheless, that increased individual resistance shortens the duration of this disease. Considering these things, then, it is not hazardous to say that the stronger the normal resistance the shorter the duration of the disease.

In reference to immunity, we may ask here the question, why does a certain disease usually attack a patient but once and why does a certain other render him particularly liable to a recurrence? Taking again the two diseases, typhoid fever and pneumonia, we find that in the case of the former disease its own specific inflammation sets up an ulceration which completely destroys the ground on which it fed, and that, scar tissue alone remaining where susceptible glands once existed, a reinfection is impossible. Pneumonia, on the contrary, is not attended with ulceration, and it leaves behind a damaged but not extinct normal tissue. This tissue, owing to its weakened state, has its resistance always more or less below par; hence its liability to reinfection. If, however, we take measles, the seat of whose local infection is probably in the air passages, we find that, unlike typhoid, it is not attended with ulceration, and, unlike pneumonia, the first attack is usually the last. We may account for this upon one or both of two suppositions: first, the disease may have destroyed its base of operation without any visible ulceration and loss of tissue; or, second, the toxins of the disease may have stimulated the glandular system to such an extent that the normal resistance to this particular germ is put and kept above par for a variable period, this period carrying the patient into a physiological age in which liability to this infection is small. Again, under this head of immunity may be asked, why does inoculation with cow-pox protect against small-pox? It may possibly be an answer to this question to say that, the symptoms of these two diseases being similar, the toxins may resemble each other, both stimulating the same glandular secretions; and, since a gland, like a muscle, being once thoroughly stimulated, remains for a variable time in a state of hypertrophy, so by inoculation with the milder of these two diseases we protect the patient from invasion by the more severe.

From the above it is seen that I am opposed to the present accepted theory that diseases are self-limited by the action of a substance called antitoxin, and which is claimed to be the result of the toxin acting upon or being acted upon by some blood constituent. It is further claimed that this antitoxin is foreign matter in the blood, that every specific germ has its own specific antitoxin, and that a definite amount of toxin injected artificially or absorbed naturally results in the production of a definite amount of antitoxin which neutralizes the toxin. The chief support of this antitoxin theory comes from the apparent success attending orrhotherapy. There is nothing, however, to disprove that this so-called antitoxin serum is not either a concentrated solution of normal resisting fluid or an irritant which acts by stimulating the normal glandular system. The chemistry of these serums is so absolutely dark as to render their use almost empirical. Still they have virtue, and the darkness which envelops them may be, to use a much hackneyed figure, "the darkness before the dawn." It is a remarkable thing, however, that the antitoxinists attribute this virtue to the germ and not to the system protecting itself through its own glandular secretions. We have in thyroid feeding direct evidence that we can supply a missing secretion; and, since the blood serum is the medium from which all gland secretions are formed and to which they finally return, why should not an injection of a concentrated solution of it add to the material already in the system and thus increase the probability of cure? Furthermore, after the injection, not of toxin alone but of any irritant, why should not the serum be unusually rich in normal glandular secretions? In the preparation of diphtheria antitoxin, the toxin of this disease is injected into the horse until

his serum is supposed to be sufficiently antitoxic. Why is it not possible—yes, probable—that the toxin affects a certain gland or set of glands, the secretions of which are curative or, rather, resistant to diphtheria toxin? We know that different vegetable and mineral poisons have a tendency to affect special tissues of the human body—ergot the uterus, pilocarpine the skin, digitalis the heart; and how can we well deny similar preferences to germ poisons? In fact, the very experiments of those who support the antitoxin theory furnish us with direct proof that the toxin of germ life acts in the same way on the system as does the toxin of plant life. It is found in the preparation of serums that small doses of the toxin must first be given, and these doses gradually increased, there coming a time when a dose which would at first prove fatal may be given with impunity. This process is identical in every respect with the action of morphine. We must at first give a small dose of this poison, but after its continued use large doses give mild results and carry little danger. Will the antitoxinists hold to the same theory in reference to the toxin of the poppy as they do to the toxin of diphtheria? Are we enabled to bear large doses of morphine because the morphine when taken into the blood unites with the blood constituents, and thus forms an antitoxin which is its physiological and chemical antidote? They cannot very well support this theory when confronted with the fact that the same amount of morphine which is injected is excreted by skin and kidneys as morphine. With the toxin of infectious diseases they are confronted by a fact equally significant. In scarlet fever we know, or at least we have the best of evidence to teach us, that the toxin is excreted by the skin and kidneys. Now it is admitted that scarlet fever is a self-limited disease, and, since the toxin is excreted, how is the antitoxin produced?

To my mind one of the fatal errors in the antitoxin theory is that this antitoxin is held to be foreign matter in the blood. The tendency of the blood is to excrete all foreign matter, and the assertion that the antitoxin will remain in the blood from months to years is a standing refutation of the chapter on the blood in every text-book of physiology. If, on the contrary, we assume that the increased antitoxic power of the serum after disease is due to normal secretions in excess, we can easily see how this virtue may last for an indefinite time.

Another feature difficult to understand is this: Since the toxins are consumed in the production of the antitoxin, to what are the symptoms of disease due? If the antitoxin is the result of some action occurring when the toxin comes in contact with the blood, and if a definite amount of toxin results, as is held, in a greater amount of antitoxin, it strikes me that no general symptom should develop. The neutralization of the toxin should be immediate and complete. Why, then—say, in pneumonia—does a patient become thoroughly saturated with the toxin before it is neutralized, and why does this neutralization not go on gradually, but be delayed until the patient is at his worst and then occur suddenly? Again, since the antitoxin depends for its production upon the presence of toxin, would not the former cease to be produced at the moment that the latter ceased to be produced? And since the one is consumed in the neutralization of the other, how could the serum of a convalescent possess antitoxin? Finally, how does antitoxin neutralize the toxin? If by chemical combination, then a new product is the result, and the antitoxin and toxin are both lost; if by physiological action, then one must be as strong to stimulate as the other is to depress, and, both being foreign irritants and equally active, it is absurd to hold that one is retained and the other is excreted.

All these questions are easily understood and can be easily answered, if we but assume that the germ lives only while it finds soil to feed upon, and while it lives it gives off toxin which is absorbed. This toxin in the blood, on its way to be excreted, acts accidentally as an irritant, stimulating normal glands. This stimulation enriches the blood in glandular secretions and the blood serum of disease thus possesses curative powers.

The antitoxin theory of self-limitation is a suicide theory, and nature abhors a suicide, for she stamps on every living cell the impress of her eternal law—not self-limitation but self-preservation. To illustrate the antitoxin theory by a simile, we might say that the blood stream of a patient sick of diphtheria is like a creek upon whose bank a pestilential village rests. The sewage of this village empties into the creek, and, meeting its pure waters, out of them by the action of the sewage an antisewage is formed which flows from the creek to the river and from the river into the sea, thence to come back to the village as antisewage dew and rain. Our eyes, however, in spite of the antitoxin theory, teach us to draw this picture otherwise. The pestilence rages in the village only while filth to breed upon is there. The sewage, although darkening at first the limpid stream and forming nasty green pools here and there, is nevertheless destroyed by the natural forces of fishes, sunlight, and fresh air; when the sea is reached the water is again sweet and pure. So may we believe it to be with the human blood stream in disease: it takes up the toxins and starts with its burden to its sea, the chambers of the heart. The fever due to increased oxidation is but an index to the effort being made to make this blood stream pure. The skin and kidneys are the human filtering sands. The phagocytes and leucocytes are but the fishes of a microscopic world; and, while it may seem to some that this figure is the result of a somewhat poetic fancy, still it is inspired by the same simple truth which inspired philosophers of old with the story of the music of the spheres. Nature through all her works rules in harmony.

CARBON DIOXIDE IN THE URINE.

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The occurrence of carbon dioxide as a constituent of urine is a fact little dwelt upon in medical and physiological literature. While not perhaps a matter of great consequence, its presence confers upon urine physical and chemical properties that are not unimportant, and has a bearing upon the bodily metabolism that is not without significance.

Proust as long ago as 1800 stated that carbon dioxide occurs in large quantity in urine. Brande in 1826 mentioned it as an ingredient, and Brett recognized its occurrence in urine in 1836. Davy in 1839 denied its presence in the urine; he appears to have been the only authority taking this negative position. Since that time a number of observers have made critical investigations of its quantity and variations in urine, while numerous authorities have recognized it as an ingredient of that excretion.

It may be accepted as a definite fact that carbon dioxide is a normal and constant constituent of urine. It occurs in urine in free form and combined as carbonate. Its occurrence in these two states requires consideration from each point of view.

Free Carbon Dioxide.—Carbon dioxide is soluble in about an equal volume of cold water. Its aqueous solution has an acid reaction and taste, due to the presence of virtual carbonic acid, H_2CO_3, which ex-

ists free in no other form. This solution reddens blue litmus paper, which after drying tends to turn blue again. Theoretically it should affect the specific gravity of the water in which it is dissolved. Carbon dioxide exercises some solvent power over certain salts in the urine. It is easily expelled from its aqueous solution by heat, exhaustion under the receiver of an air pump, the passing of a stream of air or other gas through it, or agitation. Even on standing the gas escapes from its solutions. These various properties exist also with respect to the presence of carbon dioxide in the urine.

Urine is capable of absorbing about the same relative amount of carbon dioxide as is water. Planer found that one volume of urine, at a pressure of 760 millimetres of mercury, would dissolve at 33° C. 0.6186 volume of carbon dioxide, at 19.3° C. 0.9072 volume. Water at 20° C. absorbs 0.9 its volume of carbon dioxide.

The acidity of urine is in considerable and material part due to the contained carbon dioxide. In weakly acid urines carbon dioxide is frequently the only acid principle present, and after its removal the reaction becomes alkaline or neutral. As carbon dioxide is a volatile acid principle, all operations by which it is expelled cause a diminution of the acidity of urine. Boiling, which expels the gas, causes a material and marked decrease of urinary acidity. This circumstance, pointed out by Brett in 1836, I have found to occur constantly in numerous trials of acid urines, titrating with decinormal sodium hydrate and phenolphthalein before and after boiling. Occasionally a weakly acid urine after boiling becomes alkaline. As the (alkaline) ammonium carbonate which is formed on boiling solutions of urea is expelled from the fluid by the heat, this loss of acidity is explainable only on the ground of the dissipation of carbon dioxide. I have also been able to effect a perceptible decrease of acidity after vigorous agitation of urine; also after passing a stream of air through it. The withdrawal of the contained gases by an air pump has been known to cause urine of weak acid reaction to become alkaline. When litmus paper reddened by urine turns blue again after drying, the presence of carbon dioxide as the only acid principle is indicated.

Carbon dioxide by its presence in the urine, perhaps by virtue of its acidity, exercises an important solvent power over the phosphates of calcium and magnesium also present. These phosphates are only slightly soluble in pure water, but are much more soluble in solutions of carbon dioxide, as well as of other acids. The occurrence of this gas as a normal constituent of urine has been recognized by many writers in connection with the presence of the earthy phosphates. The expulsion of carbon dioxide by heat is a cause commonly assigned for the precipitation of these phosphates frequently observed on boiling urine. It is, indeed, a prominent factor in the case, but, as I have determined in a study of the subject,[1] the expulsion of carbon dioxide cannot be regarded as the sole or even the chief cause of this precipitation.

Carbonic acid has such weak combining-power that it is expelled from and replaced in its combinations by other acids, whenever present. Theoretical considerations, therefore, indicate that in the more strongly acid urines, in which there is an excess of other acids (chiefly phosphoric acid) over the alkaline principles present, carbon dioxide could occur only in its free and uncombined state; while in neutral or alkaline urines only could carbonates exist without decomposition. From the slowness with which the gas is given off in vacuum, Pflüger indeed believed that the carbon dioxide exists in urine in a state of loose chemical combination (perhaps with sodium phosphate), as in the blood plasma. According to the results of analyses and the weight of authority, as well as theoretical considerations, carbon dioxide occurs practically only in free form in strongly acid urine, while in neutral and alkaline and some weakly acid urines it may occur also in combination.

Carbonates.— By combined carbon dioxide in this paper is meant its combinations in the form of carbonates, either the normal salts or the acid salts (or bicarbonates). Carbamic acid, $HOCONH_2$, and carbamates are related compounds that under certain unusual circumstances appear in the urine, while urea may be regarded as a dehydrated combination of carbon dioxide and ammonia.

The carbonates that may occur in human urine are those of ammonium, sodium, potassium, calcium, and perhaps magnesium. Ammonium carbonate derived from the ammoniacal fermentation of urea is of frequent occurrence in paralytic and inflammatory conditions. The alkaline carbonates are frequently present in alkaline urine, the earthy carbonates only under unusual circumstances.

These salts contribute to the alkalinity of the urine. Ammonium carbonate is volatile and is dissipated by heat with a profuse evolution of gas; litmus paper turned blue by volatile alkali again becomes red on drying. The other carbonates are "fixed" alkalies. The presence of carbonate is indicated by effervescence on the addition of any strong acid; when in very small quantity, however, no effervescence may be perceptible. There is also a slight evolution of gas when urea or uric acid is treated with nitroso-nitric acid, but this is easily distinguished from the effervescence of carbonates, which occurs with any acid.[1]

Methods of Estimation.—The available methods of quantitative determination of carbon dioxide in the urine consist of two or three distinct processes: 1, the separation of the free gas (*a*) by an air pump, (*b*) by heat, or (*c*) by a stream of air; 2, the estimation of the carbon dioxide thus separated, (*a*) from the volume of gas lost after absorption with sodium hydrate, (*b*) from the amount of carbonate precipitated, or (*c*) from the amount of hydrate neutralized after passing it into a solution of barium or calcium hydrate, or (*d*) from the increment of weight after passing it into sodium-hydrate solution; and (3) the subsequent liberation of combined carbon dioxide by strong acid and its estimation separately.

Methods of removing the gases from urine by means of an air pump, similar to those for estimating the gases in blood, have been described by Morin, Pflüger, Ewald, and Thudichum. The urine is drawn by catheter into receptacles free from all gas, so as to avoid any contact or admixture with atmospheric air. When the pump is operated the free gases present separate from the fluid and are collected. Their total volume is measured and the amount of carbon dioxide then determined from the loss of volume after absorption by sodium or potassium hydrate. The combined carbon dioxide is then set free by adding acid, and is collected and estimated as before.

Planer and Purdy have described methods of separating carbon dioxide by means of heat. Planer introduced the urine into vessels so as to avoid mixture of air, separated all the gases present by heat, and collected and measured them. Purdy describes a method, which he attributes to Marchand, by which the vapor from the heated urine is passed, first into an empty flask in which the distillate condenses, and then through several flasks of barium-hydrate solution, in which the carbon dioxide is precipitated as barium carbonate. The amount of carbon dioxide is then

[1] Published in MEDICAL RECORD, New York, October 30, 1897, p. 618.

[1] See MEDICAL RECORD, New York, November 28, 1896, p. 789.

calculated from the weight of carbonate precipitated. The operation is repeated after the urine is acidulated, so as to estimate the combined carbon dioxide.

Any method of separating carbon dioxide from urine by heat is open to the objection that at the boiling temperature urea is converted into ammonia and carbon dioxide, which pass over in vapor, and on condensing combine as ammonium carbonate. The carbon dioxide or carbonate thus produced may form a precipitate with barium or calcium hydrate, and thus destroy the value of the test. In tests of this source of error I found that if the vapor be first passed into an empty flask, as described by Purdy, the ammonium carbonate carried over is usually condensed in it so as not to cause any precipitate with the lime or baryta water. Still this transformation of urea introduces an element of uncertainty in this method; and it is significant that among all the authorities Planer and Purdy are alone in stating that large relative amounts of combined carbon dioxide occur in normal urine.

Beale, Wurster and Schmidt, and Neubauer describe methods for removing the carbon dioxide from urine by passing a stream of air (or hydrogen) through the fluid. This depends on the principle that by the passage of one gas through a solution of another gas the latter is displaced by the former. The air, washed free of carbon dioxide, is drawn through the urine to be tested and then through a solution of barium or calcium hydrate, in which the formation of a white precipitate indicates the presence of carbon dioxide, or through a solution of sodium hydrate. The amount of carbon dioxide is calculated from the reactions effected in the solution of hydrate.

This method effects a complete removal of the gas, is simple, approximately reliable, and is the one which I have employed. The facility with which carbon dioxide escapes from its solutions on agitation, and even on standing, necessitates great care in dealing with the urine before and during the test, to avoid loss of the gas. The urine should be gently passed directly into the receptacle intended to contain it during the test, and the vessel should then be kept tightly stoppered. Air, first washed free of carbon dioxide by being passed through sodium-hydrate or a similar solution, is then drawn through the urine through a tube reaching to the bottom of the fluid. The stream of air and gas removed from the urine is then passed through a series of three or four washing-bulbs or flasks containing solution of barium or calcium hydrate; the current of air is produced by an aspirating-jar attached to the last washing-flask. The carbon dioxide is absorbed by the hydrate solution, from which its amount can be determined.

After estimating the free carbon dioxide in this manner, strong acid is added to the urine to liberate the carbon dioxide in combination, and by repetition of the process the amount of the latter is found. For this purpose nitric acid should not be employed, since, as mentioned above, it or the nitrous acid contained in it will decompose urea and set carbon dioxide free from that source.

The amount of carbon dioxide contained in the urine tested can be calculated either from the weight of the carbonate precipitated or from a volumetric determination of the amount of neutralization of the hydrate.

For determining the carbon dioxide from the weight of the precipitate barium hydrate is the preferable precipitant. The precipitate may be collected, washed, dried, and weighed as carbonate; or after washing it may be treated with hydrochloric acid and reprecipitated by sulphuric acid as barium sulphate, which is then weighed. Of barium carbonate 196.75 parts correspond to 232.72 parts of barium sulphate and to 43.89 parts by weight of carbon dioxide. Or, for every one part of barium carbonate there is present 0.2231 part by weight of carbon dioxide, and for every one part of barium sulphate there is 0.1886 part of carbon dioxide.

The determination of carbon dioxide from the amount of hydrate neutralized—Pettenkofer's method—is easier of execution. The data necessary for this determination are the amount of solution of barium or calcium hydrate employed and its degree of alkalinity, as determined by titration with decinormal acid, before and after the carbon dioxide is passed into it. The loss of alkalinity after the test is carried out corresponds precisely to the amount of carbonic acid introduced, which has neutralized a like strength of hydrate. If alkalinity be quantitatively expressed in thousandths of a normal solution, the strength of a normal solution being taken as one,[1] each thousandth, of a normal solution, of alkalinity lost corresponds to 0.0021945 per cent. by weight, or 1.1159 per cent. by volume (at temperature of 0° C., and pressure of 760 millimetres of mercury) of carbon dioxide introduced. From this percentage and from the amount of the hydrate solution the absolute quantity of carbon dioxide can be calculated. The percentage strength of carbon dioxide in the urine can then be determined from the amount of urine tested.

Another method by which carbon dioxide may be determined—that of Scharling—consists in passing the stream of air and gas, first, through sulphuric acid, which removes watery vapor; then through a solution of sodium hydrate, which absorbs the carbon dioxide; and lastly through sulphuric acid again. The increase in weight of the last two fluids is equivalent to the weight of carbon dioxide present.

Quantity and Variations of Carbon Dioxide in Urine.—Carbon dioxide is always present in fresh normal acid urine, its quantity varying considerably according to circumstances. The following table shows the average percentages of carbon dioxide found in normal human urine under ordinary circumstances, in analyses made by various observers:

Observer.	Average Percentage Amount of CO_2 Found.		Number of Analyses.
	By Volume. (Temperature of 0° C. and Pressure of 760 mm. of Mercury.)[2] Per Cent.	By Weight. Per Cent.	
Planer	9.38	0.0184	3
Morin	1.9	0.0037	21
Pflüger	18.92	0.0372	2
Kerner	3.59	0.0071	3
Ewald	11.64	0.0229	7
Wurster and Schmidt.	4–5	0.0075–0.01	
Nichols	5.68	0.0112	5

Schöffer in six analyses of acid dog's urine found carbon dioxide present in the average proportion of 4.99 per cent. by volume. These figures indicate a certain amount of personal diversity in the results of the different observers; but aside from this carbon dioxide varies much in amount under normal conditions, according to diet, quantity of fluid drank, degree of concentration of the urine, mode and activity of life, etc. The amount of carbon dioxide in normal acid urine under ordinary circumstances may be stated to range from about two to twelve per cent. by volume (0.004 to 0.025 per cent. by weight).

[1] See Medical Record, New York, October 5, 1895, p. 483.

[2] Volume percentages of CO_2 in this article are expressed at a temperature of 0° C. and a barometric pressure of 760 millimetres of mercury, and the volumes as given by the various observers are reduced to this standard. One cubic centimetre of CO_2, at 0° C. and 760 millimetres' pressure weighs 0.001966 gram; 1 gram of CO_2 = 508.5 cubic centimetres, at 0° C. and 760 millimetres' pressure.

Van Nüys and Lyons, in an analysis of the urine for six days on a mixed diet, found this amount of carbon dioxide to range from 0.45 to 0.79 gram per twenty-four hours, averaging 0.588 gram per day; this, if the daily amount of urine were 1,500 cubic centimetres, would make the amount of carbon dioxide about twenty per cent. by volume. From seven analyses of acid urine from convalescents Ewald estimated the amount of carbon dioxide in the twenty-four hours at from 0 28 to 0.44 gram, averaging 0.34 gram.

The analyses show that in normal urine of well-marked acidity all, or practically all, the carbon dioxide present is in free form. Thus Ewald and Pflüger obtained only traces of combined carbon dioxide in their analyses of acid urines. In my analyses no carbonate was found in strongly acid urines. Planer alone found combined carbon dioxide in large proportion in acid urines; Schöffer suggested in explanation of this that the urines tested were only weakly acid and after heating reacted neutral or alkaline. The element of uncertainty attaching to methods of estimating carbon dioxide by means of heat, such as Planer employed, is also worthy of note in this connection. In urine that is alkaline, or neutral, or weakly acid (in which the acidity is due chiefly to free carbon dioxide), it is physically possible for the carbon dioxide to exist in combination, and in such cases analyses show its partial occurrence in that form.

In thin urines, as after free drinking, the percentage amount of carbon dioxide is diminished. In concentrated urines, as after free perspiration, its amount increases. The amount is also increased (according to Wurster and Schmidt about doubled) in weakly acid, neutral, and alkaline urines. Thus in five analyses of strongly acid urine under fairly normal circumstances I obtained an average of 5.68 per cent. by volume of carbon dioxide, all free; in four analyses of weakly acid and neutral urines I obtained an average of 11.45 per cent. of carbon dioxide, of which 9 1 per cent. was free, 2.35 per cent. combined.

Upon a vegetable diet, under which the urine becomes neutral or alkaline, the carbon dioxide in the urine is increased, and may exist in part combined. Thus Van Nüys and Lyons found the urinary excretion of carbon dioxide on a vegetable diet for three days increased to an average of 1.09 grams per day, the average on a mixed diet being 0.588 gram.

After the ingestion of certain salts of sodium and potassium in combination with organic acids (as the alkaline citrates, tartrates, or acetates) there is a large increase of carbon dioxide and carbonates in the urine, which becomes alkaline. Van Nüys and Lyons found the amount of carbon dioxide excreted in the urine increased from two to four times while taking sodium tartrate.

After drinking waters charged with carbon dioxide, Kerner found a largely increased excretion of the gas in the urine, amounting to about twenty-five per cent. by volume, or from 104 to 162 c.c. in actual quantity. The excess of the gas was entirely eliminated within about two hours after its ingestion. The ordinary volume of carbon dioxide in the urine in Kerner's cases averaged 3.59 per cent.

The effects of exercise and rest, other conditions being identical, were investigated by Morin, who found an increased excretion of carbon dioxide in the urine during muscular activity. In three analyses of urine during rest, the amount of carbon dioxide averaged 1.19 per cent. by volume, while during exercise in the same subject and under similar conditions of diet, time, etc., three analyses gave an average of 2.29 per cent. In two analyses made by me under otherwise similar circumstances, 6.09 per cent. of carbon dioxide was found in the urine after exercise, 5.58 per cent. after repose.

Other conditions being equal, more carbon dioxide is excreted in the urine (as from the lungs) during fever than during apyrexia. This was shown by Ewald, who made analyses in seven cases of fevers (relapsing fever, typhoid fever, and pneumonia) during the febrile and afebrile periods. In six of the cases the amount of carbon dioxide, as estimated for twenty-four hours, was materially greater during the pyrexia.

Ewald's analyses also showed a correspondence between the excretion of carbon dioxide and urea in the urine, the amounts of these substances rising and falling together. In all his cases this correspondence was well marked, especially for the same subject. Planer's figures also show this correspondence to a certain degree. My results as to this point were very variable, but it is probable that when other conditions are equal this relation between urea and carbon dioxide will be apparent.

A few of my analyses were in cases of lowered vitality and metabolism. In one case the urine passed about twelve hours after an amputation of the thigh, which had been succeeded by considerable shock, contained only 1.78 per cent. by volume of carbon dioxide and 0.46 per cent. of urea. In the case of a patient moribund from gastric cancer, with subnormal temperature, the urine two days before death contained 3.43 per cent. of carbon dioxide, a slight decrease, but 2.24 per cent. of urea. The morning urine of a very feeble old man, aged eighty-one years, who took a small amount of whiskey daily, contained 14.76 per cent. of carbon dioxide, a marked increase, and only 0.67 per cent. of urea. The morning urine of another old man, aged eighty-five years, not taking alcohol, contained 4.40 per cent. of carbon dioxide and 2.47 per cent. of urea.

Large amounts of ammonium carbonate occur in urine that has undergone ammoniacal fermentation. A bacillus capable of generating carbon dioxide in urine in a similar manner has been described by Schow. After the ingestion of large quantities of calcium hydrate a large amount of carbon dioxide occurs in the urine from the decomposition of calcium carbamate (Abel).

Source of Carbon Dioxide in the Urine.—The carbon dioxide in the urine is mainly derived from three sources: (1) from the products of bodily catabolism; (2) from food and other matters ingested; and (3) from the transformation of urea into ammonium carbonate by ammoniacal fermentation. As the latter is a change occurring subsequent to the excretion of the urine and practically outside the physiological mechanism, it is without interest in this connection and will not be further considered here.

The principal waste products of catabolism, produced by the oxidation or breaking down of the bodily tissues, are urea, water, and carbon dioxide. Urea mainly represents the decomposition of nitrogenous substances, water and carbon dioxide mainly that of carbohydrates and fats. Of these about thirty grams of urea and eight hundred grams of carbon dioxide are excreted daily. Carbon dioxide is being constantly formed throughout the bodily tissues, from which it is taken up by the blood, and excreted mostly by the lungs, but in small quantities also by the kidneys.

These considerations readily explain the correspondence between the amounts of urea and carbon dioxide excreted in the urine, both being parallel products of metabolism. They also show why the amount of carbon dioxide (and of urea) is increased in conditions like fever, active exercise, etc., when there is a heightened activity of metabolism and diminished in conditions of lowered activity.

A portion of the carbon dioxide in the urine is also

to be attributed to ingested substances. Thus most organic salts of the alkalies when taken into the system are decomposed into carbonates and eliminated as such. The large increase of carbon dioxide in the urine after the drinking of carbonated water is another instance in point. After a vegetable diet the increase of carbon dioxide and the alkalinity of the urine are to be attributed chiefly to the vegetable acids (malic, citric, tartaric, etc.) occurring in fruits, which in the system are transformed into carbonates.

The mode by which carbon dioxide passes from the blood into the urine deserves remark. In the blood carbon dioxide exists partly firmly combined as alkaline carbonates, partly free or in loose chemical combination. A portion of the carbon dioxide, especially the carbonates, may enter the urine by a true process of excretion; but another portion, that which is loosely combined or free, exerts a certain amount of expansive tension in the blood and may be forced over into the urine so as to equalize the cabon-dioxide tension between the urine and the walls of the urinary tract (Ewald). The investigations of Strassburg and others indicate that the tension of the carbon dioxide in the urine, and other body fluids as well, exceeds that in the blood. Ewald explained this on the supposition that this excess of carbon dioxide in the urine is derived from the tissues along the urinary tract, in which the carbon dioxide resulting from catabolism being at a higher tension is forced into the neighboring urine.

Another source of the free carbon dioxide in the urine, in addition to its diffusion from the urinary tissues, seems to be this: The free carbon dioxide in the blood is mostly excreted by the lungs: the carbonates are not adapted to elimination by that avenue. While a portion of the free carbon dioxide may be diffused or excreted directly from the blood or tissues into the urine, another portion is probably derived from the carbonates, which are excreted as such from the alkaline blood, but on mixing with the acid constituents of the urine are decomposed with the evolution of free carbon dioxide. In this manner carbon dioxide might be generated in the urine until it has a greater tension than in the blood. Under these circumstances free carbon dioxide would not diffuse from the blood into the urine, but on the contrary it might even be forced back into the blood. On this supposition the free carbon dioxide in the urine represents, partially at least, the excretion of carbonates. If the urine were alkaline, however, there would be less or no decomposition of excreted carbonates and less tension of free carbon dioxide in the urine; more free carbon dioxide would pass from the blood or tissues into the urine, or less would be forced back from the urine into the blood. Hence a larger amount of carbon dioxide would be excreted in neutral or alkaline urine than in acid urine, which corresponds with observed facts.

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THE NAVAL AMBULANCE SHIP "SOLACE" —HER PURPOSE AND CONSTRUCTION.

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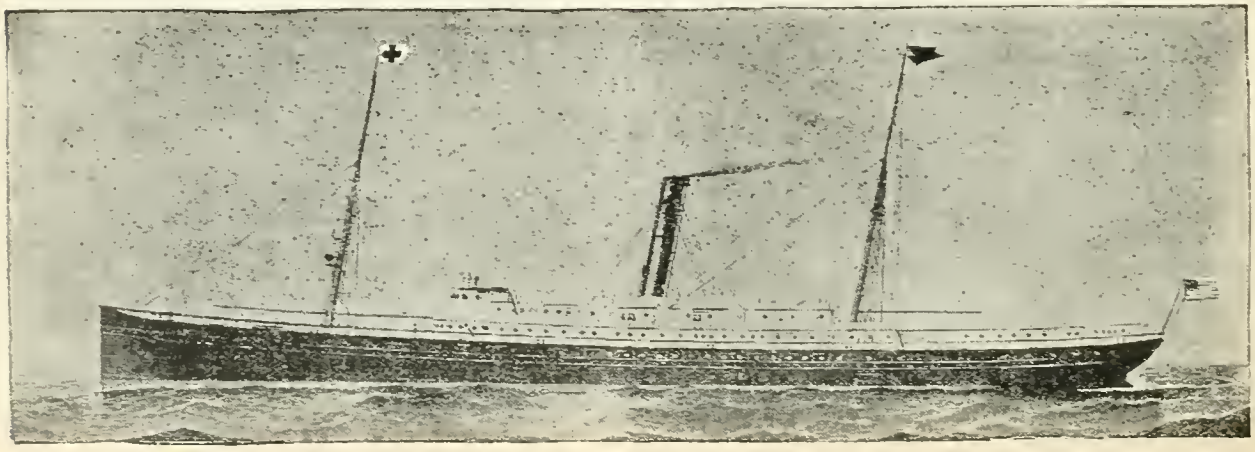
Inasmuch as the *Solace* is the first ambulance ship ever commissioned by any government, it is thought a brief description of the vessel may prove of interest to the readers of the Medical Record.

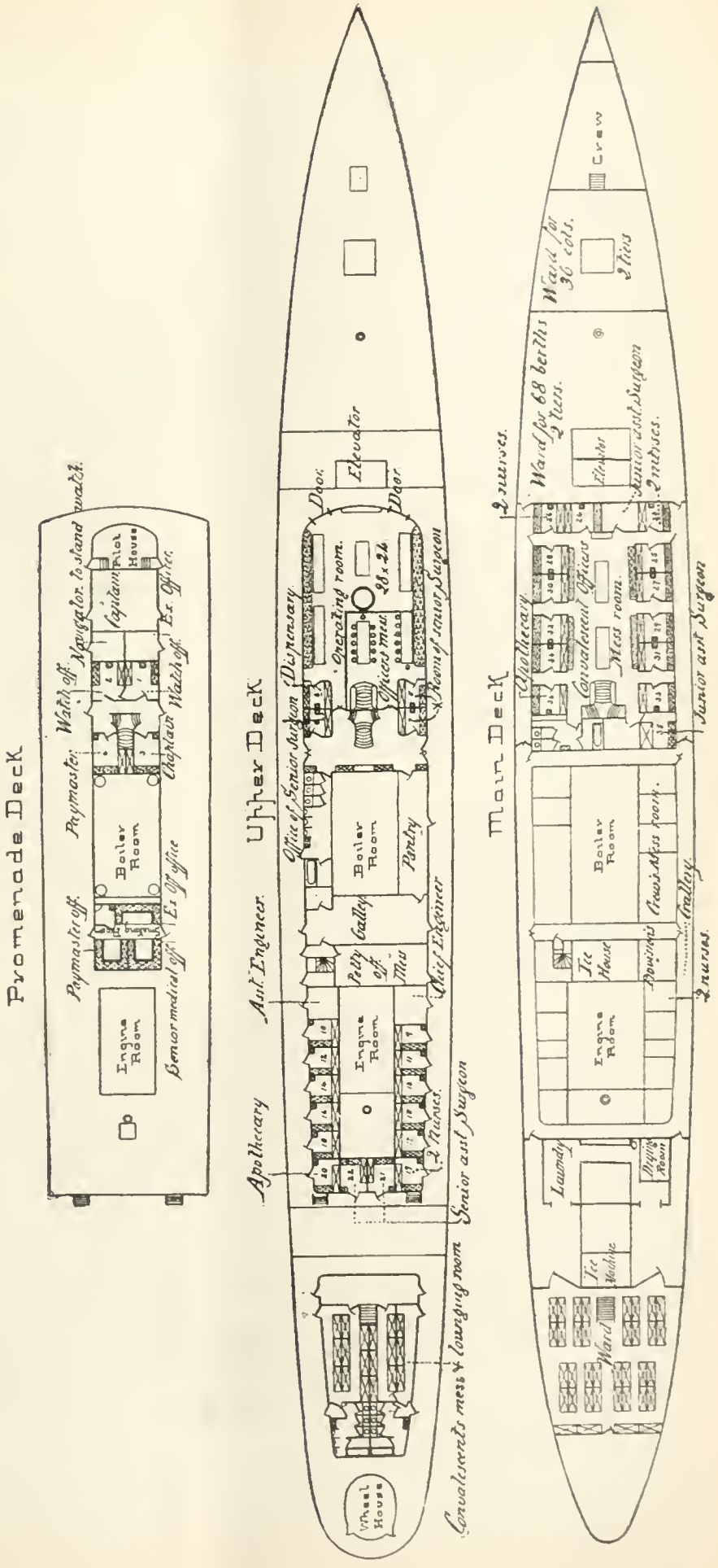
With the constantly increasing destructive power of ships-of-war have come structural changes such that the proper treatment of the wounded on board a modern battleship is wellnigh impossible. When a ship-of-war nowadays goes into action, she is divided into many compartments by the closing of



water-tight doors and the screwing down of battle hatches. These compartments are practically closed cells, and communication between the different parts of the ship is always difficult and often roundabout. For this reason the transportation of the wounded from certain parts of the ship to any central dressing-station is impossible. Again, with the crew of the vessel necessarily divided into small squads in separate non-communicating compartments, men cannot be spared from the guns for transporting wounded. These and other minor conditions, insurmountable without lessening the fighting efficiency of the vessel, render the surgical treatment of the wounded on board a ship-of-war during an action very difficult. The surgeons must themselves move about the ship, rendering aid wherever they may; and this aid must necessarily be limited to checking hemorrhage, the application of temporary dressings, and perhaps some treatment of shock.

It was with a full understanding of these conditions that Surgeon-General Van Reypen, as soon as hostiliites with Spain became probable, sought authority to fit out an ambulance ship. He was heartily supported by the President and the secretary of the navy, and, after much thought and work, the *Solace* is the result.

The *Solace* is a new steel vessel of 3,800 tons displacement, is 375 feet long, and has a speed of from 14 to 17 knots per hour. She has a single screw driven by triple expansion engines, and is extremely economical in coal consumption. She has bunker space for 850 tons of coal, and abundant stowage room for more in case of necessity, and thus has a large steaming-radius. Her holds and lower decks are given up to the stowage of ship stores and provisions, with the ex-



ception of the forward upper cargo deck, on which we find a large steam sterilizer and storerooms for medical and surgical supplies.

On the main deck forward are quarters for the crew of the vessel, the anchor engine, and the blowers for artificial ventilation. Abaft these is the main ward. Here are bunks, accessible on all sides, for ninety-two patients. This ward is well ventilated by numerous air ports and a large hatch, and is well lighted. In addition to the natural ventilation are louvres and ducts connecting with blowers which have a capacity sufficient to insure at all times a plentiful renewal of air. In the ward there is an abundant supply of hot and cold water, and connected with the ward are closets, urinals, and bathrooms. This ward is connected directly with the operating-room above by an elevator capable of carrying a cot or wheeled stretcher. Abaft the main ward is a large saloon with staterooms on either side. This space is intended for convalescent officers. On this same deck amidships are staterooms for nurses, apothecaries, and the petty officers of the ship, and the crew's messroom; also cold-storage rooms, ice machines, and ice houses. Abaft the engine-room is the steam laundry, and still farther aft is the emergency ward, containing fifty swinging cots. In the extreme stern is the steam steering-engine.

On the upper deck forward is the operating-room—large, light, commodious, and well ventilated. It is fitted with two operating-tables of the regulation navy pattern, and all modern appliances for aseptic surgery. The instruments are of the latest and most approved patterns, and of the best construction. The deck is covered with interlocking rubber tiles, which are capable of thorough cleansing, and afford a firm foothold in a seaway. The bulkheads are painted with enamel paint, so as to be capable of thorough cleansing and sterilization.

Adjoining the operating-room are the surgeons' sterilizing and wash room and the dispensary. In the latter, besides the usual fittings, is the central telephone station, with connections to the wards and sick-quarters and to the staterooms of each of the surgeons. Abaft this are, on either side, the quarters of the senior surgeon and the chief apothecary, and amidships is a broad companionway leading down to the convalescent officers' saloon.

Next come the officers' messroom, with connecting pantry and toilet rooms, and abaft these the galley. On either side is a series of staterooms for injured officers, and in the extreme after end of this midship deck house are the quarters for the junior surgeons. In the after deck house is a saloon, connecting with the emergency ward below, for convalescent enlisted men. Abaft this is the wheel house, with hand steering-gear for use in case of emergency.

On the promenade deck are the pilot house and connections, the quarters of the captain and deck officers, and offices for the executive officer, the surgeon, and the paymaster. The after part of this promenade deck is arranged so that it may be entirely screened off by awnings, and will be devoted to the isolation of contagious diseases, should such develop.

Beside a large distilling-plant, the *Solace* has tanks for fresh water of a capacity of over twenty-seven thousand gallons. On the forward upper deck the *Solace* carries two steam launches, which can be fitted with platform decks on which the injured in cots or in hammocks may be lowered.

In conformity with the additional articles of the Geneva convention, the *Solace*, as well as each of her steam launches, is painted white with a broad green stripe. She flies the Geneva cross at the fore, and thus her peaceful character should be always apparent.

The personnel of the surgeon's division of the *Solace* includes at present four surgeons of the navy, three apothecaries, eight nurses, four mess attendants for the sick, and one cook for the sick. She carries, in addition, a captain, executive officer, three watch officers, and a paymaster—all of the navy—and a crew of sixty men. The nurses are male nurses and are all graduates of the Bellevue Hospital Training-School.

The *Solace* is expected to remain near the fleet while in action, and as soon as any ship withdraws, or at the close of the engagement, she will take all the wounded on board and steam away for a naval hospital, thus fulfilling distinctly the duties of an ambulance ship and not those of a hospital ship. The injured will be lowered from the battleships either into the *Solace's* steam launches or into barges towed by the launches, or will be landed directly on the *Solace's* deck by a trolley sort of litter, which will run on a cable stretched from the battleship to the ambulance ship. The wounded having been received on board of the ambulance ship, those requiring immediate operation will be placed on the tables at once and sent down to the wards later, thus involving the least possible handling; those that do not require operative treatment will be sent at once to the wards.

This is the first time that this humane project has ever been attempted, and if the ship enacts the part for which she has been designed her surgeons will be the first to have the opportunity to practise aseptic field military surgery. That the United States should be the first nation to adopt such a humane adjunct to naval warfare, all the country should be proud of. That the vessel is the product of the brains and energy of American surgeons, should cause a widespread interest in the vessel's work by the entire medical profession of the United States. That the navy of the United States should be the first to suggest and to put into execution this project, our navy in general, and the naval medical corps in particular, may take pride in. Honor to the President and to the secretary of the navy, who authorized the expenditure of public funds for such a purpose, and honor to the surgeon-general of the navy, who by his tireless energy has brought this project to a successful completion.

Progress of Medical Science.

The Spastic Night Cough with Vomiting and Coryza in Young Children.—According to Dr. P. Gastow (*Der Kinder-Arzt*, 1897) this very common affection is of reflex origin, sometimes due to intestinal parasites, sometimes to other causes, but usually the result of a coryza posterior. The cough has the following characteristics: it is spasmodic, similar to whooping-cough; it causes nausea and vomiting, and it occurs at night when the child is in bed, never when it is up, and rarely by day. It occurs only in very young children, because they do not expectorate and cannot clear the nose: the mucus therefore drops backward into the pharynx and the irritation of the pharyngo-laryngeal mucous membrane thus produced causes a reflex cough. The cough is spasmodic, because the mucus collects in the region of the arytenoids and the vocal cords, causing glottic spasm and attacks of suffocation. The cough occurs at night, because then the position of the head favors the gravitation of mucus to the pharynx and larynx. Treatment consists in the application three or four times daily, through the whole length of the nasal cavities, of tampons saturated with borovaseline. This at first causes sneezing, but later the infant bears it well. The snuffling causes the vaseline to flow into the pharynx. Astringents, such as tannin or alum, and especially antipyrin, may be added to the vaseline.

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A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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YELLOW FEVER AND THE WAR.

THE report published last week that yellow fever had developed in members of a prize crew on one of the captured Spanish vessels held at Key West naturally causes some apprehension at this particular time. "Yellow Jack," always a most unwelcome guest, would be especially so now, despite the excellent facilities at the command of the Marine Hospital service for preventing or stamping out an epidemic. The great importance, however, to the United States of the yellow-fever question lies in the fact that there will probably be an invasion by our troops of territory in which the fever prevails each year with considerable virulence. It will be well for us, therefore, to learn our lesson from past rather than from present and future experience. We must not forget that armies have been decimated in the West Indies without a man being lost at the hands of a human enemy. A century ago, according to John Hunter, who was a surgeon in the English army in Jamaica, scarcely a man was left in some regiments at the end of a year, although the number killed in battle was almost nothing.

All authorities are agreed upon this point: that it is the newcomer, and especially the unacclimated soldier, who suffers to the greatest extent. The ravages of former times among European troops are hardly to be anticipated in an American army of invasion, because we now know that hygienic conditions which military authorities can control have much to do with keeping down the death rate. Our soldiers would, for example, not be landed in an impaired state of health after long voyages in overcrowded vessels. The food supply would be much superior to that of former days, and quarters would be so far as possible chosen at a distance from swamps, while the water supply would be much more carefully controlled. Overcrowding and lack of sufficient air space have been important causes of the high death rate in barrack and hospital in former West Indian campaigns—conditions not now so likely to exist, since their danger is so well appreciated.

In spite, however, of all that is known of the dangers of yellow fever and of the means of prophylaxis, many deaths might occur among our men from a lack of knowledge of proper personal conduct under the new conditions of life. It would be well, then, that each man should receive instruction as to his mode of living. In a little book just published in London, on "Yellow Fever in the West Indies," the author, Dr. Izett Anderson, states that after an experience of more than thirty years he can say that undue exposure to the sun in the heat of the day is the most potent exciting cause, and next to this are intemperance and debauchery.

Earth freshly upturned, as in the digging of trenches, is a source of danger which it might at times be impossible to guard against. Past experience, however, should guide in sending troops into a yellow-fever region to engage in such work, since it has been found that the most susceptible subjects come from the more northerly and colder regions, while colored-skinned races are but slightly endangered. Then, too, those who have acquired immunity by previous exposure should be first utilized.

We cannot here enter into the importance of an early diagnosis of the first cases in a community, or of the difficulties at times attending the detection of the affection by physicians who have had no practical experience with the fever. The author above referred to dwells especially upon the dangers of faulty diagnosis—in instances in which the disease is seen for the first time by the physician—in the stage of depression or decline of the fever, when the symptoms may be limited almost to cutaneous capillary hyperæmia and conjunctival injection, and when the patient expresses himself as feeling well again. The treatment he recommends embraces an attempt at abortion of the process by administering twenty grains of calomel, together with twenty or more grains of quinine, and repeating the dose if necessary at an interval of three or four hours; and if the fever remains high, even a third dose may be given. This must be employed early in the first stage, and is particularly suited to sthenic cases in plethoric soldiers, especially those who have recently arrived in the infected region.

As a routine treatment he has employed for many years:

℞ Acidi carbolici ..... gr. xviij.
Potassii bicarbonatis ..... ℥ iij.
Aquæ ..... ℥ xij.

Of this two ounces are to be given well iced every two or three hours, a dessertspoonful of freshly squeezed lime juice being added to the effervescing mixture at the time of taking.

Among other measures recommended are wet packs to the body; "iced drip" to the head; dry cupping to prevent or relieve suppression, together with drachm doses of spirits of nitrous ether every hour; and bromide of ammonium in full dose given in iced milk for insomnia. He speaks favorably, too, of Sternberg's formula:

℞ Hydrargyri bichloridi ..... gr. ½
Sodii bicarbonatis ..... gr. cl.
Aquæ ..... ℥ xl.
M. S. Three tablespoonfuls every hour, given ice cold.

It is gratifying to note that the government is taking most active measures to solve this great war problem, and that an officer of the Marine Hospital service has been detailed to accompany the army of invasion, whose special duty it shall be to secure for our soldiers all the protection possible from this hid-

den enemy. Among the measures to be carried out are the establishment of a base of supplies at a distance from any yellow-fever centre, and prevention of communication between the army and infected localities.

The latter will naturally be a most difficult thing to accomplish. The only absolute safety would seem to lie in terminating the war in Cuba before June, when the annually recurring epidemic in and about Havana makes its appearance, or in so far accomplishing this end that the native army, assisted by immunes, could complete the work and permit susceptible Northern troops to return to the States.

We have the utmost confidence in the ability of our Marine Hospital service to accomplish by vigilance and scientific sanitation all that it is possible to do in the matter of detecting early evidences of danger and carrying out segregation. A disease, however, which presents such an appalling mortality in severe epidemics and under certain conditions, should likewise be regarded as an enemy to be combated until conquered. No doubt this will be one of the results of the present warfare, for it may be predicted that with Havana under United States control the unwholesome conditions which have permitted this yearly visitation of yellow fever will be done away with and the city made as safe from June to November as it is from November to June.

It has been pointed out by authorities, and former experience in our own country has shown it to be a fact, that old wharves with their rotting timbers, unpaved streets, collections of decaying vegetable matter, and lack of proper sewerage all contribute to epidemic outbreak. Such sanitary defects are abundant in Cuba's capital, and it will become our duty at no distant day to fortify the city by modern hygienic improvements for the benefit of humanity at large.

MAKING GAME OF THE MEDICAL JOURNALS.

The proprietor of a much-advertised patent medicine, who is himself thoroughly familiar with the art of advertising in all its branches, has been having lots of fun with some of our esteemed contemporaries. Being of a jovial disposition, he has mercifully not kept the joke to himself, but has shared it freely with the doctors in the land, somewhat to the disgruntlement, we fear, of the fish who too greedily snapped at his bait, to find it nothing but flannel.

This amusing gentleman wrote out a flamboyant advertisement of his patent remedy, which remedy, he said, was on sale "in many grocery stores, restaurants, saloons, and other places where it is not usual to find a medicine." A copy of this was sent to each of one hundred and nineteen medical journals in the United States and Canada, and accompanying it was a letter inquiring whether the advertisement would be acceptable as written; if not, what changes would be necessary; and if accepted, what the price would be for one insertion or for a full year. Sixty-six of the papers addressed probably suspected something or else regarded the inquiry as an impertinence, and sent no reply whatever. Of those that did vouchsafe an answer, twenty-three rejected the proposition, some with scorn, others with regret. The remaining thirty yielded to the tempter, most of them unconditionally, a few asking for more or less immaterial alteration in the wording of parts of the advertisement. All the replies, both affirmative and negative, are published, and it is humiliating to note the avidity with which the bait was gulped down—bob, hook, and sinker—by some editors who boast of the huge circulation and lofty moral tone of their journals. Of the fourteen journals approached in Chicago, the headquarters of the American Medical Association and supposed to be sodden with ethics and high principles, six accepted the patent-medicine advertisement, one of these being the *Journal of the American Medical Association*. On the other hand, in New York City, the alleged hotbed of heterodoxy and lair of unethical brigands, thirty journals were tempted and only six fell, and of these six only *Pediatrics*, *The Medical Examiner*, and *The Polyclinic* have any standing as legitimate medical journals.

Many other interesting comparisons might be made in a study of this entertaining pamphlet. For example, not a single homœopathic or eclectic journal, so far as we can see from a careful reading of the list, lowered its flag for the sake of the patent-medicine man's money; the sinners were "regulars" all. Philadelphia also made an honorable showing, only one periodical of any importance having yielded to temptation. Fortunately the youngest of the local journals was not approached, only papers with a circulation of one thousand and upward being considered worthy game; we say fortunately, for this serio-comic weekly, while always protesting it would ne'er consent, has usually consented, and so it is possible the editor would have fallen in line with the other gold seekers had the opportunity been offered him, stipulating perhaps for the insertion of a few orthographical peculiarities in the ad. The advertising manager of a house which publishes one journal in Philadelphia and another in New York accepted the advertisement, subject to the approval of the editors, which he thought might be fully counted upon; he was disappointed, however, for both journals are in the list of those which refused to sacrifice principles for cash.

The ingenious gentleman who got up this trial of virtue deserves our thanks, for he has contributed largely to the mirth of medical journalists, and has suggested a subject pregnant with amicable discussion for the Denver meeting of the American Medical Editors' Association.

PATHOLOGY OF FEVER.

Later-day science has for its mascot the guinea-pig. Like the little lamb of Mary, everywhere that science goes the guinea-pig trots in her footsteps, and but few great pathological investigations have taken place for many years without the aid of this prolific little beast.

Some of the later experiments with the guinea-pig and his allied tribe of experimental animals lie along

the lines of research in the histological changes in the nervous system due to increase of temperature. Nearly a year ago Goldscheider and Flatau experimented on this subject by placing animals in an incubator and exposed them to the influence of various grades of temperature for varying intervals of time. More recently a pupil of theirs, Dr. Moxter, *Fortschritte der Medicin*, vol. xvi., 1898, pp. 121 *et seq.*, varied the experiments somewhat by placing the animals under conditions of increased temperature after exposing the brain by trephining. After the wounds had healed and all signs of reaction had disappeared, the animals were exposed to the action of the heat and the effects on the cells of the nervous system studied after the newer histological methods. They found changes in the chromophylic bodies of the ganglion cells in the anterior horns of the spinal cord, more marked in the cervical region, these changes varying with the intensity of the heat and the length of the time of exposure. Moxter finds "that after twenty-two hours, with a temperature between 40.5° C. (104.9° F.) and 41.5° C. (106.7° F.), there was a marked loss of the chromophylic substances in the ganglion cells of the anterior horns; following intermittent changes in the temperature, which ran from 38° C. (100.4° F.) to 41.3° C. (104.3° F.), no changes were found, and twenty-three hours' exposure to temperatures ranging from 39.2° C. (102.5° F.) to 40.7° C. (105.2° F.) produced no changes." These results in great part substantiate the researches of Goldscheider and Flatau, though Ewing has shown that the subject is difficult of interpretation and that we are not yet in a position to assert what is and what is not within the range of the normal.

Following Moxter's experimental work, Goldscheider and Flatau give the results of an examination of two cases of fever in tetanus and scarlatina. In the case of tetanus the temperature rose to 39.9° C. (102.8° F.), and ranged from normal to 39.9° C. for three days. The chromophylic granules were destroyed in the ganglion cells of the anterior horns, and all traces of their arrangement were lost. In the case of scarlet fever, in which the temperature rose to 40.9° C. (105.2° F.), much the same kind of change was found. Thus the experimental work on animals (Goldscheider, Flatau, Moxter, and Ewing) has been duplicated in conditions of high temperature; in pneumonia by Dejerine, and in tetanus and scarlet fever as set forth in the present communication.

The American Laryngological Association.—The twentieth annual meeting of this society will be held in New York City, borough of Brooklyn, on May 16, 17, and 18, 1898. The sessions will be held in the hall of the Long Island Historical Society, corner of Pierrepont and Clinton Streets. The president of the association is Dr. Thomas R. French; the secretary and treasurer Dr. Henry L. Swain, of New Haven, Conn. The programme contains thirty-one titles of papers in addition to the president's address. The annual dinner of the association will take place on Tuesday, May 17th.

News of the Week.

Appeal of the Red Cross.—At a meeting of the American National Red Cross Relief Committee, held at the rooms of the Chamber of Commerce, it was decided to issue the following appeal: "The American National Red Cross Relief Committee, acting under the auspices of the American National Red Cross, has for its object the collection of funds for providing medicine and surgical attendance, nursing, medical supplies, food, clothing, and such necessary assistance as may be required by the American National Red Cross upon call of the United States government, in order to unify all endeavors to that end during the present war. Under provisions of the Geneva conference, from which every national Red Cross society derives its authority, the American National Red Cross is directed to provide such relief as may be required by all, without recognition of friend or foe, who may suffer from the calamities incidental to war, pestilence, or famine. The Red Cross here and throughout the civilized world, by a wide and varied experience in recent wars, recognizing by international treaty the sacred obligations of helpfulness for the suffering, wherever found, has so perfected its organization that it becomes the recognized and legitimate channel for contributions from all classes of individuals and every variety of auxiliary association. For the purpose of properly systematizing the benevolent impulses of the general public and of giving proper direction for efficient Red Cross work, the committee solicits the co-operation of individuals and auxiliary associations throughout the country, confident that through such means the various funds and articles collected can most safely and most directly reach their ultimate destination." Mr. Levi P. Morton, Bishop Henry C. Potter, Messrs. Alexander E. Orr and William T. Wardwell, and Drs. George F. Shrady and A. Monae Lesser were appointed a committee with instructions to place the matter before the United States government at an early date, and also to invite its co-operation.

Railroad Fare to Denver.—The announcement is made that the rates to Denver and return for the meeting of the American Medical Association will be one full fare plus $2. The cost of a round-trip ticket from New York will therefore be $48.50 or $50.50, according to the road selected from New York to Chicago or St. Louis. This provides for the railroad ticket only, the sleeping-car rates and charges for meals being unchanged.

American National Red Cross.—Dr. A. Monae Lesser has been appointed surgeon-in-chief of the American National Red Cross, and Mrs. Bettina-Hofka Lesser sister-in-chief of that organization.

Dr. Aristides Agramonte, of this city, assistant bacteriologist of the health department, has been appointed acting assistant surgeon in the army. He is temporarily on duty at the Army Medical Museum in Washington, but will, it is supposed, be sent later to serve with the army of occupation in Cuba.

Disease at Dawson City.—The latest advices from the Klondike state that pneumonia and scurvy prevail to a very alarming extent at Dawson City, large numbers of the inhabitants being ill and many having died. It was expected that when the snow had disappeared, by the 1st of May, the danger to public health would be increased, owing to the wretched sanitary condition of the town.

Women Nurses Not Wanted by the Army.—It is officially announced that no women will be accepted as nurses for Cuba. Surgeon-General Sternberg is reported as saying: "We have a hospital corps of trained men, whose duty it is to go with the troops in the field, and if we need additional assistance in Cuba or on the Gulf coast I shall accept only those who are immune from yellow fever, from having had the disease, or passed through one or more epidemics. In case hospitals are established farther north, we may require the help of trained women nurses. Many have volunteered. All applications are placed on file for future reference. A large number of patriotic women, who have had no special training as nurses, have also volunteered. While I fully appreciate their motives, there is no probability that their services can be utilized."

The Spitting-Nuisance.—A committee of the Woman's Health Protective Association recently interviewed the president of the board of health in regard to the prevention of spitting in the street cars. Mr. Murphy said that the board would be glad to co-operate with the ladies in the work, and showed them a letter from the president of the Metropolitan Street Railway Company, in which it was said that arrangements have been made to place a framed copy of the ordinance against spitting in every car belonging to the system. The Woman's Health Protective Association also proposes to inaugurate the card system, by which each conductor will be supplied with printed cards, calling attention to the board of health ordinance, one of which he shall quietly hand to any person discovered violating the ordinance.

A Suspicious Fever at Key West.—It is reported that there have been two cases resembling yellow fever among the crew of one of the prizes recently captured by the Cuban blockading fleet. No fear is felt that the disease will be carried into the town, but it is thought that some isolated place will be designated for the detention of the captured vessels, where they will not be in close proximity to the other ships in Key West harbor.

The University Medical College.—Only four of the present medical faculty will, it is said, be with the university next year—the dean, Dr. Egbert Le Fevre, adjunct professor of medicine; Dr. H. G. Piffard, professor of dermatology; Dr. E. D. Fisher, professor of nervous diseases; and Dr. Cornelius Coakley, professor of laryngology and lecturer on physiology. All the other members of the faculty have been appointed to the faculty of the new medical department of Cornell University. Four lay members of the council of the university have also resigned, on the ground that the university violated the conditions under which the property of the medical school was ceded to it. The protest of the directors of the medical school to the council of the university was in part as follows: "The control of the medical department has been taken by you from the medical committee; the expenses and salaries of the officers of the medical department have been fixed without their consent, and without consultation with the medical committee; the personnel of the medical committee has been changed by you, and one of the gentlemen selected by our faculty to guard and protect their interests has been dropped from your council in direct opposition to the wishes of those who represent our faculty and in direct violation of the understanding." On these grounds the medical school asked for the restoration of its property. The president of the council appointed a committee to investigate, and this committee reported that the university ought not to retain property obtained on certain conditions which had not been fulfilled. The majority of the council refused to accept this report of its committee, however; hence the resignations from the council and from the medical faculty.

The Plague in China.—Much alarm has been caused by the spread of the bubonic plague at Hong Kong, Swatow, Canton, and Macao. Each of these cities except Canton has established a quarantine against the other plague cities. Hong Kong has cabled to Bombay for a supply of Haffkine's prophylactic lymph. Official reports place the new cases at Hong Kong at from twenty to thirty a day. Smallpox as well as plague prevails at Canton and Macao.

The Society for the Prevention of Cruelty to Children.—The State board of charities has instituted judicial proceedings to establish its authority over the Society for the Prevention of Cruelty to Children in this city. The attorney-general has obtained an order requiring the society to show cause before the supreme court in New York why it should not submit its affairs to the supervision of the State board. The constitution of 1894 directs the legislature to provide "for a State board of charities, which shall visit and inspect all institutions, whether State, county, municipal, incorporated, or not incorporated, which are of a charitable, eleemosynary, correctional, or reformatory character," excepting only such institutions as the constitution makes subject to the visitation and inspection of the State commission in lunacy or the State commission of prisons.

The San Francisco Polyclinic was recently the recipient of a present of $5,000 from Mrs. Hearst, the money to be used to pay the mortgage on the property of the school.

The International Congress of Hygiene and Demography.—The attendance at this congress in Madrid was about two thousand. Of this number thirteen hundred and fifty were Spaniards, one hundred and ten French, fifty English, and as many Germans. There was but one member from Portugal, but the United States had two, and possibly more.

Society Reports.

CONGRESS OF THE GERMAN SOCIETY OF SURGERY.

Held at Berlin, April 13, 14, 15, and 16, 1898.

(Special Report for the MEDICAL RECORD.)

Friday, April 15th—Third Day.

Œsophagoscope.—Dr. Kelling, of Dresden, exhibited and demonstrated his œsophagoscope. He described it as consisting of a jointed metal tube covered with rubber. It was introduced curved, and then by a mechanical arrangement was straightened. The patient was to be on his back with his head hanging over the edge of the table. The tube was illuminated by a small electric light attached to the outer end.

Empyema and its Operations.—Professor Jordan, of Heidelberg, described his method of operating on an old empyema cavity. He recommended a combination of the Schede and Delorme procedures. In other words, he believed in removing the whole of the chest wall covering the cavity (Schede) and the breaking up and loosening of the contracted pleura (Delorme). Of twenty-three patients so treated in the Heidelberg Clinic nine were completely cured and capable of doing their former work; six were almost cured, a very small fistula only remaining; they, too, were capable of working; four died, and several were still under treatment. Of four cases in which the operation was done on tuberculous patients three were fatal. He insisted that the extent of the resection depended on the size of the cavity, that the whole wall should be resected. Small resections, he said, were worse than useless. He presented two cured patients. One was a boy, aged twelve years, in whom five years ago he resected five ribs; since then there had been an entire and complete regeneration of the ribs. In the second patient through the cicatricial tissue the heart could be seen beating closing in the former cavity. Physiological studies as to the heart's action, he said, were being made in this case.

Dr. Perthes, of Leipsic, exhibited an instrument for the treatment of empyema and pneumothorax. It consisted of a water-vacuum pump, by means of which the cavity was aspirated. He claimed to have cured a number of patients by this procedure.

Dr. Karewski, of Berlin, declared that there was very little danger in operating after adhesions had formed around the empyema. In a series of eighteen cases of his, only one was fatal. He presented two patients, one of whom had been operated on, the other not, much to the advantage of the former, both in appearance and health. He predicted a great future for operations on the lung itself. In the general discussion that followed, cases were referred to in which five, six, seven, eight, and even nine ribs had been resected in their entire or almost their entire length, with cure.

Dr. Gerulanos, of Greifswald, described a case and exhibited the specimens of a tumor, suspected to be sarcoma, in a child in whom he resected the whole side of the thorax. The patient lived twenty-two hours after the operation.

Dr. Joachimsthal, of Berlin, exhibited a case of double-side hernia of the lungs. The tumors extended above the clavicle, causing a marked prominence on each side.

Professor König said he did not believe the case was one of hernia of the lungs, that the tumors were more likely myxomatous tissue. He added that he had seen but one case of a hernia of the lung in that situation.

Surgery of the Liver and the Bile Passages.—Dr. Petersen, of Heidelberg, said that in his clinic the staff had operated with only six deaths in one hundred and sixty-two cases, among which there were six cases in which a biliary calculus was found, though other conditions had been diagnosed, such as floating kidney, cyst of gall duct, etc. He said, in relation to peritonitis resulting from effusion of bile, that if the bile was not previously infected it would not of itself cause peritonitis. This was a point which an operator could not determine either by the clinical symptoms or by an examination of the bile itself during operation. He stated that in several cases it had been necessary to resect portions of the liver, and it was found that the best means of stopping hemorrhage was hot air.

Professor Poppert, of Giessen, described his method of cholecystotomy. Having opened the gall bladder, he put in a rubber tube and held it in place by a Nélaton stitch. He stitched it in the same way to the abdominal wound, and closed the latter up to the tube. He said it took but a short time for adhesions to form so firmly that when the tube came out it would leave behind it a permanent fistulous tract. He reported a total of fifty-seven cholecystotomies done in this way.

Professor Heidenhain, of Worms, exhibited a gall bladder with a carcinoma, the size of a cherry stone. It had been removed by operation, and the liver and surrounding structures had seemed perfectly healthy. The patient died in a very short time, of carcinoma of the liver. He concluded that after operation for carcinoma, no matter how small the tumor, one could not be sure that there were not other foci.

Dr. Haasler, of Halle, described the technique of operation for choledochotomy. In the Halle Clinic they had eighteen times removed stones from the ductus choledochus. He said they had always stitched the wound in the duct, and when no stone could be felt in the gall bladder they did not open. For opening the abdomen he advocated the incision parallel to the ribs.

A Hot-Air Hæmostat.—Dr. Holländer, of Berlin, reported a case of complete extirpation of the gall bladder with resection of the liver for carcinoma, which he had done several weeks ago. He announced that the patient was well and entirely over the effects of the operation. He exhibited the device for supplying hot air, by means of which he had stopped the hemorrhage. He recommended it strongly for such cases, and also for stopping hemorrhage elsewhere, as in the uterus. The device consisted of a small Bunsen burner, with two arms extending up from it. These arms supported a small coil of tube, so that they would come just within the flame. A long tube extended from this coil and terminated in a point. On the other side the coil was connected by rubber tubing to two bulbs, like those of a Paquelin cautery.

The Results of Serum Therapy in Diphtheria.—Professor Krönlein, of Zurich, said that the most evident thing he could show as to the good effect of the serum was his statistics. He explained that since the serum was introduced, toward the end of the year 1894, he had used it in every case of diphtheria that came into the hospital. Since bacteriology had become a science, every case was examined bacteriologically, and was not pronounced diphtheria unless the bacilli were found. In case any one questioned his statistics on account of their extending back to before the days of bacteriology, he wished to say that he believed that the large majority of the cases of diphtheria, even to within two or three out of a hundred, could absolutely be diagnosed clinically. The statistics were those of his clinic, from 1880–98. Total number of diphtheria cases before introduction of

serum, 1,336; total number of deaths, 534; percentage of deaths, 39. Total number of cases after introduction of serum, 437; total number of deaths, 55; percentage of deaths, 12. Number of cases operated on (tracheotomy, etc.) before serum, 662; number of deaths, 438; percentage of deaths, 66. Number of cases operated on after introduction of serum, 101; number of deaths, 36; percentage of deaths, 35. Number of cases without operation before serum, 674; number of deaths, 96; percentage of deaths, 14. Number of cases without operation after introduction of serum, 336; number of deaths, 19; percentage of deaths, 5. He also exhibited a diagram showing the relative mortality at different ages before and after the introduction of the serum. It showed the same results in favor of the serum. He called attention to several points: 1, the general decrease in mortality; 2, the decrease in mortality of the cases operated on; 3, the decrease in the number of cases in which operation was necessary. They thought they noticed, the speaker said, a decided improvement in the majority of cases after the first injection. This improvement consisted in (1) a fall in the temperature; (2) the membrane became looser and began at once to be thrown off; (3) there was a decrease in the glandular swellings; (4) there was no further extension of the process. For the canton of Zurich, the speaker continued, the statistics were even more remarkable. In the canton there were one hundred and sixty thousand inhabitants. These statistics represented the number of cases of diphtheria and the percentage of deaths for every year since 1880.

Year.	No. of Cases.	Deaths, Per cent.	Year.	No. of Cases.	Deaths, Per. cent.
1880	1,000	24	1890	700	18
1881	1,500	21	1891	900	16
1882	1,900	15	1892	1,300	15
1883	1,400	12	1893	1,400	21
1884	1,500	16	1894	1,450	19
1885	900	14.5	1895	900	12
1886	800	12.5	1896	1,000	7½
1887	700	14	1897	1,500	6
1888	675	15	(Number of cases given in even hundreds.)		
1889	1,100	18			

A reduction in mortality, the speaker insisted, of from between twelve and twenty per cent. to six per cent.

Saturday, April 16th—Fourth Day.

Inhuman Bullets.—Professor Bruns, of Tübingen, exhibited a number of parts of dead bodies on which he had tried the effect of what he called "inhuman bullets." These, he said, were made by filing down ordinary bullets on stones. The effect of such a bullet was terrible, as he could show by his specimens and as was proven in actual battle. He showed that when it struck a bone such a bullet splintered it from top to bottom or took pieces out of it twenty or thirty times its own size. When it struck only soft parts it carried away immense pieces, often so large that if it struck, for instance, the calf of the leg, amputation would be necessary. The injury was so extensive that in no case could one imagine it was caused by a bullet. Therefore he believed that he was justified in naming them inhuman.

Shot Wounds of the Brain.—Professor Tillmanns, of Greifswald, detailed some experiments done on animals. They demonstrated that the track of the bullet was not smooth, but showed tearings of the brain substance irregularly. The gray substance was usually more torn than the white, from which he concluded that the latter was firmer, more compact.

Treatment of Lupus with Roentgen Rays and Concentrated Light.—Dr. Kümmel, of Hamburg, spoke on this subject. The method had succeeded only in selected cases, and the indications and contra-indications were not yet soundly established. He exhibited two patients almost cured, whom he expected a continuance of the procedure to cure completely.

A Few Observations on Brain Surgery.—Dr. Doyen, of Paris, took this for his theme and exhibited a whole series of new instruments. He stated his results in a number of cases of hemicraniectomy. He reported a number of idiots and microcephalics whose improvement after the operation was beyond cavil. The first patient on whom he did the operation, a girl idiot with Graves' disease, showed a marked change at once. Four days after the operation the exophthalmos and goitre had disappeared. He mentioned several epileptics markedly improved. One had had no attack in five months, another in six months. In two cases of Jacksonian epilepsy in which he found no lesion, he excised the epileptogenic centre. The first case had proved successful; the second operation had been done but a short time ago and the patient was still under observation. He claimed excellent results in one case of a large subcortical tubercle and in the opening of several deep-lying abscesses, which would not have been discovered but for the extensive resection. In a case of meningitis occipitalis the patient was apparently moribund when the operation was done. There was complete recovery. He closed with the statement that he was now endeavoring to reach tumors at the base of the brain.

Empyema of the Frontal Sinus.—Professsor Barth, of Dantzic, described his method of operating, and said that he trephined the antrum and enlarged the opening toward the nose. Then he reclosed at once the outside wound. He claimed good results, both cosmetically and in regard to the ultimate cure of the disease process. He detailed one case in which in this way a cure resulted in fourteen days.

Purulent Otitis Media.—Dr. Ludewig, of Hamburg, spoke on this subject, and exhibited many ossicles removed for this condition. He said that the radical treatment required their removal, and it would be good practice to do it oftener.

Cancer of the Face.—Dr. Grosse, of Halle, gave statistics of twenty-four cases, some very extensive, in which operation was done; sixteen patients completely recovered. He exhibited a woman operated on in 1893. A mole which she had always had began to increase rapidly at the age of forty. When she came to the clinic the disease was widespread. They were obliged to remove the superior maxillary and malar bones, the eye, the zygoma, the ear, and to chisel away the petrous portion of the temporal bone as deep as the tympanum. The patient made a complete recovery, and, considering the extent of the operation, the cosmetic effect was excellent.

Temporary Resection of the Alveolar Process.—Professor Partsch, of Breslau, described this operation and exhibited a cured patient. The procedure consisted in chiselling off the anterior portion and turning it back on a flap of soft tissues.

Resection of the Œsophagus.—Professor Garré, of Rostock, spoke of three cases in which he resected portions of the upper part. In one he was obliged to remove the posterior wall of the larynx, but left the mucous membrane of the same, and with it made an anterior wall for the new œsophagus.

Dr. Rehn, of Frankfort-on-Main, thought there was no reason why one could not operate on the thoracic part of the œsophagus as well. He had in one case successfully entered on the right side from behind, but the patient died.

Syphilitic Goitre.—Dr. Küttner, of Tübingen, described two cases which had been diagnosed as malignant thyroid tumor and had been operated on. He could find nothing in the literature similar and so took occasion to report them. The first case was that of a

woman thirty-nine years old, who had given birth to a dead child shortly before the growth began. It increased in size rapidly and was thought to be malignant. It was extirpated, and on microscopical examination there were discovered only centres of caseation surrounded by round cells, epithelioid cells, and giant cells. The diagnosis now rested between tuberculosis and syphilis. No tubercle bacilli could be found and syphilis was diagnosed. Six months later typical tertiary lesions appeared, which were cured by specific treatment, confirming the diagnosis. The second case was in a man, twenty-seven years old, who had had syphilis a few years before. A right-side thyroid swelling developed, growing rapidly. Cancer was diagnosed and an operation was performed. The operation was particularly difficult and could not be completed. The tumor grew again in a very short time; but from an examination of microscopical sections the speaker had by this time diagnosed syphilis, because he found, in addition to what had been seen in the other case, markedly thickened blood-vessels. Under iodide of potassium and mercury the recurrence had disappeared and the man was now completely well. The speaker said that ordinary gummata of the thyroid, which were not uncommon, led to no enlargement of the gland and gave no symptoms, though there were other cases in which syphilis of the organ led to serious disturbance, such as myxœdema, etc.

Traumatic Separation of the Epiphyseal Head of the Femur and its Relation to Coxa Vara; Skiagraphic Errors.—Dr. Sprengel, of Brunswick, described two cases in adults, and showed the specimen in which coxitis had been diagnosed from the clinical symptoms and Roentgen-ray photographs. Post mortem, however, they were found to have been instances of separation of the head of the femur.

Dr. Hofmeister, of Tübingen, exhibited a number of skiagraphs of a single normal pelvis, in which could be demonstrated a dozen abnormal conditions. There were fractures of the pelvis, a variety of pathological conditions of the bones, variations in size of the pelvic canal, and every sort of angle of the neck of the femur, from 90° to 180°. He said that the different appearances had been produced by moving the light or moving the patient, or both.

Treatment of Arthritis by Means of Heat.—Dr. Wilms, of Leipsic, described an apparatus of tubes through which hot water was conducted, by means of which the application of heat to inflamed joints could be regulated.

Dr. Krause, of Altona, employed for the same purpose with good results hot air.

Employment of Steam as a Hæmostatic.—Professor Dührssen, of Berlin, said that he had found steam very efficient in controlling uterine hemorrhage, especially excessive menstruation. The injection must not be continued for too long a time or injurious consequences might follow. He demonstrated his apparatus for carrying out the procedure, and a protective device to prevent injury to the neck of the uterus.

At the close of the congress Professor Garré, of Rostock, in the name of the society thanked President Trendelenburg for the satisfactory way the congress had been conducted.

Professor Hahn, of Berlin, was elected president for the ensuing year.

Bunion.—Never operate during an attack of acute inflammation; always treat the deformity and never operate on the bursa, for it will take care of itself after its cause is removed. The exceptions to this rule are the removal of callosities from the bursa when they exist, and the incision of the bursæ when they suppurate.—Parker Syms.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 5, 1898.

Edward G. Janeway, M.D., President.

The Climatic Treatment of Tuberculosis.—Dr. S. Edwin Solly, of Colorado Springs, read a paper on this subject. He said that the climatic treatment of tuberculosis seemed to him not to have been rooted in science and fact in the past, but had hung in mid-air. The basis of all climatic therapeutics was hygiene, and the only way one could judge of any particular climate was by the meteorological data—a point frequently overlooked entirely by the physician. A large amount of the desired data had been accumulated, and if properly digested would be found in condition for assimilation. It was possible now to estimate the value of a particular climate without relying upon personal statements. Much valuable information had been secured by the United States Signal Service. In the choice of a climate the disease was only one part of the problem, the individual being an exceedingly important factor.

The Soil more Important than the Germ.—Although tuberculosis was known and admitted to be a germ disease, it seemed to him that physicians in cities were inclined at the present time to go too far in their statements regarding the infectiousness of tuberculosis. It was known from laboratory experiments that the tubercle bacillus could be inoculated into animals, and that they would die as a result of this; but it seemed to him very doubtful if the majority of cases of tuberculosis arose from without, except in the sense that the germ was received into the body. The development of the disease seemed to be the result chiefly of the germ, which must be almost omnipresent, falling upon favorable soil. This was often observed in children in whom the disease first gained a foothold as a sequel of traumatism. In the West and in many sparsely settled countries typhoid fever appeared to arise *de novo*, and not from direct infection. His theory was that the typhoid bacillus was very widely disseminated, but did not produce its characteristic phenomena except under certain favorable conditions, such as after excessive muscular exercise, possibly followed by a chill. In the few cases of tuberculosis developing in Colorado the question of infection did not seem to be a prominent factor. Another element which must be taken into account was the virulence of the germs. Dr. E. L. Trudeau had for many years been experimenting with a view to making the tubercle bacilli less virulent.

Classes of Tuberculous Patients.—Looking upon the soil as the chief factor in the production of tuberculosis, it was evidently important to inquire very carefully into the mode of origin of the disease. In one class of cases the physique seems to be such as to make the person very susceptible to tuberculous infection; in another class there was a preceding catarrhal condition of the mucous membranes; in still another class tuberculosis seemed to be engrafted upon recurring attacks of catarrhal pneumonia. These three classes should be taken into consideration in selecting the climate for the individual case. As the climatic treatment was rooted in hygiene, it could be said in a certain sense that this treatment could be begun at home. For example, if the poor and ignorant were impressed with the importance and necessity of having an abundance of fresh air and sunshine in the living-rooms, more could be accomplished than by fussing over disinfectants and laying a great deal of stress upon the communicability of the disease. Therefore, before sending a tuberculous patient away from home, one should consider carefully what had been the hygienic surroundings previously.

"A Stitch in Time."—A very significant fact developed by an analysis of his last one hundred cases was that in fully fifty per cent. of the cases coming to him any properly educated physician should have been able to recognize the existence of pulmonary tuberculosis very much earlier than had been done. In these neglected cases the average delay in sending the patient to a proper climate had been two years. It needed hardly to be added that the proportion of recoveries was very much greater in the other cases in which the disease had been recognized early, and the patient given at an early stage the benefit of a proper climate. If the people could be educated up to the idea that tuberculosis in its early stages was a curable disease, it would be very much easier to manage these cases, and according to the best-known principles.

Common Mistakes.—Undue haste in making a change of climate was also responsible for much unnecessary worry, and frequently for a miscarriage of otherwise well-laid plans. Tuberculous patients often left home hurriedly, urged on by the first fright engendered by a knowledge of the true nature of their malady, and in doing so they failed to take time to make the necessary arrangements as regarded their business and family, which alone could insure the requisite peace of mind. A very common mistake among consumptives was regarding the amount of exercise to be taken. This observation applied with special force to persons in high altitudes. The sanatorium treatment of consumption was undoubtedly the ideal one, and one great reason for this was to be found in this very matter of the control of the patient, and in the avoidance of imprudences as to exercise, diet, etc. In catarrhal cases a large field for preventive measures was to be found in the treatment of diseased conditions of the nasal passages. A climate to be suitable for consumptives must be dry, warm, and have a sufficient altitude. The pneumonic cases were particularly susceptible to sudden changes in the weather; they required a moderate elevation and a moderately damp and warm climate.

The Blood Changes in High Altitudes.—Experiments on animals by Paul Reinert had plainly shown that diminished barometric pressure caused marked changes in the red blood corpuscles and in the hæmoglobin. The blood could take up oxygen only under a certain pressure, and hence the quantity of oxygen introduced in a definite quantity of air was less in high altitudes than at the sea level. To offset this nature increased the number of red blood corpuscles, and after some days the hæmoglobin also was increased. Thus, a person residing at an elevation of six thousand feet above the sea would ordinarily have about one million more red blood corpuscles in a cubic millimetre than one at the sea level, and about sixteen per cent. more hæmoglobin. These changes began immediately, within the first twenty-four hours after a high altitude was reached, and were fairly complete in four weeks. Until this condition had resulted, the person would breathe more rapidly, and the heart action would be stronger and more rapid, true compensatory hypertrophy of the heart taking place. When the person went down again to the sea level this compensation disappeared, and the former condition was restored. Persons who were ill and anæmic gained in red blood corpuscles and hæmoglobin more rapidly, and on their return to the sea level held what they had gained—up to the normal amount at the sea level. From some experiments now being made it would seem that high altitudes tended to increase the bactericidal power of the blood. Cases of neurasthenia, in which the nervous irritability was dependent upon weakness, were generally benefited by a sojourn in high altitudes. The observations of Mercier and others showed that the blood count was easily affected by slight indiscretions, and was quickly lowered by too much exercise.

Effect of Different Climates.—Dr. Solly said that an analysis he had made of seventy-seven hundred and ninety-five cases of pulmonary tuberculosis showed that of those remaining at home, in England, twenty-five per cent. were cured: of those who went to reside in the islands of the sea, the percentage of recoveries was fifty-two; of those who went to the coast or to the lowlands it was fifty-five; while of those who took up their abode in high altitudes seventy-five per cent. were cured. This analysis also showed that dryness was an important factor. The very large percentage of recoveries in high altitudes he explained by the marked blood changes which occurred there. The change to a high altitude was especially beneficial to those exhibiting marked anæmia. Those who had weak heart, who were old or prematurely old, those who had arterial sclerosis, or those in whom a large area of lung was involved, did badly in high altitudes. It was not necessarily wrong to send patients with extensive cavities to a high altitude, or those threatened with hæmoptysis, but a high altitude was bad for very active or imprudent persons, because by slight indiscretions they could do themselves so much harm.

The Weaklings of the Flock.—Dr. Irwin H. Hance, of Lakewood, said that sanatorium physicians could more fully appreciate the points made in the paper than physicians in ordinary practice. Much could be done for the children of tuberculous patients—the weaklings of the flock—without sending them to any distant locality. An important duty of the physician was to secure proper hygienic surroundings, and especially to insist upon their spending most of their time in the open air, and sleeping in well-ventilated rooms at night. A matter often overlooked in these children, and with disastrous results, was the condition of the tonsils and pharyngeal vault. Hypertrophied tonsils and adenoid growths in the pharynx, if not removed, favored the development of tuberculosis.

The Danger of Exercise.—It was not an unusual experience to find athletes and those of admirable muscular development becoming the victims of pulmonary tuberculosis, probably owing to indiscretions and excessive muscular exertion. The disastrous effects of ill-judged exercise could hardly be too much insisted upon. It was a safe rule to insist that tuberculous patients should not exercise.

Early Diagnosis by the X-Rays.—Dr. J. E. Stubbert, of Liberty, said that it was absolutely necessary to diagnose tuberculosis in the very early stage if much benefit was to be derived from the climatic treatment. There could be no doubt that the *x*-rays rendered valuable assistance in certain cases, particularly in young subjects. For example, a young man had been brought to him suffering from tuberculosis of the larynx and having a slight infiltration at the right apex. The man had four brothers, all of them apparently healthy, but on close inquiry it was evident that the family was susceptible to the disease. These brothers were subjected to the *x*-rays without the father being questioned regarding their condition. The *x*-rays showed slight infiltration in three of them, and in two of these the presence of the disease was detected later by ordinary physical examination.

Pure Air More Important than High Altitude.—We should be careful not to send tuberculous patients to high altitudes unless they evidently had great vitality, and it could be fairly assumed that they did not possess great vitality if the family history was decidedly phthisical. He had found that the percentage of good results in pulmonary tuberculosis was almost as great in low as in high altitudes. Again, he had seen excellent results in the tropics, in damp forests,

and on the sea. He was inclined to believe that, after all, the most important factor was pure air. Patients who have any functional disorder of the heart should not be sent to a high altitude, and all the pneumonic patients did badly. He had records of a number of cases of tuberculosis contracted in a high altitude, and which did not do well until removed to a low altitude.

Rule Regarding Exercise.—His rule about exercise was if the temperature was not above 99.5 F. to allow moderate exercise. Those who were able to exercise seemed to improve more rapidly than others.

Tuberculous Joint Disease Does Best on the Coast.—Dr. S. A. Knopf said he could not accept the statement made in the paper, that in cities the development of tuberculosis depends more upon bad soil than on contagion, for certainly any one familiar with tenement-house life must admit that contagion, irrespective of the soil, was a powerful etiological factor. He was of the opinion that tuberculosis of the joints did better along the seacoast, and hence he could not accept the statement that a climate which was suitable for pulmonary tuberculosis was appropriate for all other forms of tuberculosis.

Favors the Rest Treatment.—As to the question of exercise for consumptives, he felt very strongly that rest was most important, and that even the most moderate exercise should not be allowed for some time after the arrival of such a patient at a new place. Under rest alone the temperature would fall.

The Prognosis.—The prognosis in pulmonary tuberculosis was extremely difficult, and depended upon many and complex factors. A valuable hint as to the prognosis was contained in the saying of one of his former teachers, that "the patient died of his character."

Change Rather than Climate Does Good.—Dr. J. H. Girdner said that an idea which still had a firm hold on the laity was that the air of certain localities had an intrinsic virtue and was capable of curing tuberculosis. He had spent the first twenty years of his life near Asheville, and could assert positively that the percentage of tuberculosis among the natives of that region was fully as great as on Manhattan Island. This should not be if there was any intrinsic virtue in that climate or elevation. Patients sent there from other places often improved, but it was not to the climate so much as to the change of life and scene that this was due. His father, who practised medicine in that region, had been in the habit of sending cases of pulmonary tuberculosis away from there to the sea or to other parts, and these patients would improve while away from their native place. About a year ago, the speaker said, he had experimented with tuberculin among the cattle in the mountains of that region, and had found them to be tuberculous almost without exception. As the people lived largely on milk, butter, and cheese, he had been led to think that the milk was an important factor in the production of tuberculosis among the inhabitants. Additional factors were the general lack of attention to hygiene and the custom of inter-marrying.

Favors Exercise for Consumptives.—Dr. Wolff Freudenthal said that tuberculosis was now prevalent in some of the very best herds in Massachusetts, because the cattle had been badly housed during the winter. He favored giving the patient as much exercise as possible, providing there was no elevation of temperature. If there was a possibility of recovery at all, it would be under exercise. The frequent occurrence of tuberculosis in the cervical glands in children seemed to him a confirmation of the theory that pulmonary tuberculosis originated in the upper air passages, and especially in the retropharynx.

Dr. Solly closed the discussion. He said that the question of exercise seemed to be a matter largely of common sense, and a broad guiding line would be found in the temperature and pulse. The patient should be very gradually accustomed to taking exercise. He did not believe in the rest cure for consumptives any more than he believed in total abstinence for every one. Golf playing was one of the best forms of exercise for consumptives. The endeavor should be to get the patient out of the rest cure as soon as possible. The argument against climate founded on observations in the neighborhood of Asheville hardly applied, because the elevation there was only about twenty-five hundred feet, and the advantages of elevation were not usually apparent until higher altitudes were reached. The salubrity of Liberty and the Adirondacks depended very largely upon the sunny slopes of those regions, which gave a maximum of sunshine and most excellent drainage.

ASSOCIATION OF AMERICAN PHYSICIANS.

Thirteenth Annual Meeting, Held in Washington, D. C., May 3, 4, and 5, 1898.

Tuesday, May 3d—First Day.

The Presidential Address was delivered by the president, Dr. F. C. Shattuck, of Boston (see page 649).

Congenital Stenosis of the Pylorus in Infants was the title of a paper then read by Dr. S. J. Meltzer, of New York. After a brief review of the literature, he said that he had had four cases of this trouble. It seemed to be now becoming more common or else the cases were more easily recognized. After the first case recorded was recognized there was a long interval, and then many cases seemed to have been observed within a short period. In five cases the diagnosis was made and operation was done, and the lives of the patients were saved. Several physicians had been able to make a diagnosis by having seen cases post mortem. The speaker then referred to a case in which he had made the diagnosis, and showed a very beautiful specimen from a child which during life had vomited occasionally and had had great trouble with its nursing and feeding. Free hydrochloric acid was present in the matter vomited. It took its food greedily. By the use of diluted carbolic acid and bicarbonate of sodium the food was held for some time, but gradually the child was again afflicted with vomiting and then succumbed. He found a stenosis of the pylorus and atony and dilatation of the stomach. The child was forty-four days old when it was operated on by Dr. Willy Meyer. He did a gastro-enterostomy and used the Murphy button. The child lived a very short time after this. The speaker then explained the gradual change which took place in the stomach in this trouble, and discussed briefly the diagnosis and the treatment.

Dr. I. Adler, of New York, also showed some specimens of this same malformation and explained his method of treatment. He did not use the Murphy button. In his cases he had found hypertrophy of the circular fibres, but the longitudinal fibres were but slightly altered.

Dr. A. Jacobi, of New York, referred to a case which he had seen very recently, and mentioned other cases. He said that the contraction of both ends of the stomach was probably the cause of this hypertrophy.

Dr. Meltzer, in conclusion, said that he had mentioned the hypertrophy of the muscles in relating his case.

Gastric Carcinoma Associated with Hyperchlorhydria.—Dr. D. D. Stewart, of Philadelphia, related a number of cases of this trouble and spoke especially of the position of the cancer. He said that a positive

diagnosis was very difficult, especially when the cancer included an ulcer in which a certain amount of gastric fluid persisted, even after the symptoms of this disease had been marked for a long time. He related at length a case of unusual interest, in which the operation was made before the patient came under Dr. Stewart's care, which showed that there was apparently a diffuse carcinoma, the stomach being too much involved for a gastro-enterostomy. One of the omental glands was found to be cancerous. In spite of all this the patient recovered from the operation and apparently became well. The symptoms returned later on and Dr. Keene was consulted. The case would have been considered one of chronic ulcer had not the gland been examined. The patient died after the second operation. The autopsy showed a very large cancerous ulcer with a thickened cancerous pylorus. He had sent specimens to different pathologists for examination and had received a variety of opinions, some saying it was tuberculous and some asserting it was cancerous. The latter opinion was the correct one.

Dr. William H. Welch, of Baltimore, in discussing the diagnosis of Dr. Stewart's case, said that he had examined two nodules, one from the lymphatic glands and the other from the omentum, and the diagnosis seemed clear. It surprised him that it was diagnosed as tuberculous by another physician in Philadelphia. He supposed that the follicles must have been mistaken for a tubercle. Notwithstanding this discrepancy, the fatal end came. There was no difficulty in making the diagnosis, and the clinical results must make physicians sceptical as to the value of microscopic examinations. The apparent recovery was interesting. Multiple cancer was explained by its being due to implantation rather than to metastasis. It was due perhaps to contact. The specimen seen at the autopsy was in such a stage of decomposition that it was difficult to make out, but it was clearly an adenoma. There was a diffuse thickening of the exterior wall of the stomach.

Dr. W. W. Johnston said that the improvement in these cases was so marked that there must be some explanation, and it might be in part that the gastric catarrh which accompanied these troubles was improved by the treatment. A patient with cancer of this kind got better under treatment, and often went back to solid food and gained flesh, but in the end died. This went to show that, while our treatment was not curative, it was beneficial.

Dr. F. P. Kinnicutt, of New York, said it was remarkable that even without a change of diet cases improved. In one instance he noticed a gain of twenty pounds and the man was getting better.

Dr. E. G. Janeway, of New York, referred to two cases of gastric carcinoma in which there was a gain of forty pounds after the stomach was washed out and proper treatment given, but four months later the patient declined, had severe pains, returned to liquid diet, and in three months died. The usual diagnostic rule of urea excretion failed in this case; the temperature for eight months was from 101° to 102° F. In one case there was also a change in urea secretion, and the patient, who was in bed, could always take food better when sitting up than when lying down—the position probably removing the cancer from contact with the food.

Dr. Charles G. Stockton, of Buffalo, said that it was remarkable that in some cases of gastro-enterostomy successfully performed there was improvement. There might have been food stagnation with loss of weight, for if the stagnation ceased from whatever cause the patient would gain in weight.

Dr. A. H. Smith, of New York, referred to a case of his in which there was hydrochloric acid, but no lactic acid. The patient was very miserable and could not get out of bed, but on treatment he rapidly grew better and acted as assistant in the ward. He returned to his home and for five months had fairly good health, but later on grew worse and died. Evidently he had a cancer.

Dr. D. D. Stewart said in conclusion that his patient was exceptional, in that he did not have to go to bed, and he gained sixty-five pounds.

Gastric Syphilis with the Report of a Case of Perforating Syphilitic Ulcer of the Stomach.—Dr. Simon Flexner, of Baltimore, had collected the histories of cases reported by Chiari. In two hundred and forty-three cases of syphilis which came to autopsy, two were evidently cases of ulcer of the stomach due to this trouble. Some cases of this disease, he said, were hereditary and some were acquired. In a case he referred to the history dated from 1892; the death occurred in 1896. The patient had ascites and œdema of the lower extremities and the scrotum. The ascites was tapped, grew less, and the fluid was inconsiderable. Death came suddenly after the man had eaten a hearty meal. Just before death there were great abdominal pain and tympanites. The autopsy revealed a sero-fibrinous peritonitis. There was a perforation in the base of the stomach with several organisms in the peritoneal contents, among which were the bacillus aerogenes capsulatus and the colon bacillus. The liver contained a large gummatous mass. The diagnosis was based on microscopical examination.

Some Observations of Cardiac Syphilis.—Dr. I. Adler, of New York, spoke of the various forms of syphilis in the heart, such as gumma, endocarditis, etc. The anatomical diagnosis was not infrequently doubtful. In the hearts of four babies a few months old he had found signs of syphilis. It was hard to make this trouble out, for to the naked eye the heart was apparently normal. In his cases he hardened the heart tissue in formalin and stained and examined it. In two specimens there were no signs of syphilis; in the other two characteristic lesions were found. In one infant who was two years old one small patch was found in the internal coat and also a slight infiltration. The other child died at the age of three and one-half years, from what was apparently catarrh, and to the naked eye there were no signs of disease in the heart. He thought that the blood-vessels were often the primary seat of the disease and the muscles were attacked later. In many cases the disease might be arrested early if a diagnosis was made, but as a rule the disease was advanced too far when the clinical symptoms appeared. There were really few symptoms sufficiently diagnostic to the naked eye to distinguish it from other troubles. Often traces of syphilis could be found in other organs than the heart. He thought it necessary to make methodical examinations of each patient and to suspect syphilis in every case of heart disease; it was necessary also to give the iodides and mercury, as well as digitalis and other such drugs, and if the disease was not syphilis no harm would have been done.

Error in Diagnosis between Chronic Syphilitic Fever and Tuberculosis.—Dr. E. G. Janeway, of New York, briefly reported a number of cases in which this error was made. One case was that of a young man who had been sent to a sanatorium for consumption. He continued to grow worse, came to him, and an examination revealed syphilis. No tuberculous symptoms could be found, and hepatitis had been the cause of his ill-health. The patient promptly recovered under treatment. In another case there were fever, sweating, and pain in the side; the patient also had been advised to go to the country on account of supposed tuberculosis of the right lung, but a later examination showed two ribs to be diseased and a small sinus was apparent. Antisyphilitic treatment removed this trouble. The specialist might be able to

recognize these cases, but it must be remembered that the majority of them fell into the hands of the general practitioner. In obscure cases of apparently tuberculous miliary sepsis, syphilis should always be borne in mind as the possible cause.

Dr I. E. Atkinson, of Baltimore, said nothing showed more clearly the lack of accurate attention on the part of the medical profession than this very frequent presence of syphilis, complicating all sorts of obscure conditions. It should be looked for. This was especially true of the class of cases referred to. The disease might simulate continued fever, although fever might be remittent in character and thus cause suspicion. He referred to a sailor from Calcutta, who had an enlarged liver and a severe cough, but no tubercle bacilli could be found. Albumin and casts were both present. The man denied having syphilis; hepatic abscess was suspected, and he was aspirated several times, without result. The plasmodium of malaria was looked for, but not found. The right testicle began to enlarge. Iodide of potassium was prescribed, and in three or four days he had no fever. He recovered entirely. It was in the late cases that the fever was apt to be obscure.

Nephritis of Malarial Origin.—Dr. William S. Thayer, of Baltimore, read a paper with this title, in which he referred to the frequency of albuminuria in malarial fever. In looking over the statistics and in his own cases he had found that a large proportion of cases of malarial fever had albuminuria and casts, but principally the cases of æstivo-autumnal fever. Of seven hundred and fifty-eight cases of malarial fever there were albuminuria in three hundred and twenty-one and casts in one hundred and twenty-one. Albumin was present in nearly one-half the cases. He had had nineteen cases of acute nephritis, of malarial origin. He had found in general that his own statistics agreed largely with others he had collected, except in some few cases. In scarlet fever there was, of course, a certain number of cases of albuminuria and casts; also in diphtheria and typhoid fever. Albumin was probably present in about one-half the cases of scarlet fever, and malaria seemed to be the cause of more cases than was generally supposed, but not so often as in yellow fever, and for this reason we could not place too great reliance on the presence of albumin in yellow fever. In one hundred and fifty-two cases of malaria, there were fifty-two cases of nephritis; seven were tertian, ten æstivo-autumnal, and three of varied type. There were thirteen recoveries and four deaths. Nine cases were doubtful. The speaker also gave statistics of the age, sex, and color in these cases. He thought there was a possible etiological relation between nephritis and malarial infection.

Dr. F. Forchheimer, of Cincinnati, wished to corroborate the statement as to nephritis in æstivo-autumnal fever. There were many such cases in Cincinnati. The kidney rarely escaped, and he had found the majority of cases to occur in children. He had also found in a certain number of cases of nephritis the presence of a pigment, which probably came from the blood. The urine was light above and dark below. There were blood pigment and casts. In most of the cases the pigment was reddish-brown in color. The cause was described to be the plasmodium, but he had studied a number of these cases and had found the pigment in connection with malarial fever. He showed a specimen from a child, sixteen months old. He had no suggestions to make. He had made no complete chemical analysis, but thought the pigment might be melanin.

Dr. William Osler, of Baltimore, in referring to the interesting cases of Dr. Thayer, said that the importance of albumin in the differentiation of yellow fever from malaria lay in the fact that in yellow fever the albumin was found early, in the first twenty-four or forty-eight hours. And this was a strong point. It was interesting to note that in the hospital there had been no single case of malarial hæmaturia which could be attributed to the use of quinine, and many physicians in the South hesitated to use quinine on account of this complication.

Dr. Jacobi asked if the findings of Dr. Thayer were the same for every year. A number of observers had said that they found no albumin for a number of years, and then in a large number of cases it was found. He had seen many cases, but none had had albuminuria.

Dr. I. E. Atkinson had for years felt convinced that malaria was an important factor in nephritis, and it had been pretty constantly found in every outbreak of malarial fever—more so than was usually granted. One of the difficulties in the way of decision was to know whether the nephritis was due to the malaria or the malaria to the nephritis. Another point to note was whether in localities where mortality statistics were kept it was found that kidney complications were more common than where malarial fever did not exist In Maryland as a whole there had been no vital statistics until the present time, but in Baltimore the records were carefully kept.

Dr. Thayer, in answer to Dr. Forchheimer, said that he had seen very few cases in children; that only recently had there been a children's ward in the Johns Hopkins Hospital; but he had had an interesting case referred to him by Dr. Northrup. As to the pigment referred to, he had never seen it; it was quite unlike anything he had found in the blood and its occurrence was extremely interesting. He had not had a case in which quinine was of influence. Dr. Rampoldi, of Rome, the speaker said, wrote that he had never seen a case of quinine hæmoglobinuria recorded from the Roman Campagna. He had noticed that there were epidemics in different years. Of twenty-six cases he had observed sixteen occurred in 1896, and last year there were very few.

Acute Interstitial Nephritis.—Dr. W. T. Councilman, of Boston, read this paper. He described the disease as being an acute non-suppurative inflammation of the kidney, characterized by cellular and fluid exudation in the interstitial tissue, accompanied by, but not dependent upon, degeneration of the epithelium. The interstitial lesion was marked by the presence of cells similar to those described by Unna as plasma cells. These were due to emigration of the parent cells from blood-vessels and their subsequent proliferation. They were formed in other organs, chiefly in the spleen and bone marrow, from lymphoid cells, and were carried to the kidneys by the blood. Accumulations of plasma and lymphoid cells could be found in the blood-vessels of the kidney without interstitial lesions. Such cases of acute interstitial nephritis were frequently found in the infectious diseases of children, notably in diphtheria and scarlet fever, but they might be found under other conditions.

A Case of Myxœdema and Albumosuria; Treatment with Thyroid Extracts.—Dr. R. H. Fitz, of Boston, reported the case for the purpose of calling special attention to the occurrence in myxœdema of albumosuria. It was therefore desirable, in examination of the urine in myxœdema, to bear the above fact in mind, since albuminuria was relatively frequent and albumose might easily be mistaken for albumin, unless the customary tests with heat and nitric acid were duly controlled. The communication had an additional interest, in showing that, despite temporary improvement under the use of thyroid extract, this remedy was not infallible in myxœdema. The addition of nitric acid to the urine caused the precipitation of albumose, which heat dissipated, and the application

of cold caused it to return. This was an interesting test. He showed several illustrations.

Dr. V. C. Vaughan said that these were remarkably interesting and rare cases, and were rarely recorded. The presence of a small amount of albumose was very common; some authorities claimed that normally it was always present in small amounts. So far as he knew this was probably true, but the occurrence of large amounts as noted was quite rare.

Dr. Fitz said, in conclusion, that his paper contained references to these illustrations of small amounts, and he had mentioned the work of Bence Jones. There had been seven cases recorded in Germany and Holland. He thought that often these were mistaken for cases of albuminuria, and that they were really more common than was supposed.

Wednesday, May 4th—Second Day.

Bacillus Icteroides (Sanarelli) and Bacillus X (Sternberg).—Surgeon-General George M. Sternberg, U. S. A., referred to his paper on this subject in which he replied to Sanarelli's article in the *Annales de l'Institut Pasteur* and in the *Centralblatt für Bakteriologie*. The latter's paper copied in part his work and had done him great injustice. He regretted that it was necessary to correct written statements made by Sanarelli. He quoted what Sanarelli alleged him to have said and then stated what he really did say. His work had not been taken up anew, but was a continuance of what he had begun some time ago. His bacillus X was found in the contents of the intestines in some cases, but Sanarelli did not find any bacillus there. It was very bad teaching to say that the organism could not be found in the contents of the intestines, for if it was not there there would be no necessity for disinfecting the clothing, etc. The alvine discharges of the sick were very dangerous. Sternberg had not made any clinical notes, because he had not had the time; but he had had great experience, while Sanarelli had had no experience in the disease. Dr. Sternberg said that he had had the yellow fever in 1875, and he had seen a great many cases. It had been his practice always to make an autopsy and collect material for bacteriological examination, and while in Havana he had personally made forty-three autopsies in four months, always from two to five hours after death. This was against the law in Havana, but the authorities had connived at it and had assisted him greatly in the work. He had obtained the cultures from Dr. Roux, in Paris, of Sanarelli's icteroid bacillus, and there was a difference between this organism and his bacillus. The organism of Sternberg, the bacillus X, was motile in Havana but here it was not, although the flagella could be seen stained. He had passed the culture through guinea-pigs and had found that the bacilli became motile again. If neither organism was the specific organism of yellow fever, then one was just as good as the other. Sanarelli had experimented on man, but the speaker had not yet done that.

Dr. A. C. Abbott, of Philadelphia, asked, for comparison's sake, if Dr. Sternberg had had a parallel experience with the colon bacillus and others of that kind. He felt personally that the organisms were identical. The colon bacillus was sometimes virulent and sometimes not.

Dr. V. C. Vaughan, of Ann Arbor, said that Dr. Novy had begun work on Sanarelli's germ a year ago; he had obtained no proof that Sanarelli's germ was the cause of yellow fever. The latter's experiments on man were simply ridiculous. He did not know what was the matter with the men he used in the hospital, and when he said that he observed marked effects it was not clear what he meant. Marked effects could be obtained from other germs. Sanarelli's germ was not affected by freezing and thawing; his observations of agglutination were made in a test tube, but it was absurd to study agglutination in that way. The blood of the speaker's students in the university had caused agglutination, and they were healthy men.

Dr. William Osler, of Baltimore, said that much stress had been laid on the work done by Dr. Archinard in the recent epidemic that seemed most favorable to the claims made for the Sanarelli bacillus. The experiments of Sanarelli on man were not ridiculous; that was not the proper word. Almost every dose of medicine was an experiment. It was not known, for instance, what effect iodide of potassium would have in certain conditions. It was only an experiment. Experiments in medicine should be recognized. Sanarelli's experiment on men was not ridiculous; it was criminal, however, unless he had obtained the men's sanction.

Dr. Sternberg said that comparative experiments with the colon bacillus were needed. This might be a fæcal disease. The typhoid bacillus might be an offshoot of the colon bacillus. Yellow fever had a toxin and the tetanus bacillus was also hard to find. Investigators were not ready to accept Archinard's work, because it was so much better than Sanarelli claimed.

Comparative Studies of Bovine and of Human Tubercle Bacilli.—Dr. Theobald Smith, of Boston, read a paper based upon the results of cultures of tubercle bacilli from human sputum and from cattle.

Bacterial Infection.—Drs. S. J. Meltzer and T. M. Cheesman, of New York, read a paper entitled "An Experimental Study of the Direct Inoculation of the Spleen with Micro-Organisms, and a Contribution to our Knowledge of the Importance of the Lesion of a Body Tissue for the Settlement and Development of Bacteria within it." It was the result of a long series of experiments, in which organisms were injected into the spleen, and after a few hours autopsies were made which showed that the organisms had disappeared from the spleen and were found in other organs of the body, while cultures from the spleen were usually sterile. Were these bacteria destroyed in the spleen or were they carried out? The tying of the portal vein did not prevent the spleen from being sterile. When certain parts of the spleen were ligated they were found to contain bacteria, and when the bactericidal power of the blood was exhausted the bacteria multiplied very rapidly.

Dr. Welch said that this demonstration was very welcome, but hardly seemed conclusive evidence that bactericidal substances were of less frequent occurrence in the spleen than elsewhere. The ligation of the spleen caused the appearance of the bacilli. It was likely that the bacteria in the ligated areas were analogous to the bacteria found in cauterized areas. They were there because the spleen was damaged.

Dr. A. Jacobi, of New York, in referring to these statements, said that when the tissues were normal bacterial invasion was not found. Diphtheria organisms would not grow in any part of a healthy throat, with the exception of the tonsil. Tuberculosis would settle in the ends of the bones, because there circulation was slower. The spleen changed in the course of the day. After meals it was larger and there were many organisms in it. A person had chronic malaria and was given a large dose of quinine, and there came a severe chill because the quinine contracted the spleen and it was squeezed like a sponge; the chill was the response. He had noticed the same thing in giving ergot in malaria.

Acute Leukæmia.—Dr. M. H. Fussell, described two cases of his own. Fifty-six cases had been collected in all, and statistics showed that the disease was most common between the tenth and thirtieth years.

Five patients were over forty year sold: thirty-three were males and twelve were females. He gave a careful clinical history of his own cases and showed the specimens under the microscope.

Two Attacks of Temporary Hemiplegia.—Dr. E. G. Janeway, of New York, reported this case. The patient was a man forty-one years old, and right handed. He had pleurisy on the left side. A year and a half later it was necessary to take out one of his ribs on account of a sinus. This was irrigated with peroxide of hydrogen. Some time later while using this material he became unconscious. His right arm and leg and one of his feet were paralyzed, but he recovered in twenty-five minutes: he got well in every other way, but was very much frightened. Three days after this, under similar circumstances he had another attack. He lost power in his neck this time and his head dropped over. The attack lasted twenty-five minutes. The sinus eventually closed. Physical signs were few and not easily found. His respiration was somewhat more free on the affected side. Large râles were found to follow coughing.

Uric-Acid Diathesis.—Dr. Victor C. Vaughan, of Ann Arbor, Mich., said that uric acid was eliminated when the nuclein was broken up. It used to be thought to be the product of imperfect oxidation. The formation of uric acid was the measure of nuclein metabolism. He asked what were the chemical constituents of the nuclein cells. No two cells of nuclein had definite composition. Some light had been thrown on this subject by the study of lymphocytes. Nucleinic acid was the most important constituent of nuclein, and this contained much phosphorus. He cited the work done by Lilienfeld, and went very thoroughly into the chemistry of nucleinic acid. Nuclein disintegration was necessary for the production of nucleinic acid. The nucleus was the important part of the cells and that which made life potentially continuous. Some cells existed only for the formation of other cells. Thus, the nucleus, having formed the red blood corpuscles, disappeared. The leucocytes were the quantitative or varying source of uric acid in the body. There might be hypoleucocytosis with an increase or an elimination of the alloxuria, but there was no increase of uric acid. It was not claimed that the xanthin base was broken up and so yielded uric acid.

Dr. William H. Draper, of New York, reviewed the older ideas on the subject of uric-acid diathesis, and spoke first of gout, referring to Garrod's work. He said that uric acid might be in the blood when there was no gout, and there might be gout with no apparent presence of uric acid in the blood. Inflammatory rheumatism was now considered a specific disease, perhaps of bacterial origin. The joint structures were especially vulnerable. Men seemed to be inclined to gout and women to rheuematism. Th disease was hereditary. Uric acid did not seem to be the cause of gout. Rheumatism was hereditary, but the tendency to it might be aroused by errors in food and diet. Gout was especially liable to affect persons who had a tendency to it; also such diseases as tonsillitis, pharyngitis, and urticaria were complications, and these might be brought on by eating strawberries, apples, drinking wine, beer, etc. Pruritus was another symptom often observed in cases of weakened constitution. Skin diseases often occurred in diabetes. How did the salicylates act? They probably had a paralyzing effect on the metabolism. Clinical observation alone was necessary to solve these problems, but the clinical observer of the present day must be better prepared than was the practitioner of twenty-five years ago. The instruction in chemistry was better now in the schools than it used to be. If there were fewer drug-stores and better laboratories for helping physicians in making diagnosis, the results of treatment would be much better.

Dr. James Tyson, of Philadelphia, said that the uric-acid diathesis was hard to define. It was generally a weakened condition showing scant, highly colored urine, which deposited a copious sediment of uric acid mixed with urates and oxalates. Later on there were some albumin and casts. This did not tell what the uric-acid diathesis was, but it gave certain points from which we might infer its presence. The tendency of the uric-acid diathesis might lead further on to uric-acid gravel and calculus, with consequent irritation of the urinary tract, perhaps with cystitis and nephritis. It might mean even more than this. It might cause depression of spirits. The pulse was low and there was marked lithæmia. Measures should be used to eliminate and get rid of this latter. Migraine might be another symptom of the uric-acid diathesis. The speaker related a case of migraine which was cured by large quantities of Célestine Vichy. Eye strain and other reflex causes might be active factors. Again, the uric-acid diathesis might be the cause of endometritis, degeneration of the blood cells, and hypertrophy of the left ventricle: it might cause vertigo in the most distressing forms. Uric acid and its congeners played an important rôle. It was not known whether it produced glycosuria, asthma, bronchitis, and other such conditions, or whether it caused rheumatism and gout. The speaker did not think that uric acid had anything to do with rheumatism. Gout usually attacked well-to-do persons past forty who had lived high. Muscular rheumatism usually attacked younger persons. Haig thought that rheumatism could be cured by making the blood alkaline. The term rheumatic gout was not a happy one, and rheumatic arthritis also was an expression that should not be kept up. Another form of gout was found among the poor; it was not hereditary and it was not like the other form of gout. Mixed diet was necessary. Persons so affected should be well fed and they usually got well; food was better than medicine. Rheumatoid arthritis or deforming arthritis was a very distressing form of the disease. It occurred between the ages of twenty and thirty and might be caused by grief or anxiety. It was doubtful whether epilepsy could come from uric acid. Uric-acid sediments had been found in diabetes, but with this the resemblance of the latter to the uric-acid diathesis ceased. The specific gravity was high, but this was usually from the sugar. Excess of uric acid could be caused by overstudy. It was not so common in this country as abroad. In a certain number of cases of supposed diabetes tests had shown uric acid to be the trouble.

Dr. C. A. Herter, of New York, said that his observations in the last seven years were that the best test for uric acid was that of Ludwig and Salkowski, which method of determining uric acid he had used almost exclusively. He had observed disturbance of the digestive organs, disease of the kidney, epilepsy, migraine, etc. He generally used the urine of twenty-four hours, as a smaller quantity was not sufficient. It was also different at different times of the day. Many patients excreted more uric acid than had been mentioned, some even one to fifteen of urea. There was nothing characteristic in the symptoms of these patients. In many cases the increase of uric acid seemed to be related to the disturbance of digestion, in others it was chronic and continued from month to month. The condition most usually met with was some form of disturbance of digestion. This might account for the great majority of cases in which the uric acid was more marked. It was very marked in pneumonia after resolution. Diet would increase it still further, as would also alcohol. It might be present in very large quantities. Excessive fatigue and

overstudy might cause it. The mere deposition of uric acid was no indication of increase of uric acid in the body. He did not believe uric acid had any connection with uræmia. It was not found in the blood in this condition.

Dr. A. H. Smith, of New York, said that this discussion would lead to error in that it was sought to make reactions in the test tube correspond to reactions in the human body. What Dr. Herter had said illustrated this very well. Glycosuria might be due to this acid or it might not. He appreciated this chemical research; it should not, however, be allowed to mislead as to these affections of the human body. In his early days he used to think that uric acid was affected by heat. His experience was the same as Dr. Draper's. The speaker referred to a bad case of gout, with spontaneous amputation. The man took all sorts of drugs, such as colchicum, etc., but finally recovered on diet alone. Some cases would result favorably on diet but would get worse by starving. He had found in attempting to reduce flesh in obesity that sometimes the rheumatism disappeared. He spoke of a patient of his own, who had inhaled considerable quantities of oxygen and had then excreted less uric acid.

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Thursday, May 5th—Third Day.

Antitoxin Treatment of Pneumonia.—Dr. A. H. Smith, of New York, read a paper with this title. He thought that pneumonia infection was from a continuously changing set of microbes; while old ones were dying out new ones were growing up and infecting the body. There must be an antitoxin which had its share in the resolution of the disease, and thus began its action from the beginning of an attack. He had made a culture broth of these organisms, peptonized with ammonium sulphate, and had injected it into rabbits and given them immunity. He had then killed the animals and injected the blood into other rabbits, and so on until all were immune. Blood from a man ill with pneumonia killed a rabbit at once. The speaker then reviewed the subject of pneumotoxin and antipneumotoxin. Toxins, he said, were not always of the same strength, and might be either worthless or extremely dangerous. Washburn had been endeavoring to produce a reliable toxin, and the New York health board was also trying the same thing.

Dr. William H. Welch, of Baltimore, said that he had been experimenting with these toxins and had published his results. The work of Klemperer had been disproved. He had repeated all of the latter's experiments and had found it very difficult to demonstrate a toxin in the blood of those who had recovered from pneumonia. He had injected a stronger culture into rabbits and it did not kill them. It was not true that antitoxin appeared in the blood of a person in the crisis of pneumonia; on the contrary, the toxin was stronger at that time. Thus one and one-half cubic centimetres of the blood of a person convalescing from pneumonia three or four days after the crisis was rapidly fatal in small amount to rabbits. By the method of Washburn no one could tell what the result would be, but if one could judge by analogy the injection of living cultures was not likely to lead to the formation of an antitoxin.

Dr. V. C. Vaughan, of Ann Arbor, Mich., said he had read a paper on this subject in 1894 at the International Congress of Hygiene, at Buda-Pest, and in the recent abstract of this work by Lewy and Richter his paper had been included. He agreed entirely with Dr. Welch that the pneumotoxin was preventive only to a certain degree and this only temporarily so, but the difficulty was to know what amount of antitoxin to use; the result, too, depended on the leucocytosis that existed at the time. There was no promise at the present time of making the pneumotoxin of therapeutical effect. The action was germicidal and was not antitoxic in character.

Dr. Charles G. Stockton, of Buffalo, said there was a feeling that a degree of leucocytosis had something to do with the decline of pneumonia, and the safety of a given patient depended on this degree. He showed the blood and temperature charts of a case which he had had in a child, eight years old, that had a recurrence of lobar pneumonia; it had had three distinct attacks in six weeks. There was no expectoration, so the sputum could not be examined; but the physical signs were classically distinct and there was evidence of intoxication. There was a complete absence of the usual symptoms and the physical signs were those of catarrhal pneumonia. The point of interest was that the blood was counted in these attacks, and just at the end of each attack it was found to have very few of these white cells; but at the end of the last attack there was a greater degree of lymphocytosis. There was nothing peculiar about the blood in this case; fifty-six days after the end of the last attack the blood was normal. This case was unusual. It might fairly have this interpretation, in the absence of the normal number of leucocytes, especially of the multinuclear cells. The child did not gain the immunity which an ordinary attack would give, and this might be a certain amount of proof that only in the last attack did the blood reach the normal immunity.

Dr. William S. Thayer, of Baltimore, said that in his experience the great difference was in the behavior of the leucocytes. During the crisis it depended on the clearing up of the lung rather than on the temperature. When the lung consolidation was retarded the leucocytosis lasted longer. In some cases there was a fall at the time of the crisis.

Bacteriology of Cheese.—Drs. V. C. Vaughan and Julian T. McClymonds presented a communication on this subject. They had been interested in food poisoning and cheese poisoning for a long time, and had long wished to study cheese. Last October they began this work, and had examined bacteriologically the cheese from sixty-eight manufacturers. Each cheese examined was treated in about the same way. They bought a pound or more of cheese, made a note of its physical properties, its appearance, its color, how old it was, and then broke it through the centre and with a sterilized platinum needle took up a small quantity and made cultures of it. They first made eight cultures of each cheese in different ways: two cultures aerobic at 38° C., two aerobic at room temperature; two anaerobic at 38° C., two anaerobic at room temperature. But they found that it was not worth while to make so many cultures, as they all grew about alike, and they then used only anaerobic cultures at 38° C. About fifty of these cheeses (not poisonous) were ordinary American cheeses. In every one of them the writers found a germ which was pathogenic to white mice, guinea-pigs, rabbits, and white rats. They carried these germs through many cultures and thought the organism found was always of the colon group. It was an ordinary non-motile organism, giving the indol reaction, reddening litmus paper, and not producing any soluble toxin. Cultures of beef tea were injected into a rabbit and did not kill it for forty-eight hours. Five were not killed for seventy-two hours, and one lived ninety-six hours. It was thus evident that large quantities would not kill, showing that in liquid cultures every inoculation decreased the virulence of the germs. Boiling did not alter the germ, for the dead germ was just as toxic as the living one. In no sample of old ripe cheese did they find any pathogenic germs. In imitations of Limburger they found an organism, but in imported Roquefort,

Camembert, and other such cheeses no germ was found. They discovered a group of germs which were rapidly peptonizing.

Serum Treatment of Chronic Infective Endocarditis.—Dr. W. H. Thomson, of New York, reported a case of this kind occurring in a man, thirty-six years old, who was affected for seven months with definitely periodical daily attacks of an intermittent fever, ushered in by chilliness or by pronounced rigors. At other times he would have attacks of severe periodical neuralgias in the forehead and in the left hypochondrium without rise of temperature. No recent cardiac lesion could be demonstrated, on account of a loud murmur due to congenital malformation of the right heart obscuring other heart sounds. He never showed ecchymoses or other local lesion which would point to infective endocarditis, but an examination of the blood drawn from the median vein showed the presence in it of numerous streptococci pyogenes. He was then treated with injections of antistreptococcus serum, with no benefit, his rigors increasing in severity and death finally supervening with symptoms of acute nephritis and suppression.

Serum Treatment of Tuberculosis.—A paper prepared by Drs. E. L. Trudeau and E. R. Baldwin, of Saranac Lake, entitled "Studies of Antitoxins for Tuberculosis," was then read. The paper described the attempts of the writers to produce an antitoxic and curative serum for tuberculosis, and to test on animals the efficacy of serums already produced by others. The results of the experiments showed that with one or two exceptions, in which the serum had a slight degree of antitoxic power, the tests were negative. In none of them could any germicidal or curative influence be demonstrated. The authors, however, had a full appreciation of the uncertainty of correct conclusions from these tests. They also felt that, in the light of recent contributions to our knowledge of the mechanism of immunity and antitoxic production in the body, the outlook for an efficient antitoxin was by no means a hopeless one.

Officers.—The following officers were elected for the ensuing year: *President*, G. Baumgarten; *Vice-President*, E. G. Janeway; *Recorder*, I. Minis Hays; *Secretary*, Henry Hun; *Treasurer*, W. W. Johnston; *Councillor*, J. C. Wilson; *Representative on Executive Committee of Congress of American Physicians and Surgeons*, William Osler; *Alternate Representative*, C. F. Folsom.

The following were elected to membership: Honorary member—William M. Polk, of New York. Active members—J. W. Brannan, C. A. Herter, B. Sachs, of New York; F. A. Packard, J. K. Mitchell, S. Solis-Cohen, A. Stengel, of Philadelphia; H. F. Vickery, C. F. Withington, F. B. Mallory, F. Pfaff, of Boston; N. S. Davis, Jr., J. N. Herrick, of Chicago; F. F. Wesbrook, of Minneapolis; A. D. Blackader, of Montreal.

Iodoform-Calomel in the Treatment of Wounds.—This is especially efficacious in the treatment of tuberculous wounds and in tracheotomies necessitated by diphtheritic membranes. A chemical analysis of the compound produced shows that the action of the wound secretions forms a biniodide of mercury, which is a powerful antiseptic. Before it is applied, the wound must be thoroughly dried; this can be accomplished by packing the wound with sterilized gauze and letting it remain for a few minutes. In tracheotomies the powder is strewn over the inner surface of the trachea, between the diseased area above and the wound and healthy tissues below. In two hundred cases there were from forty-five to sixty per cent. of recoveries.—Sprengel.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENTARY MEASURES OF MEDICAL INTEREST—THE NEW BRITISH PHARMACOPŒIA—INEBRIETY AND THE ARMY—MEDICAL AND DENTAL REGISTERS—REMOVED FROM THE REGISTER—"DEATH BY MISADVENTURE" OF A DOCTOR—SURGEON-GENERAL CLEGHORN—DEATHS OF DRS. W. G. SHEPHERD AND J. PAUL.

London, April 22, 1898.

The measures of medical interest in the house of commons have made very little progress. The London University bill is postponed until the Irish local government bill is out of committee, and that may prevent its passing this session. The vaccination bill occupied the commons for three and one-half hours on Tuesday, and then the debate was adjourned. When it is resumed there is likely to be more opposition; it is hardly likely to come on for another three weeks and may have, therefore, a hard struggle against time. Sir W. Foster supported it, but he thought that, as repeated penalties have failed to enforce vaccination, it is not worth while to keep up agitation by retaining two penalties. He would therefore allow a statutory declaration of conscientious objection to suffice for exemption. Sir William Priestley also spoke, and rather demurred to remitting fines. If people would not protect their own children by vaccination, he thought they might perhaps be made to contribute to isolation hospitals. Further the administration of the law should be taken from the guardians, who have grossly neglected their duties, and intrusted to the sanitary authorities.

The midwives registration bill seems to be doomed, as the day for its second reading will almost certainly be taken up for the principal government measure. This need not be regretted, but we shall probably be worried with discussions about the midwives question for another year or more.

Advance copies of the new British Pharmacopœia have been distributed to journals and a few individuals, and the work will probably be on sale in another fortnight. There is naturally a considerable number of changes necessitated by the lapse of thirteen years, and some which, if not necessary, will prove acceptable. For instance, the index is much more elaborate, and gives, besides the names of the drugs, their doses and chief preparations, with the strength of these latter. This will be found very useful for reference, and will often save the trouble of referring to the body of the book. It will also be useful to students if examiners continue to frame their questions on the old lines. Another change is the increase of matter thrown into the form of appendices, of which there are no less than eleven. This permits the grouping of many important facts. Thus in one the chemical tests for impurities are described once for all, instead of being repeated under each of the substances. This plan saves space in the body of the book, and will facilitate the study of the subject; in another we have the composition of various lozenge cases described; in another alternative preparations sanctioned for use in India and the colonies.

It was expected that the new British Pharmacopœia would adopt the metric system, but compulsion is not in favor just now, and prescribers are left to their own option in this matter. They are further considerately told that the drugs may be dispensed when so ordered in non-official forms, such as capsules, cachets, granules, and the like. This permission not being re-

quired, I suppose its insertion may be due to the pharmaceutists on the committee, or a wish to recognize the merits of some of the manufacturers. There are other indications of the influence of pharmacy, and a few critics will perhaps suggest that the subsidiary art has gained the upper hand.

There is a long list of omissions, no less than one hundred and eighty-eight, while the additions number eighty. In each of these classes the preparations as well as the drugs are of course counted. Comparatively few new drugs are admitted, preparations and compounds going to make up the number. Among them I notice two preparations of thyroid, bismuth salicylate, hyoscine hydrobromide, hyoscyamine sulphate, morphine tartrate, salol, strychnine hydrochlorate, naphthol, and terebene. Preparations of various kinds make up the eighty admissions.

In the long list of articles omitted, extracts, decoctions, infusions, plasters, poultices, and ointments account for fifty, and eleven tinctures are also expunged. Concentrated infusions and decoctions have been in use for a generation, but only now obtain admittance to the pharmacopœia. This, of course, makes up for some of the fresh infusions and decoctions admitted, and is perhaps a further concession to the convenience of dispensers. Although eleven tinctures are omitted, others have been added, so that they now number sixty-seven against the seventy of the last edition. The strength of forty is altered, chiefly with a view of making the doses of these fluids more uniform. In some cases changes of strength are very important; *e.g.*, tincture of strophanthus is reduced to half, to bring the dose to correspond with that of tincture of digitalis. The strength of the hypodermic injections also varies considerably. You will see, therefore, that for a time we shall have to be on the *qui vive* in prescribing. Changes of name are easily assimilated, but changes of strength of important remedies make attention imperative. Consequently there are already some mild remonstrances among the seniors, but there is a general disposition to look kindly on the labors of the committee which has produced the new British Pharmacopœia. When it gets into use, criticism will have fair play. Hitherto the British Pharmacopœia has been behind that of the United States. Whether this edition will lessen the difference it is too soon to say.

The annual meeting of the Society for the Study of Inebriety was held on the 14th inst., when Dr. Norman Kerr took the chair, and Lady Elizabeth Biddulph, who has lately returned from Egypt, stated that the battle of Atbara was fought without alcohol. Her ladyship said some cheap German spirit had been smuggled in, but the sirdar, on this being discovered, poured it out on the sand before the paraded troops.

Speaking of this, I may note that on Wednesday the Duke of Connaught took the chair of the Army Temperance Association, which he declared had largely diminished the number of inebriates in the ranks, and he gave an emphatic testimony to the value of the association and the excellent and large-minded way in which it works.

"The Registers" (medical and dental) are out. The number of names in the former is 34,642; in the latter, 4,937. No less than 504 have been omitted in consequence of no reply having been received by the registrar to a registered letter. It seems likely that many of these persons are still in practice. If so, it is their own carelessness which will give them the trouble of getting once more inscribed on the official list of qualified men.

A man whose name was struck off the "Register" in 1891, and who was sent to penal servitude for five years, was fined £5 on Wednesday for unlawfully using the title M.D. Several other men who have been struck off the "Register" are still practising. One was before the magistrates on Wednesday on a charge of procuring abortion, and was remanded.

Dr. Douie, of Sevenoaks, met his death by "misadventure." Going to his surgery he took up a glass, filled it with water, and gulped down a mouthful before noticing that the glass was one which had been used for tincture of nux vomica. A neighbor was called in, but death took place in half an hour.

Surgeon-General Cleghorn of the Indian service, staying at St. Ives, met with a serious cycling accident. He was found by the roadside in an unconscious state, and with injuries to his head, face, and arm. He has now recovered consciousness.

Dr. W. G. Shepherd died on the 30th ult., aged eighty-three years. He was a lieutenant-colonel in the Victoria rifles and one of the first surgeons of volunteers to instruct by lectures and drill his bearer companies.

The death is announced also of another aged practitioner, James Paul, M.D., who began his medical education at Aberdeen University in 1821. He was in the naval service of the East India Company, 1825–30. His health suffered from hard work during the cholera epidemic of 1849, when he was in general practice in South London. In 1856 he was obliged to retire. He has been blind for a number of years, and at length succumbs to old age.

THE DIFFERENT FIELDS OF OPERATIVE SURGERY AND GYNÆCOLOGY IN EUROPE.

To the Editor of the Medical Record.

Sir: Vienna, the capital of the empire of Austria and residence of the Emperor, has 1,400,000 inhabitants, with a garrison of 22,700 soldiers. It is surrounded by picturesque mountains, from which the city may be viewed with a dreamy charm commensurate with its remote origin and ancient appearance. The great basin bisected by the historic Danube and adorned with this cultured city was dotted with the domiciles of a community of Celts when the shepherds of Judea sang to the star which proclaimed a new light to the world. Marcus Aurelius died here, A.D. 180. Napoleon fought, camped, and married here, and his only son died in the same room (1832) in which his illustrious father had his headquarters (1805 and 1809).

Vienna is disputing to-day with Paris for first place in modern art, and one needs but visit its picture galleries to know the reason. The largest and most elegant playhouse in Europe is the Burg Theatre of this city. It was built by the Emperor at a cost of 11,000,000 gulden, and remains his property.

The university was founded in 1365, nineteen years later than the University of Prague, and next to that institution is the oldest school of learning now in existence in Europe. It has six thousand students and three hundred and fifty professors and lecturers. The university fund supports the K. K. Allgemeines Krankenhaus, which is the largest hospital of Europe or of the world. The abundance of clinical material of this hospital and the polyclinic, supported by the same fund and less than two hundred yards away, is nowhere equalled. Professor Gussenbauer is the successor of Billroth and has the largest clinic in general surgery, with Dr. Albert a close second. They observe scrupulous cleanliness and operate with the usual aseptic precaution of the German surgeon. Americans attend here in numbers and are certainly not discriminated against, and in the pathological rooms near by all conversations one hears among attendants are in English. In a class of thirty I found only one German, outside of assistants. The latter were mostly, though not all, German.

The Frauenklinik of the Allgemeine Krankenhaus is divided equally between Professors Chrobak and Schauta, each of whom has a third of the obstetrical department assigned him, Professor Braun having the other third of "Geburtshulfe" without gynæcology. Each of these has an able corps of assistants and one hundred and twenty beds, and the two former directors have each forty beds in a separate department purely gynæcological, making in all eighty gynæcological and three hundred and sixty obstetrical beds.

The Allgemeine Krankenhaus was founded in 1815 and covers ground variously estimated at from twenty-five to forty acres. Austrian measurements are so entirely different from ours, saying nothing of the untranslatable names therefor, that it appears impossible to put them into acres. The buildings are of stone, brick, and cement, and are substantial but in no sense modern. They run at right angles, with square courts between, and appear to be thirty-five or forty-five feet wide and a quarter of a mile or more in length in a straight line, if one does not count the five or seven intersections as interruptions. Medically there are thirty-five sections or divisions, presided over by twenty-two directors or physicians-in-chief, who have seventy-seven resident assistants, two hundred and twenty-two female nurses, thirteen male nurses, and more than two thousand beds. Of the 77,061 patients treated in the royal hospitals of Vienna in 1895, the Allgemeine Krankenhaus had 25,149 in its wards.

While I attended Chrobak's clinic, twenty-nine children were born in the one large room or ward used for obstetrical purposes, and twenty-seven during another twenty-four hours. This labor ward has usually sixteen or eighteen beds, though it has capacity for twenty-four. In three hours after delivery the patient is removed to the lying-in ward, where she remains nine days, when she is sent home or to the foundling hospital. If she goes to the latter she must agree to wet-nurse two children if necessary, as many of these mothers leave their offspring behind when departing. They come alike from country and city.

Schauta is a favorite with the German students, having been German professor in the University of Prague until six years ago, when he was appointed to the position he now occupies. He is tall and slender, with the long and tapering fingers of an artist, and these do not belie their appearance, for Schauta operates with artistic nicety and he is very dexterous and speedy.

Chrobak has been officially connected with the service of the general hospital for twenty-nine years and for ten years has been chief of his department. He is short and stout, and as cool a man under most exciting and trying circumstances as can be found among German-speaking people. He is as free from scolding his assistants as I could find any other among the same class. He is reverenced and liked by his subordinates and loved by his patients. Chrobak begins operating at 8 A.M., and usually continues until 11:30 or 12 M. From 12:30 to 2 P.M. he gives clinical lectures in the amphitheatre, which is in another part of the hospital. Saturdays and Sundays there are no lectures. Schauta begins operating at 10 A.M., giving clinical lectures on the same days and at the same hours. Chrobak does not operate himself so often as Schauta does, but the former is especially strong in the ability of his assistants, three of whom—Ludwig, Konour, and Savor—give private courses in operative gynæcology and obstetrics. The most nimble and dexterous fingers in cutting and sewing I have thus far seen are Savor's.

There are no private hospitals in Vienna, in the same sense as in Berlin, though there are so-called private hospitals. I could not learn of an instance where a celebrated operator owned and conducted his own hospital. The private hospital of Vienna is more nearly a hotel, the difference being chiefly in its having an operating-room with proper appliances and the rooms arranged for the sick rather than for guests in good health. Such a sanatorium may be owned by a surgeon or gynæcologist, who will himself perform minor operations, but I believe in no case the major ones; the most skilled operators bring their best-paying patients to such sanatoriums where the best of everything is obtainable—room, board, nursing, heat, and light.

The best-constructed, most modern, and most perfectly arranged gynæcological hospital I saw in Europe is the Botina Pavilion of Elisabeth Hospital at Vienna. Baron Albert von Rothschild gave 600,000 gulden for the construction, equipment, and maintenance of this elegant pavilion or hospital. More than half was used in the construction of the building, and the remainder of the fund was turned over to the committee for permanent investment, the proceeds to be paid annually toward maintenance of the hospital, the rest of the yearly expense to be paid by the empire of Austria, to which the property and endowment were formally presented by Albert von Rothschild while I was in Vienna—on condition that no patient treated within its wards be allowed to pay for operation, room, or board, and that no one should be discriminated against by reason of nationality or creed.

The floors are mosaics, enamelled tiling, and cement. The inside walls and partitions are glazed brick or tiling, in the operating and disinfecting halls as well as in the laboratories. These are of light color and agreeable shade. In some of the rooms the walls and overhead ceiling are hard finished in cement or plaster of Paris, painted, and glazed. The structure is of stone outside. There are two operating-rooms without communicating door, one for septic, the other for aseptic cases. There are separate rooms for sterilizing instruments and appliances, still others for anæsthetizing. In the operating-rooms water is turned on and off, hot and cold, and washbowls are emptied without anything being touched with fingers all by pedal attachments easily worked by foot. There are forty-two rooms for patients, with sixty-two beds. After operation only the physician and the nurse are allowed to see the patient for several days, and for three or five days there is only one patient in a room. If she is then still aseptic she may be placed in the same room with others. Four is the maximum number ever permitted in any room. On the upper floor are pathological, histological, and chemical laboratories, well equipped with the most approved and most modern appliances, without regard to cost. In the hall on the first floor near the entrance is a fine piece of statuary, heroic in size and of appropriate design—a nurse ministering to a suffering woman. This alone cost 10,000 gulden, and Albert von Rothschild paid an additional 2,000 for a bust of his deceased wife, after whom the hospital is named; this crowns the statue most gracefully. Impressive inscriptions further adorn this work of art. The professional wisdom of arrangement and perfection in structure and material, as well as the ornate, can be studied to the edification of any one contemplating the erection of a hospital for women.

Professor Wertheim is chief, with two resident and two visiting assistants, all of whom assist at operations, and I met physicians and gynæcologists of prominence from all parts of Europe and America among the attendants of these clinics.

Next to Vienna Buda-Pest is the largest and most important city in Austria-Hungary, having more than a half-million of inhabitants. It stretches nearly three miles along the banks of the Danube, and adorns one of the most picturesque parts of that historic stream with its military forts, King's palace,

ornate capitol for the national Diet, and its many other structures and monuments of artistic splendor. It is the capital of the kingdom, and the Emperor of Austria is King of Hungary and resides much of his time in this city of romantic beauty and Oriental luxury. It has a garrison of eleven thousand soldiers. The educated classes speak French fluently, often Italian, and occasionally English. If they know German they are loth to admit it. They have a feeling of bitterness against the German people exceeding that of even the French. Four-fifths of the people speak Magyar.

The gayest society season is during their carnival, and in its closing week at the Grand Hotel Hungary there were two or three halls occupied nightly by as many sets of the select for dancing and feasting. The dancing usually began at 10 P.M., and supper at 2 or 3 A.M.; at 5 A.M. the ladies would go home, but if the latter are to be regarded as the *Hamlet* of this play, certainly some of the young bloods prefer that drama with *Hamlet* left out, for they remained and enjoyed their wine and song as late as 9 or 10 o'clock. In addition to the very excellent band that gave daily music during meals and from 8:30 P.M. until after midnight, we now had two or three additional bands in the dancing-halls. The musicians used mostly string instruments, including violins, but their national instrument is most noteworthy—the cymbal (pronounced *stymbal*). Hungarian music is the most pleasingly thrilling I have ever heard, and their ladies are the most graceful, charmingly winning, and beautiful I saw in my entire journey.

During the carnival the King resides here in his palace, which stands on a high bluff directly across the river from the Hotel Hungary, in full view and almost within hearing-distance. On a higher point overlooking the palace, on the same side of the river, is an immense military fort, giving a grandeur and magnificence to the view seldom equalled.

Buda-Pest has a system of underground electric railway. The streets, light, and all means of communication are better and more modern than in Vienna, and its hospitals are the most perfect public hospitals to be found in Europe. There is a university here supported by the kingdom of Hungary, with thirty-five hundred students, of whom twelve hundred are medical. The required time in medicine is five years, and, like the German schools, the university does not admit medical students to clinics until after two years' attendance and satisfactory examination.

The professor of gynæcology can be such only by being also professor of obstetrics, though there are professors of the latter who are not professors of the former. At Buda-Pest the professor of the university is also director of the clinic in gynæcology, and the same as to general surgery. Professors Kézmárszky and Tauffer have equal rank, but conduct separate hospitals and clinics in the Frauenklinik on diseases of women, including both gynæcology and obstetrics.

Kézmárszky has just moved into the new hospital built for his work. It is of buff-colored brick, black mortar, two story and basement, with seventy obstetric and forty gynæcological beds, each on different floors. There is an amphitheatre with seating-capacity for one hundred and fifty students, before whom difficult and instrumental deliveries and obstetrical operations are performed. This amphitheatre is as steep as that of St. Luke's and the Presbyterian hospitals of New York, and all students have a clear view of the operations. For gynæcological surgery there are separate rooms, and only a few are admitted to the operation. The ambulant patients are treated in still another part of the hospital. In the obstetrical department there is a large room with eight beds, where all deliveries with normal labor are made; and in three hours the patient is removed to the lying-in ward for nine days when she is sent home. About one thousand births are yearly recorded, and three hundred gynæcological patients are treated in the wards. In 1896 his books showed treatment of twenty-one hundred and forty ambulant patients. There are sixty or seventy patients treated in the ambulant department daily, where there are five gynæcological chairs or tables, with as many operators, who do massage and the smaller operations almost continuously. Here is where diagnosis is taught, and also the ordinary methods of treatment by the assistants.

For retrodisplacement with fixation Kézmárszky does not believe in surgery. He has never done ventral fixation, only one Alexander operation, and three vagino-fixations, and objects to all alike, giving his reasons: If the uterus is adherent operation will not cure, and when mobile he prefers a Hodge pessary. If there are adhesions he will treat by massage for three or five months if necessary. His method of massage was shown me and appears very simple, unobjectionable, and rational. The index and middle fingers of the left hand are introduced into the vagina and held firmly by the points resting against the promontory of the sacrum. The right hand is placed over the abdomen and pressed down and behind the fundus, where the ligaments and adhesions can be caught and rubbed between the fingers of the two hands, but by motion of the right hand only. The clitoris is not rubbed or touched with the introduced hand. The external hand presses on the adherent fibres by rubbing first longitudinally, then transversely, so as to thin out adhesions; then there is a tremor of the hand with continued pressure which shakes loose the attachments.

Kézmárszky was consulted by civil engineers and architects in the construction of this model hospital. The pipes conduct all fluids from the building into a reservoir, and from there, by a system apart, into the sewer, thus avoiding communication between sewer channels and the hospital. The air-supply system for the wards begins with a dome about fifty feet from the building in a court at the rear. This dome is perhaps fifteen feet in height and six feet in diameter. It has a tin roof, and open sides surrounded with two layers of wire netting with a small space between the layers. Outside the wire and immediately under the eaves of the roof are two rows of pipes forming a complete circuit around the dome. These are perforated at their lower border with many pin holes, through which water is forced in jets which make almost a spray. This fine rain surrounds the dome in two rows, with a few inches of space between, and prevents entrance of dust. It further purifies the air, cools it, and enriches it in oxygen. About six feet below the surface the piping turns at right angles and goes horizontally to the building. In the foundation wall is a large circular electric fan, which drives this air in through a long narrow hall with numerous openings, through which it is distributed by conductors into the various wards above. In the summer this is done continuously. During winter air is heated in the basement and conducted to the wards by pipes within partition walls, with registers making ventilation ideal. A brass chain is pulled a specified distance, giving hot air only; a little more gives medium, while the last notch yields cold air only. Near the floor opposite the above there is a pipe admitting air from without the building direct, in any amount desired and easily regulated. Steam or water radiators are in every ward and hall. Windows and skylights admit the greatest abundance of sunshine and daylight. There are gas and electric light in every room.

The floors in the operating-rooms and greater part of the hospital are glazed tiling, in other parts mosaic

or cement; there is very little if any wooden flooring. The inside walls are of glazed brick, tiling, and cement—the latter always painted and glazed.

Dr. Béla Walla, Kézmárszky's assistant, attended the Congress of American Physicians and Surgeons at Washington in May, 1898. He visited the better cities and clinics of the United States, and knows the comparative ability of American gynæcologists wonderfully well. He reads and speaks English fluently, and is a good operator and accomplished teacher in diseases of women.

Nearly all the professors and teachers of medicine at Buda-Pest speak English fairly well, and I found no place in Europe where the American is treated with the marked consideration and cordiality manifested by these accomplished people.

Professor Tauffer's new hospital is largely of the same pattern as that of Kézmárszky, with a few noteworthy points of difference. In addition to the public fund, there was some private endowment for this hospital, which was applied in extending its dimensions and in elaborating and beautifying. There are one hundred and twenty-eight beds, half obstetrical and half gynæcological, and separate operating-rooms for septic and aseptic operations. In the basement at a rear corner of the building is a room which does not communicate with other rooms. In this are placed for delivery obstetrical patients with contagious diseases —scarlet fever, erysipelas, etc. For these there is a lying-in ward or pavilion in a separate building some distance away. I am assured that any obstetrical patient who has exalted temperature when brought to the hospital is suspected of sepsis or contagious disease, and placed in this basement room.

The hospital is replete in laboratories. There are a museum of many interesting specimens, and a glass-covered tank in which are twelve full-term fœtuses kept in preserving-fluid. These are used for diagnostic purposes in manikins and pelves in teaching obstetrics. But with all its excellencies I notice the absence at this hospital of the dome for purifying air, and the conductors from the building connect with the sewers direct. Tauffer's obstetric record shows six hundred and thirty-five births within the hospital and nearly two thousand out-patients in 1897. In the gynæcological wards there were one hundred and sixty patients, and in the ambulant department two thousand. The day preceding my visit there were fourteen births in the ambulant obstetrical record within twenty-four hours. Besides the three regularly appointed assistants, who reside permanently in the hospital, ten visiting assistants attend daily. In the obstetrical department one assistant remains thirty days continuously, eating and sleeping within the hospital, as do two additional ones for twenty-four hours at a time, and then retire until their turn comes again. These work mostly in the ambulant department.

The patient in the gynæcological department is given a bath the day before operation, after which the part to be cut is scrubbed with a brush, first, in soap and water; second, in alcohol; third, in sublimate, 1 to 1,000; after which a sublimate cloth is applied until the morning of the operation, when it is removed and the scrubbing is again repeated as described. The operator scrubs his hands and nails with soap and water for ten minutes, with alcohol (ninety-five per cent.) for half a minute, and with sublimate for one minute.

For carcinoma of the cervix Tauffer does vaginal hysterectomy, cutting with knife and scissors and using clamps, which latter are removed in twenty-four hours. The deeper packing is of iodoform gauze, and is left in for eight or ten days. If there is odor when this is removed, he douches with carbolic-acid solution, two per cent.; if aseptic, sterilized water alone is used. The day preceding a vaginal hysterectomy the patient is given a bath and vaginal douche, and on the morning of operation a sitz bath, after which a vaginal douche of carbolic acid, two per cent. Brushes are not used within the vagina. Tauffer does no ventral fixations and has done only one Alexander operation, preferring massage and pessaries. He has been director of this clinic for fourteen years and will celebrate his one thousandth laparotomy next week.

After serving for twenty-eight years as professor of surgery in the university and director in the hospital, Professor Kavacks died, in August of 1897, and Professor Dollinger was appointed his successor. This brilliant young surgeon was then director in a city hospital, which position he still retains, though his principal work is in the university hospital, where he did two hundred and ninety-seven major operations the first one hundred days of his directorship. He has fifteen assistants and nearly one hundred beds, and besides treats about sixty ambulant patients daily. He is the author of a fixed dressing for fracture of the femur, and he was good enough to send for me to witness the application of his method when he had a case of this much-dreaded fracture. He had no difficulty in convincing me that no splint can be better as to result, for he has absolutely no shortening, the fragments being put in perfect juxtaposition and easily held so during the process of healing, whether the fracture be square or oblique; and, what is still more remarkable, the patient not only may, but is required to, walk immediately after the dressing is applied, and then daily until it is removed five or six weeks later. No anæsthetic is given. It requires considerable time to complete this dressing, which is of plaster of Paris, but when it is finished there is nothing more for the surgeon to do until he removes it. Dollinger was one hour in adjusting a fracture and completing the dressing. The details would exceed the limits of this letter, but no one interested in fractures ought to remain unadvised of this method, which Dollinger published, with the history of his first nine cases, several years ago; he will soon publish an account of his first one hundred cases. The case I saw was that of a boy, seventeen years old, and at the completion of the application of the dressing he walked out of the arena into his ward and said he experienced no pain, though he had complained repeatedly during the adjustment and was very awkward in the use of his crutches. Dollinger has done Wagner's circular osteoplastic section of the skull five times. The fifth case I saw, and five days after operation there was still oozing of blood. The flap was lifted daily and dressed with sterilized gauze. The frequency of convulsions is diminished but not stopped. In operating adhesions were found in the membrane, with pus and débris beneath, which were scraped away. Dollinger thinks this will be his last operation after Wagner, as the method has effected no cure, though there has been improvement in every case for a short time. The most marked improvement was in a case of stuttering, in which the patient repeated words four and even five times. After operation the repetitions were few and were not made more than once, but in four months the patient relapsed to his previous condition. Dollinger thinks well of the operation of Chipault, who reports fourteen cases or operations, with eight recoveries. I saw Dollinger do his first "Chipault." He was twelve minutes in completing it. Behind the ear at the lowermost point of the skull the incision was begun and carried downward and slightly forward about three inches. After the skin and fascia were cut, a blunt-pointed instrument was used in pushing the muscles apart until the carotid artery could be distinctly seen pulsating, and behind it the sympathetic was exposed

running parallel with it. About one and one-half inches of nerve was cut away, including the ganglion. Neither the nerve nor anything else under the skin was united. One small artery was cut and was ligated, after spurting violently, with silk, which was cut off short and left under the skin. The incision was sewed with continuous suture of silk; the blood was pressed from beneath by rolling a rolled bandage from above downward over the parts after sewing and before the bandage was applied around the neck. I am promised a history of this case for publication in the MEDICAL RECORD.

In the best residence part of the city is the private hospital of Dr. Herzel. From the street it has the appearance of a palatial residence. In midwinter I found a perfectly clean carpet spread from under the large balcony out to the sidewalk, fifty feet away. Oriental rugs were spread over the floors of the spacious halls and over the many lounges and luxuriant divans throughout the building. Herzel was two years building this hospital, of which he is the owner. The ground cost 110,000 and the building 350,000 gulden. The hospital is about one year old, and Herzel believes it to be the most luxurious in Europe. I have nowhere seen its equal in elegance. It has two stories and basement. There are thirty beds for patients in as many rooms, and each room has an adjoining space communicating, with a lounge on which the nurse may sleep the first three nights after an operation, when lounge and nurse are removed. He keeps eight nurses in the hospital, besides female help in the kitchen and the laundry, and nine men as helpers. There are gas and electric light in every room in the building, and the elevator is run by electric power generated within the building. Herzel tells me his yearly expense for maintaining the hospital is about 80,000 gulden.

In addition to the fee for operating, he gets 10 or 12 gulden a day for patients of the first class; 7 or 8 gulden for those of the second class. He has a few in the third class, who pay 5 gulden daily. When a patient cannot pay five gulden Herzel treats her in the city hospital, where he is director and also teaches, giving operative courses in gynæcology and general surgery. He was Czerny's first assistant at Heidelberg for four years, and that celebrated surgeon was his guest the day before my first visit. Dr. Herzel and his wife reside in the hospital. There are two resident assistants and three visiting assistants, who help in the daily professional work, including laboratory, and assist at operations. There are two operating-rooms, one for laparotomies alone, and also laboratories for pathological, histological, and bacteriological work. Herzel is perhaps thirty-five years old, and does most difficult operations, having twice done total extirpation of the bladder and fastening of the ureters into the rectum. These operations were done nine months and three months ago respectively. Both women are living and comfortable, one of them retaining four ounces of urine before passing it.

J. PRESTON MILLER, M.D.

Badly United Fractures.—Dr. Alfred Willett (*The Lancet*, December 18, 1897) says: "I would just mention that it is very essential for success that the fragments should be disengaged very thoroughly, and after careful adjustment I have generally found it necessary to employ very much more extension weight than in ordinary simple fractures to insure full length being maintained; in one instance I used as much as thirty pounds of shot in a canister. The ultimate results, as regards not only union but also position, are, in my experience, extremely satisfactory, although constant supervision is needed to insure success."

Medical Items.

Specialism Appreciated.—At one of our large dispensaries having special departments an applicant recently took tickets for each class, and spent the day obtaining expert opinions on the condition of his eyes, nose, throat, internal organs, and skin, and it is said even had a little surgery done and got a tooth pulled.

A Definition of Medical Practice.—John Hunter said that "definitions are the most damnable things," and certainly the definition is often by far the most troublesome part of a proposed legal enactment. A Kentucky judge has recently given a definition of medical practice which seems to be fairly satisfactory. In pronouncing sentence upon an "osteopath" who was convicted of having subjected a child suffering from tuberculous disease of the hip-joint to cruel and unnecessary torture, he laid it down that "any person who for compensation professes to apply any science which relates to the prevention, cure, or alleviation of the diseases of the human body, is practising medicine within the meaning of the statute." This concise definition is probably comprehensive enough to include every form of quackery.—*British Medical Journal*, March, 1898.

New Use for Roentgen Rays.—Some interesting particulars of a new application of the Roentgen rays for curative purposes were communicated by Dr. Edward Schiff, lecturer at the Vienna University, at the last sitting of the Imperial and Royal Medical Society. A series of experiments conducted by Dr. Schiff and his assistant proved that these rays could be used for the cure of disease in a manner capable of perfect control by means of a more or less intense application for a longer or shorter period, producing reaction in the exact degree required. In this way it has been possible for the lecturer, on the one hand, to remove hair from parts of the body where it constituted a disfigurement without causing the slightest inflammation; while, on the other hand, he has been able to treat lupus with uniform success by means of an artificial inflammation, the intensity of which he was in a position to increase or reduce at will.—*London Times*.

Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague have been received in the office of the supervising surgeon-general of the United States Marine Hospital service, during the week ended May 7, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Mobile	April 22d to 30th	10	
Arkansas, Little Rock	January 1st to April 28th	59	
Newport	April 27th	1	
Tennessee, Memphis	April 22d	1	

SMALL-POX—FOREIGN.

Bohemia, Prague	April 9th to 16th	6	
China, Hong Kong	March 12th to 26th	14	7
India, Bombay	March 29th to April 5th	..	5
Calcutta	March 19th to 26th	..	3
Madras	March 26th to April 1st	..	5
Norway, Christiania	April 9th to 16th	3	
Russia, Moscow	April 2d to 9th	10	1
Odessa	April 9th to 16th	6	
Warsaw	April 2d to 9th	..	8

CHOLERA.

India, Bombay	March 29th to April 5th	..	1
Calcutta	March 19th to 26th	..	35
Madras	March 26th to April 1st	1	
Japan, Kanagawa Ken	March 24th to April 10th	2	1
Osaka and Hiogo	March 26th to April 2d	1	
Tokio	March 24th to April 10th	28	

YELLOW FEVER.

Brazil, Rio de Janeiro	March 12th to 25th	169	130

PLAGUE.

India, Bombay	March 29th to April 5th	..	678
Japan, Formosa	March 24th to April 10th	146	47

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CERTAIN POINTS OF INTEREST IN PHTHISIS.

BY HENRY P. LOOMIS, M.D.,
NEW YORK.

THERE are certain points of interest in the treatment of phthisis, its diagnosis, and prognosis, which are not set down in any text-book that I know of, and yet which are of great value in the care of this only too common disease.

Grouping these points under three heads—1, prognosis; 2, diagnosis; 3, treatment—and assuming that what the text-books have to say on these three subjects is well known, I pass to some facts as to the elements of prognosis, which are drawn from careful records kept of several hundred cases, upon which I have passed as one of the examining physicians for the Adirondack and Liberty sanatoriums—records showing the kind of cases which end in recovery under the best climatic advantages; and later to some points of interest on the new serum treatment, gained after a year's experience.

An accurate diagnosis of phthisis, so necessary to the scientific observer as the basis for his treatment, falls very far short of being all the patient requires from his medical adviser. If the patient himself is satisfied that the nature and the extent of his disease are known, and its treatment is scientifically planned, his friends have a series of questions to be met: Will the disease be eventually fatal? How long can life be prolonged? When will the patient be able to return to his work? Is a change of climate absolutely necessary? These and an infinite number of problems, connected with the habits, engagements, and social environments of the patient, arise, which tax the skill of the physician to the utmost.

Our general knowledge of the disease, accumulated by experience, helps toward a satisfactory prognosis, but each case is after all unique and must be considered in all its personal equations. Prognosis must be reached in every case from the study of the constitutional condition of the patient, as well as of his lung condition. As you know, there is frequently not only a want of correspondence between these two conditions, but actual contradictions will very often be found. In every case the physician must regard and carefully balance the evidences to be derived from both sources, as only in this way can even an approach to accurate prognosis be reached.

Under the two heads, constitutional condition and lung condition, I have jotted down a few points which have been of help to me in estimating the future of a case of phthisis, and which later results have borne out as accurate.

As one of the examiners for the sanatoriums referred to, a large number of applicants for admission come before me. I am expected to decide: 1st, whether they will recover completely under climatic advantages; 2d, whether they will make that recovery within a year. Careful records of the course of these cases are kept, and I have reached at the present time from my past experiences and mistakes the following conclusions:

I. Constitutional Conditions.—Under this head I will mention only a few facts which seem to me important in estimating the prognosis of any case.

1. Gastric symptoms. Being asked what one point would influence me more than any other in giving a prognosis in a case of phthisis, I should answer, "The condition of the patient's stomach." I do not mean when a patient's digestion is disturbed from some good cause, such as injudicious feeding, cough mixtures, etc.; but when, in spite of careful attention to diet and method of feeding, it is impossible to keep a patient's digestive organs in any kind of condition for the proper assimilation of food. Many of these cases go along well for a few days, and then quickly lose what they have gained. These are the bad cases. One sees many of them. They are generally persons of high neurotic temperament. It matters not what the lung condition is, these patients seldom recover. Climate avails little when the patient is daily losing ground because of unassimilated food. Medication is worse than useless, because of an enfeebled digestion which is constantly disturbed.

Again, when the assimilation of food is good, the prognosis is always favorable, often even with desperate lung conditions.

2. Rapid heart action. The second condition that always renders the prognosis bad, in my opinion, is a rapid heart action noted at the beginning of a tuberculosis. In the advanced stages of the disease we expect to find a rapid and often feeble heart, but when there is only slight involvement of the lung, and the heart action is always above normal even at rest, and when on the slightest exertion it goes up to 110 or 120 beats, the outlook is always unfavorable.

This condition is seen generally in young subjects of high nervous organization. In my experience it is not more common in women than in men. The rapid pulse in these cases is not dependent on any fever the person may be having; for at the time of day when the temperature is normal the pulse is still rapid.

3. Age. I have never found age to be a very important element in the prognosis of phthisis, as far as the curability of the disease is concerned; but as an element in estimating the probable length of life of one advanced in the disease it is a very important factor. The age at which the disease is most prevalent is settled. It is not so generally understood that phthisis is far from uncommon in people of advanced years. My experience has been that the phthisis of advanced age is often latent in its beginnings, slow in its advance, tending to the destruction of limited portions of the lungs, and is found with few secondary derangements accompanying it. A few years ago I had opportunities to make autopsies on a large number of old people who died at the almshouse. I was impressed with the great frequency with which an unsuspected pulmonary tuberculosis was found; I should think fully sixty per cent. had chronic phthisis. Age, then, is a modifier of the type, and exercises a controlling

Read before the New York Clinical Society, February 25, 1898.

influence over the progress of the disease. The patient often lingers for years, especially if provided with the comforts of life, with food adapted to his requirements and appetite, and a fair allowance of stimulants.

4. Fibroid diathesis. The importance of the fibroid diathesis is generally overlooked in prognosis, especially when the disease develops in middle life. In people with this inherited condition, irritations have always a tendency to start up fibroid changes. Should we not expect it to be so in phthisis, when the quiescent stage comes as it does in nearly every case? The tendency of the pulmonary lesion to heal is very marked. I know a number of cases in which this condition seemed to be the principal element that arrested the disease and led to a relative cure. For instance, a prominent physician who had active phthisis for over ten years, who is now a comparatively well man, doing a large amount of professional work each day, is thoroughly convinced that as he advanced in years his fibroid condition became well marked and he began to have slight gouty attacks; and then his pulmonary condition which was extensive took on a retrograde process at once and began to heal. Interested in his own case, he studied this element of prognosis thoroughly, and I have often talked with him about it. He is confident that this diathesis is an element of favorable prognosis, that is little understood and often overlooked.

5. Hæmoptysis. Opinions in regard to hæmoptysis vary. Certainly the popular idea is that hemorrhages make the outlook discouraging. On the other hand, some authorities go to the other extreme and claim that it renders the prognosis favorable, and that there is a larger percentage of recoveries when frequent hæmoptysis occurs. A very interesting and systematic study of this subject has just been completed in the German army and the results have been published by Stricker. During the past five years nine hundred patients were admitted to the military hospitals, suffering from pulmonary hemorrhage. His conclusions after analyzing these cases are as follows: 1st, of soldiers attacked with hæmoptysis without cause, eighty-six per cent. became tuberculous; 2d, when from a cause, as military drills, seventy-four per cent. became tuberculous; 3d, when from injury, only fifty per cent. developed tuberculosis. My experience has been that hæmoptysis early in the disease does not affect the prognosis one way or the other, especially if it is not followed by fever which lasts a number of days. This last point I consider very material in deciding the importance of hemorrhages in each individual case.

Out of twenty-three patients discharged during the past year from the Liberty Sanatorium in whom the disease was cured or so arrested that the person was able to return to his or her former occupation, six had had pulmonary hemorrhages at some time.

As is well known, hemorrhages occurring later in the development of the disease are of much more serious import.

6. Heredity. Only when one has endeavored systematically to obtain the family history of a large number of persons suffering from phthisis has he any idea how inaccurate the information given by the sufferer and his friends often is in regard to the previous occurrence of tuberculosis in the family. I have noticed again and again how this fact is concealed, whether intentionally or unintentionally. Whatever conclusion the medical profession of today has reached as to the importance of heredity in phthisis among the people, it still holds the first place. So powerful has this influence been considered that, as you know, it has been used as an argument against the proposals for prophylactic measures which are advocated by sanitary officers and others. It is not to consider the importance of heredity as a causal agent in the development of phthisis that I speak of it now, but to note whether persons with a tuberculous family history are handicapped in their struggle to regain health when placed under suitable climatic conditions. My experience has led me to believe that tuberculous heredity has very little to do with the question of a person's recovery, all other things being equal. Of twenty persons known to me who have recovered from phthisis during the past year alone, nine of them have pronounced tuberculous histories. One had two brothers and one sister die of phthisis.

Habits.—It has been my experience that alcoholic subjects do badly when they contract phthisis. The resisting power of their tissues seems to be at a minimum. Their course downward is generally rapid. Climatic advantages may stay the process for a time, but there is no real gain in the case, no matter how long they remain away from unfavorable conditions. These cases after the phthisical process has developed have generally very rapid hearts and are often troubled with constant dyspnœa. If they are sent to a place of any altitude these symptoms are aggravated and the hemorrhages so constantly seen in these cases increase in severity.

Loss of Flesh.—Loss of flesh, so common in phthisis, is dependent upon so many causes, such as gastric disturbances, fever, worry, etc., that it becomes a very important element when a person is placed under suitable climatic conditions. The axiom ought to be laid down that unless a person gains in weight he is not improving, no matter which way other symptoms point. I think it is one of the best tests that we have for improvement in phthisis. Before a patient can gain flesh many things must happen of a beneficial character; the fever must diminish or disappear, the assimilation of food must be good, sleep must be fair, and the sweats must stop. Besides this it is the one test which patients can apply themselves. It is wonderful how cheerful they become when the scales show a gain of a few pounds.

Every one of the twenty-three cured cases I have referred to at Liberty gained in weight from eight to twenty pounds.

Character.—There is an element in the prognosis of phthisis, of which mention is never made and yet which seems to me to be one of the most important points to consider. One may call it the "personality" of the patient. Take for instance a person with a strong, determined character and a happy disposition, who has made up his mind to get well; put that man under suitable climatic conditions, whether it be in camp, alone in the woods, or at a hotel with attractions for late hours and mild dissipation, that man will recover even though the disease be quite advanced. Put another patient, of a nervous temperament, with slight pulmonary changes, but one easily influenced by surroundings, with no inherent reserve force, depressed by every light and temporary change in his symptoms, in the same surroundings, and he hardly ever does well. If he is fortunate enough to be benefited by any one locality, he is forever anxious to seek a change, follow his own inclinations, but not the instructions of his physician. Such people wander about from place to place, restless and dissatisfied, until they soon succumb to the disease. The tediousness of recovery from tuberculosis, at the best, requires all the fortitude and perseverance of which a strong character is capable. How handicapped therefore at the very outset are they of weak will and mental irresponsibility!

II. Lung Condition.—The pulmonary element more than any other, to my mind, that renders prognosis

favorable and makes arrest and final cure of phthisis possible, is the localization of the pulmonary lesion. I should prefer to see a man in the third stage of phthisis, with a cavity at an apex and the rest of the lungs normal, than another with the slightest imaginable tuberculous change, but that scattered here and there; for the first condition, if the patient's energy is kept up, can cicatrize in time and will soon become walled in by fibrous tissue, but the latter is so liable to extend in every direction that at any moment an acute tuberculous process may start. It has often surprised me how well the former cases do under climatic advantages. Naturally in this kind of a case it takes a long time for the patient to get well, but it has always seemed to me that the cure was permanent when once it was established.

Naturally in the majority of cases the slight extent of the localized lesion is a most important element in a favorable prognosis; this, however, only emphasizes the still greater importance of an early diagnosis. One month in the beginning is worth six months at a later day. Remembering this, we should look with suspicion on localized bronchitis at an apex, and should make it a routine practice to examine the sputum of every case of cough with expectoration which has lasted over two weeks, especially in one during the tuberculous period of life.

In reference to the prognosis of that large class of patients in whom tuberculosis develops secondary to a subacute pleurisy or is coexistent with marked changes in the pleura, it has always seemed to me that these cases uniformly do well when placed under suitable climatic conditions, and recovery is the rule rather than the exception.

Even with no advantages of climate many recover, and in almost all cases the advance of the disease is slow and marked by stationary periods in development. While I do not believe as some do that all pleurisies are tuberculous, still, if we can follow to the end all cases of subacute pleurisies, we will find, I think, that in time, it may be after years, phthisis will develop in the vast majority. I can recall two cases of pleurisy with effusion in which the patients completely recovered, but in which phthisis developed at the base on the side where the pleurisy had been; in one case after five years and in the other after ten years had passed. My experience with those cases of phthisis which begin at the base of the lungs has been bad. Seldom under the best conditions has there been any permanent arrest of the process. But I have seen a number of times in my life these cases and also advanced cases of ordinary apex tuberculosis suddenly start to improve, and the patient from being in a desperate condition become comparatively well, this change following upon the filling of the chest cavity on the affected side with effusion, the result of a tuberculous pleurisy. These cases have always surprised me, and a few years ago I worked for a number of months trying in animals rendered artificially tuberculous to fill the chest cavity with fluid or to start up artificially a simple pleurisy so as to compress the affected lung and then watch the results upon the tuberculosis. But after a large number of experiments I was forced to give it up. I could find no innocuous fluid that would remain in the pleural cavity, and in trying to start up a simple pleurisy I always caused an empyema. Cacao butter was the only material that would show any inclination to remain in the pleural cavity without doing harm. Sterilized plaster of Paris proved too irritating for the lungs. It has always seemed to me that possibly the compression of the lung in these cases of pleurisy by shutting out the air, keeping the lungs quiet and still allowing the circulation to go on, changed the tuberculosis from an active process to a conservative one and favored the development of fibrous tissue. I think this to be a fact of which possibly at some future time advantage may be taken in the attempted arrest of tuberculosis. There are many points to which I might call your attention in considering the relations which the various lung conditions have to the element of prognosis, but the time will not permit. I have here the history of twenty-three patients with cured or arrested phthisis who have left the sanatorium at Liberty during the past year. In the arrested cases the patients were practically well, for they were able to return to the cities and to their ordinary occupations. In analyzing these cases on the lines just alluded to we see: 1st. In all but one were the stomach and digestive condition good; three suffered only at times slightly with gastric disturbances. This bears out what I have already said, that a good digestion is a very favorable element in prognosis. 2. All the cases gained in weight, one case twenty-two pounds; the average gain for the twenty-three being eleven and one-half pounds. 3. The average length of time sixteen of the cases had phthisis previous to admission, as near as could be learned, was eight months; in seven the histories were too indefinite to be of value. 4. The average age of the patients was twenty-four. 5. Nine of the twenty-three had a tuberculous family history. In nearly half, then, the matter of heredity was of no importance in rendering the prognosis unfavorable. 6. In the matter of hæmoptysis, seventeen of the twenty-three never had any hemorrhages, three had only one hemorrhage each, and three a number of slight attacks of hæmoptysis. 7. The lungs of all twenty-three cured patients were in the first stage of the disease, with the exception of three, which were in the early second stage. 8. One point which surprises me in analyzing these cases is that ten out of the twenty-three had evidences of a tuberculous process in both lungs; possibly an involvement of both lungs is not a bad element in prognosis, as we are otherwise led to believe.

Diagnosis.—Physical diagnosis: Many times on making autopsies I have found an active tuberculous consolidated area, say an inch or two in diameter, at one apex of otherwise healthy lungs, and with the bronchial tubes in and about the localized consolidation also affected; but on account of the minuteness of the lesion I should defy anybody to make a diagnosis during life, if the lungs were examined in the ordinary way.

There is a way of examining the lungs which will reveal a lesion not much larger than the one just alluded to, and possibly as small as an inch in diameter. If a patient's arm is brought forward, the hand placed on the opposite shoulder, the ear placed over the portion of lung which is now uncovered by bringing the scapula forward, viz., just above and external to where the bronchial tubes are given off, there will be heard prolonged tubular breathing and fine râles on coughing. This is the very first physical evidence of tuberculosis—an evidence which will enable a diagnosis to be made weeks before the physical signs can be appreciated in front, where they are ordinarily looked for.

The reason for this is evident; it is an established fact that the majority of pulmonary tuberculous cases start at the apex, and commence as a peribronchitis with localized consolidations around the minute bronchi, which are the continuation of the smaller tubes. The reason these areas are not appreciated by listening beneath the clavicle in front, as is ordinarily done, is that they are covered over with two or three inches of normal lung tissue. I should almost be willing to make a positive diagnosis of tuberculosis if I heard fine cracklings, localized beneath the scapula and heard behind, at one apex, and accompanied by a prolonged tubular breathing. Quite often it is

necessary to have the patient cough two or three times before the fines râles are clearly evident. These physical signs generally antedate any expectoration that can be satisfactorily obtained, and are therefore of especial importance in the diagnosis of phthisis as coming before the presence of tubercle bacilli in the sputum. I am not aware that this fact in reference to the earliest physical signs of phthisis is mentioned in any text-book, so I venture to bring it to your attention.

Another point to which I would call attention is the method of examining the chest. We were taught as students that there were four methods of eliciting the physical signs—inspection, palpation, percussion, and auscultation. But how often does the busy doctor take up each of these methods in their order? He percusses and listens and draws his conclusions and makes his diagnosis, and I venture to say that inspection and certainly palpation are omitted in five cases out of six. He may be absolutely right in his interpretation of the lung condition in five cases out of six, but I believe if he would make it a routine practice to employ all of these different methods in regular order in every case the physical exploration would be complete and accurate in the six cases out of six. In my opinion, in no condition of the lungs is this routine examination more important than in phthisis. For example, you inspect the chest of one in whom an apex tuberculosis is just beginning; the result may be negative. You palpate at the same time beneath the clavicle on both sides. You are surprised at the marked increase in vocal fremitus, say at the left apex. You percuss, and you learn nothing; you place your ear first at one apex and then at the other, and you hear perhaps wavy respiration and a few râles at the left apex only. Your whole attention is now directed to the left apex, just as you were suspicious of it when you first noticed how marked was the vocal fremitus on that side. You complete the examination by listening behind, beneath the scapula, and hear a large number of fine râles on coughing, perhaps tubular expiration. You are now justified in making a diagnosis of beginning tuberculosis at the left apex, which you could not have done accurately by percussion and auscultation alone. This is not a fanciful case. Many persons whose life you may save by an early diagnosis belong to this category. I believe that palpation helps in diagnosing early phthisis fully as much as percussion. I know what I have just said in reference to the importance of using all the methods as a routine practice is nothing new, but it is of such absolute importance that I feel justified in speaking of it with emphasis.

There is one help in the diagnosis of phthisis which the physician has at his disposal, and of which he very seldom makes use, an aid which is especially important in doubtful cases—cases, for example, in which there is no expectoration and the physical signs are only negative. I refer to the tuberculin test. It is now so thoroughly settled that tuberculin is a positive diagnostic agent that even the courts recognize it, and in many States animals which show the tuberculin reaction can be killed at once and no appeal can be made for damages. I do not think it is so generally known that tuberculosis can be diagnosed in the human subject just as accurately: but the result of the last two years' work in this line has settled the point. Let me give you two illustrations of the practical use of this fact.

1. A patient has apparently recovered from phthisis: his expectoration has ceased and his cough has almost disappeared: he has no constitutional disturbances: his weight is above what it was before he was taken ill. Physical signs are still present in his lungs, but they are principally the result of fibroid changes, and everything is quiescent, as we believe. Shall that patient return to his home and his regular occupation? The question is a very important one to decide. I should answer it by the result of the tuberculin test, applied in the following way: Having taken the patient's temperature for a few days, say every six hours, to make sure that he has no diurnal elevation above what is normal, I should then give him an injection of one-half milligram of tuberculin, and have his temperature taken every four hours during the twenty-four hours following. At the end of two days, if still there was no rise in temperature or only an elevation less than a degree, a second injection of two milligrams should follow; and if still no reaction, after two days more, a third and final injection of five milligrams. If there was still no reaction, I should say that the patient is cured and could return to his work. If after any of the injections the temperature should rise one degree or over, I should consider that there was enough active tuberculosis in that patient's lungs to cause trouble if neglected. Practically this method is followed by Dr. Trudeau, at Saranac Lake, and he tells me that he finds it of the greatest aid and a reliable test for tuberculosis in ninety per cent. of cases.

2. Let me give you one more illustration of how tuberculin is of help. Take, for example, some of those obscure cases of beginning pulmonary tuberculosis. The constitutional symptoms are very suggestive; possibly there has been a slight hemorrhage. There is no expectoration that can be examined, so we find no help here. The physical signs are negative, or, if marked, suggest from the way the condition was ushered in, a pneumonia. The prognosis and to some extent the treatment will depend upon deciding whether there is any tuberculosis whatever. The tuberculin test will often aid us to decide this point. I say "often," for sometimes the fever from the diseased condition is so irregular that the test is negative or only presumptive: but where it can be used I believe it is positive. I cannot see why this test would not be of help to the surgeon just as it is to the medical man—for example, in abdominal, in glandular, or in bone tuberculosis.

I have never seen any bad effects from these injections, and I believe they are absolutely safe when given in the doses indicated.

One of the newer aids in diagnosis which have come to our help is the Roentgen rays. If we read some of the recent articles written on this subject, we should be led to believe that we can diagnose any case of phthisis by the fluoroscope. I have examined many cases of phthisis with the *x*-rays, and I am free to confess that I cannot see one-half the things that are claimed to be seen: but possibly my experience has not been large enough or I do not use it constantly enough. Still I do not mean to decry the *x*-rays. I consider them one of the confirmative agents we have in the diagnosis of phthisis—a disease, as you know, in which we need all the help we can get from every source. I will, however, take exception to the statement that the fluoroscope will ever replace the ear, or that one can diagnose with it lesions that cannot be appreciated by physical examinations. I should sum up the result of my experience with the Roentgen rays as follows:

1. That in the majority of cases they serve mostly as a corroborative agent of other methods of examination.

2. That the fluoroscope enables us to recognize more fully and accurately the limit of consolidated areas and to determine the presence of excavations, conditions which at times it is almost impossible for us to decide by physical examination.

Two things are requisite for the successful use of the fluoroscope—a certain amount of practice and a

ILLUSTRATION OF THE KIND OF CASES THAT END IN RECOVERY UNDER CLIMATIC ADVANTAGES.

PATIENTS DISCHARGED FROM LOOMIS SANATORIUM AT LIBERTY, AS CURED OR SO IMPROVED THAT THEY WERE ABLE TO RETURN TO THEIR HOMES. SHOWING CONSTITUTIONAL AND LUNG CONDITION ON ADMITTANCE.

Name.	Age.	Constitutional Condition: Heredity.	How Long Sick before Admission.	Gain in Weight. Pounds.	Any Hemorrhages.	Any Fever.	Treatment at Times.	Condition of Stomach and Digestion.	Pulmonary Condition: First Stage.	Second Stage.	Third Stage.	One or Both Lungs.	Remarks. Any Pleurisy.
Miss D. R.	18	Paternal grandmother	6 months.	8	None.	None.	Creosote, syrup iodide iron.	Good.	Yes.	....	....	One	Cured. Menstruation first appeared at 17.
Mr. H. C. R.	24	Father.	3 months	18	One.	None.	Creosote.	Good.	Yes	....	....	Both.	Cured. Works in Denver.
Mr. G.	28	No history.	4 years.	4	One.	None.	Creosote.	Good.	Yes.	....	....	One.	Cured. Keeps boarding-house.
Miss E. S.	20	No history.	1 year.	18	Several.	Yes; R. H.	Guaiacol, syrup iodide iron.	Fair.	....	Yes.	....	One.	Cured. Book-keeper in New York.
Miss C.	25	Father died of pleurisy.	15 months.	8	None.	None.	Creosote.	Good.	Yes.	....	....	Both.	Cured. Lives in Jersey.
Mrs. D. S.	38	None.	3 months.	14	None.	None.	Ichthyol.	Good.	Yes.	....	....	One.	Cured. Lives in Jersey.
Mr. W.	23	None.	2 weeks.	18	None.	None.	Serum.	Good.	Yes.	....	....	One.	Cured. Works as waiter.
Miss L. M.	20	No history.	Coughed 9 years.	11	One.	None.	Serum.	Good.	Yes.	....	....	Both.	Cured. Works as nurse in sanatorium.
Miss E.	32	Aunt died of phthisis.	3 months.	14	None.	None; R. H., pyrexia, nervous.	Creosote.	Fair.	Yes.	....	....	One.	Cured. Dressmaker in New York.
Mr. K.	28	None.	5 months.	9	Slight, several.	None.	Creosote.	Good.	Yes.	....	....	One.	Much improved. Works home.
Miss G.	20	Sister died of phthisis.	2 months.	8	None.	None.	Climate.	Good.	Yes.	....	....	One.	Cured. Married.
Mr. H.	28	None.	4 months.	15	None.	None.	Creosote, serum.	Good.	Yes.	....	....	Both.	Cured. Works.
Mr. J. B.	14	Father died of pneumonia.	Coughed 7 years.	14	None.	None.	Creosote, serum.	Good.	Yes.	....	....	One.	Much improved. Works in jewelry store, city.
Mr. A.	26	Father's side.	Coughed 8 years.	9	None.	None; R. H. from tobacco	Creosote, serum, C. L. O.	Good.	Yes.	Yes.	....	Both.	Much improved. Works in Denver.
Mr. E. V.	17	Negative.	3 months	15	None.	None.	Ichthyol.	Good.	Yes.	..	....	Both.	Much improved. Works in New York.
Mr. L.	28	Negative.	4 weeks.	13	None.	None.	Creosote.	Good.	Yes.	....	....	One.	Cured. Lives in Liberty.
Miss C.	17	Both sides.	Has a cough every winter.	15	None.	None.	Serum.	Good.	Yes.	....	....	One.	Much improved. Lives in New York.
Mrs. W.	32	One sister died of phthisis.	1 year.	22	None.	Slight; R. H. always.	Creosote.	Good.	Yes.	....	....	Both.	Much improved. Had a bad throat; much improved also.
Miss P.	26	Negative.	2 weeks.	7	Slight.	None.	Climate.	Good.	Yes.	....	....	One.	Cured.
Miss C.	17	Sister died of phthisis.	2 months.	6	None.	None.	Serum.	Very poor.	Yes.	....	....	Both.	Cured. Works.
Miss M.	20	Uncertain.	6 months.	18	None.	Some; R. H. always.	Ichthyol.	Good.	Yes.	Yes.	....	Both.	Much improved. Lives in Liberty.
Miss F.	22	Sister died of phthisis.	1 month.	6	None	None.	Creosote.	Good.	Yes.	....	....	Both.	Much improved. Home.
Mrs. A.	36	Two brothers and one sister died of phthisis.	2 years complaining.	17	None.	Slight.	Serum.	Fair.	Yes.	....	....	One.	Cured. Gone home to Sweden.

primary knowledge of a fluoroscopic picture of a normal chest. The thinner the subject, the more satisfactory will probably be the results. The ribs are clearly defined, and in a healthy chest an evenly clear transmission of light is visible between them. The shadow of the heart is generally black; very often the cardiac impulse is distinctly visible. The action of the diaphragm is often well defined, and during the act of expiration assumes a dome-like outline. The Edison laboratory at Orange has just introduced a large fluoroscopic screen in place of the fluoroscope which is held in the hand and which is so trying for the eyes. With this screen a dark cloth is placed over the tube and the patient's shoulders, concentrating all the light upon the screen, and the whole outline of the chest appears as a picture upon the screen in front of the patient. It is a new invention, and its advantages are that both sides of the chest are exposed simultaneously, comparisons are easily made, and the diseased condition can be demonstrated to a number of persons at once. I have obtained the most satisfactory results in defining the limit of diseased areas, and in differentiating between consolidation, softening, and cavities (which I believe can be done with absolute accuracy), by employing a metal rod, placed evenly against the chest and moved up and down until its outlines, as seen through the fluoroscope, become more distinct; this will indicate that the upper borders of the diseased areas have been reached. If pencil marks are placed along these borders and percussion is subsequently practised, the area of dulness will have been found between the lines. The areas of haziness correspond to the limit of relative dulness or infiltration. Cavities appear as bright spots among shadowy tissues; large cavities appear like a full moon behind a light cloud. Intense darkness, especially at the lower portion of the lung, indicates old pleuritic thickenings over consolidated lung tissue. In brief, we find the Roentgen rays a decided help in the diagnosis of phthisis—a help which, as it becomes more generally used and its technique more thoroughly understood, will undoubtedly go hand-in-hand with physical examination at some future time.

Treatment.—It is not of the well-known methods of treating phthisis that I would speak for a moment, but of the present status of a new line which will hold a prominent place in the next two years—namely, the serum treatment.

Every one is familiar with the fact that, long before the discovery of diphtheria antitoxin, investigators in various countries had been experimenting with the products of the growth of the tubercle bacillus, Koch's tuberculin being one outcome of this line of work. It was in the media changed by the growth, and loaded with the product thrown off by the bacillus in its metabolism, that the antitoxin for the arrest of phthisis was sought.

The discovery of a serum which had antitoxic properties in diphtheria stimulated a new line of research in reference to phthisis, and many well-known investigators throughout the world are at this moment endeavoring to obtain a serum which, when injected into man, will antagonize the growth, protect against the action of the bacilli, and finally destroy them in the body. The majority of scientists are now working, not with the media on which bacilli grow, but with the body of the bacillus itself—the protoplasm which is contained within the cell.

It is believed that this cell body of the bacillus either contains or elaborates by its cell activity three substances: a fever-producing principle, a general toxin which circulates in the blood of the phthisical patient, and a poison which acts locally and causes the well-known lesion of the tuberculous inflammation—co-

agulation necrosis. Up to the present time, the first and last properties only have been isolated; the second is still an unknown quantity, and this fact no doubt accounts for the only partial immunity which can be conferred on an animal by any of the antitoxins as now made. The investigators all seem to be working on nearly parallel lines, seeking for a substance prepared with a view to attacking the bacillus, not in itself, in germicidal fashion, but by destroying the pabulum upon which it thrives, literally starving out the enemy.

At present there are two kinds of products which have satisfied the laboratory workers as exercising a more or less complete controlling influence over the development of tuberculosis artificially induced in animals, viz., remedies which are the product of the germ itself; and serum from animals rendered immune by culture products of the bacillus.

To the first belongs Koch's new tuberculin. In the *Deutsche medicinische Wochenschrift*, April 1, 1897, Dr. Koch described a new tuberculin, TR he called it. He claimed far more for this than he ever did for his original tuberculin, and stated positively that with it he could render animals immune and could frequently cure them after they had contracted the disease. Dried tubercle bacilli were taken, finely powdered, and centrifugalized with distilled water. The opalescent solution when tested upon animals gave the tuberculin reaction. The residual germs were submitted to this treatment a number of times, until finally all were practically dissolved or broken up, the cell wall being destroyed. The latter solution in small quantities seemed to exert both an immunizing and curative action in experimental tuberculosis. This preparation is now being clinically tested all over the world. I have had no personal experience with its use. An agent of the importers brought me some bottles last June, but they had become contaminated owing to improper putting up, so I was afraid to make any clinical use of them. Clinical facts, as far as I have been able to learn from published articles, have not borne out Koch's claim for his new tuberculin.

A new antitoxin was introduced last autumn by Hirschfelder, of California. His scientific reputation was such that the product, oxytuberculin, has been extensively tried. It is made by adding peroxide of hydrogen to tuberculin, subjecting them to a steam bath for forty-eight hours, and then adding caustic soda. He then filters and neutralizes the filtrate with boric acid. The discoverer claims that as the result of this treatment the toxin of the tuberculin is converted into an antitoxin.

As far as my personal experimentation with this antitoxin on animals goes, it does nothing. Hirschfelder claims that it delays the development of tuberculosis in guinea-pigs. This I have not found to be the case. I have had an opportunity to judge of its action on the human subject in only one selected case. I saw no benefit from its use, but of course this is not a fair test. I have found that it is apt to cause some local irritation. At the present time there are three antituberculous serums being extensively used, but I understand Babes and Behring are both actively engaged in working out new products.

If the antitoxic serum treatment of tuberculosis could be freed, for the present at least, from its commercial aspect, and systematic experiments be continuously conducted in hospitals and sanatoriums, then this method might be looked to for good results.

1. The serum most extensively used at present is Maragliano's serum, or, as it is commonly called, the "Italian serum," obtained by treating horses with tuberculin and then with virulent culture of the tubercle bacilli. Maragliano says that tuberculous temperature is reduced in all cases with this serum, and modestly claims apparent improvement in the disease in very many cases. I have had no experience with this serum, but Dr. Walter James gave it with great care and for a long period of time to a patient whom I saw with him in consultation. He tells me that he "saw absolutely no benefit and no harm from its use;" the patient steadily lost ground from the beginning, and finally died.

2. A second serum is Paquin's, known as tuberculosis antitoxin. This is prepared by Paul Paquin, and is used extensively throughout the West. Its preparation and introduction are entirely along commercial lines. It certainly is not an inert substance, as I have seen a patient go into a serious collapse within a few minutes after an injection.

3. A third serum is the antistreptococcus serum. This serum is not an antituberculous serum, but is often given in cases of phthisis with mixed infection. It is claimed for it that by destroying the streptococcus which is so often present many of the annoying symptoms of phthisis are removed, such as purulent expectoration, night sweats, anorexia, and high temperature, and thus it indirectly affects the tuberculous process favorably. I tested it last spring carefully, in the New York Hospital, and had daily examination made of the sputum of the patients who were being injected. In none did the microscope show any change in the mixed infection, nor did the patients show uniform improvement. I am aware this is not the conclusion some have reached from its use.

4. United States government serum. For a long time the government has been experimenting in the biochemical laboratory of the department of agriculture with an antitoxin serum, looking primarily toward finding an immunizing agent, especially for use among domestic animals. A large experimental farm just out of Washington is connected with the laboratory and the work is very complete. Dr. de Schweinitz, the director of the laboratory, last summer wished to have this serum tested clinically at the Loomis Sanatorium, and we agreed to give it a thorough trial. The serum being provided by the government, from purely scientific motives, we were the more ready to test its efficiency. In the manufacture of this antitubercle serum, attenuated cultures, culture fluid, and tubercle bacilli were injected into horses continuously for fifteen months (4,459 c.c. of the fluid being injected in some horses). Animals were experimented upon with the serum from these horses. The following conclusion is taken from the government report: "The experimental results obtained lead undoubtedly to the conclusion that, while the treatment with antitoxin serum is still in the experimental stage and should as yet be used only under the best conditions, we are on the road to success in the treatment of this disease and nearer our goal than ever before." Some of this serum has been sent to L. [illegible]y continuously for the last seven months, and thirty-eight patients have been injected every day or every other day for varying lengths of time with ten minims of the serum, with the following results. A report of the first fifteen cases treated is here given.

Conclusions.—The average number of injections given each patient was thirty-eight. No other treatment was employed. All had the benefit of climate and good food. Four were discharged cured, six improved, and five became worse under the treatment. Eleven gained in weight, two remained stationary, and two lost weight.

I have always considered that any particular line of treatment carried on with patients who are also under the best climatic conditions may not be a very fair test of its efficacy. So I have been using this serum lately on a number of patients in my wards in Bellevue Hospital, but the treatment has not been continued

REPORT OF CASES TREATED WITH ANTITOXIC SERUM

(UNITED STATES GOVERNMENT SERUM, DEPARTMENT OF AGRICULTURE), LIBERTY SANATORIUM.

Number of Case.	Weight. Pounds.	Number of Injections.	Average Dose. Minims.	Reaction.	Gain in Weight. Pounds.	Lung Condition Beginning Injection.	Disease.			Remarks.
							Arrested.	Improved.	Not Improved.	
1	132	26	10	Once.	5	Consolidation right lung, upper portion.	....	Yes.	....	Returned to work. No relapse.
2	128	50	10	None.	11	Slight consolidation right apex. General bronchitis.	Yes.	....	....	Home; works. No relapse.
3	121	54	10	None.	15	Infiltration right apex.	Yes.	....	....	Returned to city.
4	196	48	10	Slight.	15	Consolidation and infiltration right apex.	....	Yes.	....	Returned to Sweden.
5	143	48	10	None.	40	Infiltration both apices.	Yes.	....	....	Returned to work as nurse.
6	104	36	10	Twice.	None.	Consolidation right upper lobe.	....	....	Yes.	Injection stopped at own request. No result.
7	132	30	10	Once.	6	Infiltration both apices.	Yes.	....	....	Worked in city.
8	104	38	10	Twice.	Lost 5	Cavity right apex.	....	....	Yes.	Process commenced in left lung. No result.
9	97	28	8	None.	None.	Consolidation both upper lobes.	....	....	Yes.	Obliged to return home. Still taking injections; improving.
10	109½	40	10	Once.	1	Consolidation and softening right lung.	....	Yes.	....	Improved under treatment. Stopped; returned home; now worse.
11	153	36	10	None.	12	Slight infiltration right lung.	....	Yes.	....	Lost tubercle bacilli. Returned to city.
12	131	30	10	Once.	3	Infiltration right apex.	....	Yes.	....	Physical signs improved.
13	126	36	12	None.	11	Cavity and consolidation right lung.	....	Yes.	....	Cavity smaller.
14	110	18	8	Once excessive.	Lost 6	Consolidation right upper lobe.	....	....	Yes.	No result.
15	113	40	10	Once.	3	Advanced consolidation and some softening right side.	....	....	Yes.	Apparently improved early in treatment. Result not permanent.

long enough to reach any conclusions. If it improves that class of cases, I for one shall believe in its possibilities.

Were I to formulate such conclusions as I have been able to gain of serum therapy in the treatment of tuberculosis as it stands to-day, they would be as follows: None of the serums have marked or immediate effect on the disease. The question is, Should they be expected to? If one tries all the serums, in a disinterested way, it must be recognized at once that they are certainly not inert substances.

One cannot but be impressed with the moral effect which hypodermic injections have on some patients. I have seen in neurotic patients, fever leave and weight increase under daily hypodermics of water.

Dr. Stubbert, the physician in charge of the Liberty Sanatorium, reports that comparative tables of the results of the treatment of phthisis show a balance in favor of serum, in increase in weight, decrease of expectoration, general improvement, and physical signs.

Climatic Treatment.—So far we face the fact that climatic treatment for phthisis is the one to which the profession at large turns—"Where shall we send our tuberculous patients?" being the chief and often difficult question before the doctor. A mistake is irremediable. It is important in many cases to find a suitable place near at home. I should like to call your attention to certain localities within easy access of New York, which I believe from practical experience to be especially suitable for cases of phthisis—their practical test and results being my apology for bringing this familiar matter before you.

1. Morristown, N. J. Here cases of phthisis uniformly do well, especially those patients who have been far away to well-known health resorts and have practically recovered from the disease and are so much improved that it is possible for them to return to a low altitude. A residence in Morristown or its neighborhood for one or two years seems to ward off any return of the trouble, and is expedient should the patient desire later to remain in New York. In advanced cases patients with quiescent processes in their lungs do well also in Morristown, and live there with comfort for years. Its nearness to New York enables the home of a patient to be maintained, even when the head of the family is obliged to go daily to New York for his business.

2. Litchfield County, Conn. In the northwestern portion of Connecticut there is an extensive tract, a thousand to eighteen hundred feet above the sea, where the air is dry, the soil favorable, and where cases of phthisis do exceedingly well. Washington is one of these places, Litchfield is another. I have seen a few patients in the early stages sent to Washington, Conn., and return in a short time cured. While the distance from New York is not great, the train service is so poor, except in summer, that much time (nearly four hours) is spent in getting there—a decided disadvantage.

3. Catskill Mountains. I know of no region to which people are sent for phthisis where more mistakes are made by the physician sending them than the Catskill region. The reason is that in the Catskills there are some of the best "low altitude places" in the world, and at the same time the very worst places that can be imagined for dampness and sudden changes of temperature. There are only a few places in the Catskills where cases uniformly do well, but in these places they do exceedingly well. I have been at pains to drive to almost every place in the Catskills, and know the topography of the region. I have seen the best results from cases sent to Tannersville and Cairo. Stamford, on the southern slope of the mountains, is dry and healthful, but not of high altitude. In the country about Windom and Durham there is a good climate for phthisis, but it is out of the beaten track and somewhat inaccessible.

4. Liberty, Sullivan County, is located on the main line of the New York, Ontario, and Western Railroad, one hundred and nineteen miles from New York, and has an elevation of from sixteen to twenty-two hundred feet above tide, the highest elevation between New York and the Great Lakes. Recent developments seem to indicate that the vicinity of Liberty will soon become one of the most popular resorts in the East for those suffering from pulmonary troubles. I consider, as my father did during his lifetime, that Liberty and the country contiguous to it offer for the cure of phthisis the best climatic conditions of any place within easy access of New York. The elevation of eighteen hundred feet or thereabouts is especially suited to incipient cases occurring in the young and those of middle life. The open condition of the country, with its plateau-like situation, and the constant movements of the air currents render the climate exceedingly dry. The noticeable purity of the air and the absence of all fogs and dampness are valuable elements, which in my opinion contribute most largely to the beneficial results observed after a residence in this locality. The summers are cool and marked by no sudden changes in temperature. The winters are characterized by a large number of clear, cold, exhilarating days with abundant sunshine.

5. The Adirondacks. The advantages of the Adirondack region over all those of easy access to New

York is the extent of country which is suitable to cases of phthisis. The high, rolling forest country varies in elevation from sixteen to eighteen hundred feet, and extends north and south for nearly a hundred miles, and east and west for about forty miles. There are virtually no unsuitable places for cases of phthisis in all this tract. My experience bears out the fact that cases do as well in the Fulton chain at the south as at Paul Smith's on the north, and that the western portion of the woods is even better suited to pulmonary cases than the mountain region of the east. Another reason which makes the Adirondacks so beneficial is that patients find here so much to do out of doors. The network of lakes and rivers adds diversity to the landscape, and affords easy communication throughout the interior of the country by means of light boats. The facilities for camping, hunting, and fishing add interest to the daily life of those in the early stages of the disease, so that their minds are diverted and their spirits raised—points of greatest importance and which more restricted health resorts do not offer. The distance from New York (ten to fourteen hours) necessitates severance of home ties, and often practically isolates the invalid from home connections—an unfortunate condition which is not attached to an enforced residence in more accessible localities.

CORRESPONDENCE BETWEEN A LAYMAN AND A SURGEON ON THE SUBJECT OF APPENDICITIS.

By ROBERT T. MORRIS, M.D.,
NEW YORK.

A MEMBER of the faculty of Yale University recently expressed to me the opinion that "between the ethics of physicians and the controversies on the subject of appendicitis, the laity were kept quite in the dark." This idea, coming from a man of wide learning, and alert to comprehend affairs in general, led me to write him, upon my return to New York, requesting him to ask a series of the most direct questions, including points that a layman might think about, even though he did not express them in conversation. His letter is here presented, together with my answers, given *seriatim*:

"NEW HAVEN, CONN., March 1, 1898.

"DEAR DR. MORRIS: The anxiety occasioned by the sudden suggestion on the part of a physician, called in to see my wife in a distant city, that an expert surgeon be called at once to operate for appendicitis, together with the experience following—viz., her recovery without any such operation, which I fear would have been fatal, because of her state of physical health in general, had it been attempted—lead me to ask the following questions:

"1. Is not the public needlessly suffering not only painful operations, but also death, because of the general belief that the only genuine cure for appendicitis is the removal of the offending member?

"2. Does not the very fact that successful operations require more than ordinary skill lead the family physician to call in the help of a specialist in cases of simple doubt and fear, on his part, rather than certain diagnosis that his patient has an acute case of inflammation which will yield only to surgical means?

"3. Are not the patients, thus given over to the specialists, operated upon out of professional courtesy, even when the specialist may know that the case does not require the operation for the immediate safety of the patient?

"4. Is not the expert operator tempted to take advantage of such "safe" cases, both for his own reputation and practice?

"5. Is not the temptation still greater for the inexpert beginner, to whom such a case is given, to try his hand when the chances are better for a successful operation, even when he knows that the symptoms do not warrant an operation?

"6. Is it possible for the ordinary inflammation of this part of the intestinal canal to be distinguished from inflammation of the appendix proper, except by expert physicians?

"7. Is it not entirely possible, by other than surgical means, to relieve inflammation of this part of the intestine?

"8. Are cases of appendicitis proper, when cured by other means than the removal of the appendix, any more likely to recur than inflammations (severe) of other parts of the intestines?

"9. Is it a fact that an expert surgeon can or cannot discriminate the appendicitis symptoms better than the ordinary family physician?

"10. Does the courtesy between the members of the profession permit the patient to get the benefit of mistakes made by the family physician, after the surgeon is actually called to assist?

"11. Is it possible by simple statistics, such as can be obtained, to ascertain after the operation has been performed whether it was needless or not?

"12. Is it possible to inform the public of the facts, known only to the surgeon, as to whether death, when it occurs, is due to the original disease or to faulty or unwise operation?

"13. Why is it necessary that there be controversy regarding these questions?

"14. Why are mere statistics of the number of cases recovered, the number lost, and the number of known cases of renewed attacks unsatisfactory as means of reaching the real importance of the surgical method of treatment, as compared with other modes of treatment?

"I have put down a lot of very plain questions, as you requested me to do. I think they will convey the nature of the queries in mind, in regard to the use of surgical means for allaying appendicitis symptoms.

"It is the danger of the operation in inexpert hands, the helplessness of the patient or his friends when the operation has been recommended, and, third, the feeling that the surgeon (unless a tried expert) does not appreciate, or perhaps does not assume, in all cases, the responsibility which has been handed over by the family physician, which most affect me in judging the case. I would like to know what replies can be made to these questions in public, and I think every one would like to know what the profession can reply to them.

"Unless they can be answered directly, the doubts will still remain; evasive answers are not necessary to impersonal questions. If you can, in replying to such questions, defend the use of surgical methods as the best means of treating appendicitis, my opinion is that you will score a most important point for your side of the profession.

"With sincere regards,

"——— ———."

Answers.—1. It has been determined from statistics of many hundreds of operations, at the hands of several American surgeons, that the surgical death rate in appendicitis is less than one per cent. in the class of cases in which infection is limited to the confines of the appendix proper. This includes primary-infection cases before infection has spread beyond the appendix, and it includes the so-called "interval cases," or cases in which one or more acute attacks of bacterial invasion of the appendix have subsided, leaving a more or less damaged appendix which is not being actively attacked by bacteria. It has been de-

termined from the statistics of several American surgeons that proper surgical operation in cases of widespread infection outside of the confines of the appendix proper can lower the death rate in this class of cases to about five per cent. in unselected consecutive series of cases, operation being performed upon all patients who are still living when the surgeon arrives. It has been determined that the death rate in appendicitis, treated by any sort of medical treatment, is not likely to be less than twenty-five per cent. eventually, although it is believed that the death rate in first attacks is not much above ten per cent.[1]

Your expression, "painful surgical operation," is a phrase that came into use before modern surgery occupied the field. In order to determine if appendicitis patients suffer as much under surgical treatment as they do under medical treatment, I addressed letters to ten consecutive appendicitis patients of mine who had been operated upon, beginning with the last one out of bed and going back ten. Some of these patients had been "cured" several times by medical treatment of the various approved forms, and some of them, no doubt, had been congratulated by their physicians and friends on having escaped "painful surgical operation." I wish particularly to avoid giving the impression that the answers from my patients are very different from answers that would have been given by the patients of any other surgeon who pretends to be familiar with proper methods of operating.

This was my letter:

"DEAR ——— ———: In order to get statistics for comparison, I am asking ten consecutive appendicitis patients to state which causes the most suffering—an attack of appendicitis treated medically, or an attack treated surgically. Please answer in less than twenty words, as I wish to publish the reply over your initials.

"Yours truly, etc.,

"———— ————."

The answers from each patient are here given, following a brief description of the case:

Patient No. 1.—Dr. G. L. H——. Aged twenty-five. Has lost one brother and one first cousin from appendicitis treated medically. Another first cousin was operated upon at Albany last week, and is recovering. Another first cousin has had one attack and is to be operated upon. G. L. H. has had several attacks, some serious, some mild. Appendix contained a mucous inclusion. Adhesions not troublesome. Interval operation.

Patient's answer to letter:

"I am pleased to say that I suffered much less under surgical than under medical treatment, and recovery was more rapid. G. L. H."

Patient No. 2.—Mr. J. S——. Aged twenty-nine. Has had two violent attacks. Appendix removed on seventh day of second attack. Three large abscesses in abdomen. Complicated adhesions. Appendix gangrenous. Patient in critical condition before operation.

Patient's answer to letter:

"In my case surgical treatment proved to be almost painless, while under medical treatment my sufferings were intense. J. S."

Patient No. 3.—Mrs. J. N. B——. Aged forty-three. Two attacks. First one mild, second one more severe. Removed appendix in fourth week of second attack through short incision. Appendix adherent only at tip. Slow ulceration of inner coats in progress.

Patient's answer to letter:

"I suffered severely under medical treatment for appendicitis, and felt no pain whatever under surgical treatment. MRS. J. N. B."

[1] See "Analysis of Cases," "Lectures on Appendicitis," second edition, medical libraries.

Patient No. 4.—Mrs. E. P——. Aged fifty-two. Had a "grumbling" appendix without marked symptoms, excepting local tenderness and protracted temperature elevation at various times during many years. Appendix removed through short incision. Chronic ulceration about an entrapped concretion in lumen of appendix. No adhesions.

Patient's husband answered:

"In answer to yours regarding my wife, she would prefer an operation to medical treatment.

"E. P."

Patient No. 5.—Dr. J. B. H——. Aged thirty-three. Four well-marked attacks. Appendix removed through short incision. Second week of fourth attack. Appendix structures markedly hypertrophic. Appendix sharply angulated upon itself and firmly adherent at all points. Evidence of former perforation at site of angulation.

Patient's answer to letter:

"I suffered a great deal more under medical treatment than I did under radical treatment.

"J. B. H."

Patient No. 6.—Miss L. W——. Aged twenty-four. Several short, sharp attacks. Continual discomfort and steadily failing health for past six months. Removed appendix through short incision. No adhesions. Proximal two inches of appendix converted into narrow string of connective tissue. Distal inch formed a tense distended mucous inclusion.

Patient's answer to letter:

"No comparison between medical and surgical treatment of appendicitis. The former is torture, the latter painless, with blissful results. L. W."

Patient No. 7.—Mr. J. F——. Aged thirty-six. Several attacks, some violent, some mild. Constant pain and failing health for some months since last attack. Appendix removed through short incision. Complicated adhesions. Two mucous inclusions, each containing a concretion.

Patient's answer to letter:

"By all means surgical treatment is less painful and quicker over. J. F."

Patient No. 8.—Mrs. R. M. L——. Aged forty-seven. Two well-marked attacks. Appendix removed in sixth week of second attack. Local adhesions. Inner coats of appendix nearly disappeared through chronic ulceration.

Patient's answer to letter:

"My suffering was greater under medical treatment for appendicitis than under surgical treatment.

"MRS. R. M. L."

Patient No. 9.—Mrs. L. L. C——. Aged twenty-five. One mild attack, one violent one complicated by pregnancy five months advanced. Removed appendix on third day of the violent attack. Dense general adhesions. Appendix gangrenous. Abscess forming.

Patient's answer to letter:

"My suffering was more intense for the three days prior to surgical interference than during all of the subsequent days. L. L. C."

Patient No. 10.—H. G. A——. Aged fourteen. Several mild attacks, one violent one. Appendix removed on fourth day of violent attack. Complicated dense adhesions. Abdominal abscess. Appendix perforated. Contained very large concretion.

Patient's answer to letter:

"I had no relief from suffering until morphine was administered. After the operation was free from pain and recovered rapidly. H. G. A."

We frequently have patients back at their occupations in less than two weeks after operation for appendicitis, after they have previously spent weeks or months in bed with various attacks, under the impression that they were going to save time by depending upon medical treatment. These short-confinement

cases are of course the primary or interval cases, in which infection is limited to the confines of the appendix at the time of operation.

Answering the professor's question No. 1, then, I would say that the death rate in appendicitis under proper surgical treatment, at the proper time, as compared with the death rate under any sort of medical treatment, is apparently at least twenty-five to one in favor of surgical treatment. The letters from the ten patients quoted indicate that the suffering under surgical treatment is less than the suffering under medical treatment. The loss of valuable time is less under surgical treatment than under medical treatment.

2. The typical family physician cares, first of all, for the best interests of his patient, and he cares very little for the opinion of the surgeon or of any one else, unless in his opinion the patient is likely to profit by the consultation. In cases of "simple doubt and fear on the part of the family physician," a good consultant often sets matters right, and the physician has the comfort and peace of mind that goes with actual knowledge about his case.

3. I do not know of any responsible surgeon who would operate until he felt sure of his diagnosis of appendicitis, unless he found some other condition sufficiently serious to warrant operation. It is usually an easy matter for one who is at all expert to make an accurate diagnosis of appendicitis, but sometimes a pelvic abscess or tuberculosis of the peritoneum, for instance, may make diagnosis difficult. Both of these conditions, however, require operation.

I do not know of any surgeon who would operate out of courtesy for the opinion of the family physician, and I do not know of any physician who would allow a surgeon to operate unless the surgeon had presented sufficient evidence to convince the physician that operation was advisable.

4. I regret to say that I do know surgeons who consider their reputations, and who have not the moral courage to stand up to their knowledge and give a dying patient his chance for recovery. Their argument is that it is better to let the desperate-case patients die, because the people do not know the difference between desperate cases and safe cases. Appendicitis is appendicitis to the public mind. Safe-case surgeons argue that if, in a desperate case, the patient dies after operation, the patients with safe cases who hear of it are likely to procrastinate until their cases also become desperate cases, and thus the death rate actually becomes larger than it would be if the desperate-case patients were allowed to die without help. Unfortunately their argument is quite true at the present day. There are other surgeons whose sense of moral obligation is so great that they try to help the desperate-case patient without regard for reputation, and they try to educate the laity and the profession to a higher plane. They know that more deaths result from "using bad surgical judgment" in trying to help desperate-case patients at present, but they believe that progress can be made only by sacrificing reputation and fighting for the right, instead of trimming their sails to "policy." The expert operator who is tempted to take advantage of safe cases only never becomes as expert as the operator who cannot find a case too desperate to call forth his full sympathies, resources, and powers. The most expert surgeons prefer, for their own sakes, to operate in the most desperate cases, because such cases offer limitless opportunities for application of knowledge and skill.

5. The inexpert beginner may get into trouble if he tries appendicitis work before he has had preliminary training in easier kinds of abdominal surgery first, but my faith in the actuating motives of surgeons is such that I do not believe that an inexpert beginner would be tempted to subject a patient to operation for appendicitis unless he felt sure of his diagnosis. Symptoms sufficient to establish the diagnosis of appendicitis are sufficient to warrant operation regularly in appendicitis. Personally I would allow my junior assistant on the hospital staff to operate upon me for appendicitis, rather than try the best medical treatment for one day.

Surgeons are actuated, first, by the desire to save life and to prevent suffering; then comes the desire to employ their personal skill in accomplishing the work. Last of all comes the idea of a fee. Some of us like to ask patients to pay several thousand dollars occasionally for a life-saving operation that requires the highest degree of skill and training for its successful accomplishment, but I do not know a surgeon who will not gladly operate for no fee at all in a case in which the family physician states that the patient cannot pay a fee.

6. It is hard to imagine one so inexpert as to find much difficulty in making accurate differential diagnosis between appendicitis and other inflammations of the cecal region. The diagnosis of appendicitis is usually as easily made as the diagnosis of a broken leg, yet I have known physicians, instead of making a proper diagnosis, to call their appendicitis cases by other names—as typhoid fever, or hip-joint disease, or colic, or gastritis, or bowel obstruction, or any of many diseases. A physician with an average general practice should see about four appendicitis cases annually.

7. It is possible by medical means to relieve many appendicitis cases, but it is impossible for any physician to tell in advance which cases are curable by medical means and which ones are not. That point is always determined afterward. If we try medical treatment first and wait to see which cases will respond to medical treatment, the ones which will not respond have passed into the complicated stage before operation is made, and thus precious opportunity is lost. In view of the fact that proper surgical treatment at the proper time allows less suffering, less loss of time, and fewer deaths than the best medical treatment, it seems wise to have all doubts settled by prompt operation. That leaves no room for doubt, and it makes appendicitis such a controllable disease that it becomes one of the least dreaded of all diseases. When I am in the city I have no fear of the disease personally.

8. Cases of appendicitis "cured" by medical means are almost certain to recur. The commonest reason for this is because a scar results from the first inflammation, and this scar contracts and incarcerates the contents of the appendix, entrapping many bacteria. This is known as a mucous inclusion. The bacteria in a mucous inclusion have a habit of suddenly increasing in numbers from time to time. Another common cause for recurrence is the presence of concretions in the interior of the appendix. These concretions occur in about twelve per cent. of appendicitis cases, and, like the scars of mucous inclusions, cannot be reached by any medical treatment. Another common cause for recurrence is blocking of some of the blood-vessels of the appendix by the first inflammation. An appendix with some of its blood-vessels blocked is particularly vulnerable to onslaughts of bacteria later. Some appendices giving the mildest of symptoms are infected with tubercle bacilli. Some appendices contain bowel parasites which cause repeated attacks of ulceration.

The argument that we should not remove the appendix because it may have some undiscovered use is made by people who do not know that the appendices which are removed have usually had their function already destroyed by the bacteria. Bacteria remove many more appendices than are removed by the surgeon. Appendicitis is nothing more or less than

destruction of the appendix by bacteria, and the surgeon who removes the infected appendix removes the nest of bacteria, as the gardener removes the nest of the tent caterpillar from his apple tree.

9. The question of ability to recognize the symptoms of appendicitis is one that rests with the diagnostic acumen of the individual, and there is no distinction to be made on the ground that the individual is a physician or a surgeon. On consulting my record books, I find that I have operated upon twenty-eight appendicitis cases for the physician who asked me to see your wife, and he has had a number of other cases operated upon by other surgeons—about forty cases in all I am told—and in none of these has he been mistaken in his diagnosis, although many of the cases were complicated ones. On the other hand, I have known surgeons of recognized ability to go astray on the diagnosis. The careful observer who has improved his opportunities for observation seldom makes a mistake, and when he does it is commonly for some condition which needs operation just as much as if the case were one of appendicitis.

10. The patient gets all of the benefit whenever mistakes made by the family physician are corrected by the surgeon who determines that a case is not one for operation. Professional courtesy never takes precedence over personal honor, in my circle of surgeons at least.

11. It would be a simple matter to determine on examination of the specimen whether the operation was needless or not. I am not acquainted with first-class surgeons who would be willing to remove a normal appendix. One hears a good deal of that sort of thing, but it usually originates as a joke or the attempt of some ill-natured individual to injure a successful rival. It is part of the function of a responsible surgeon to quiet the fears of timid people who come to him with imaginary cases of appendicitis.

12. Death, when it occurs after operation at the hands of a successful surgeon, is more often due to continuance of uncontrollable infection, rather than to faulty or unwise operation. The unskilful operator is apt to be a timid operator, who leaves work unfinished when he finds himself among complications, and there are unfortunately many cases of this sort in which infection continues unnecessarily.

13. There is necessity for very little controversy on appendicitis questions. Few diseases are so thoroughly understood. The origin, the symptoms, and the results of appendicitis have been clearly described and scientifically classified by authors. Controversy is mostly carried on by men who are not familiar with the works of authorities upon the subject, and a large number of physicians and surgeons are constantly on the point of discovering facts that have already become classical. A trained controversialist, who opposes the rule to operate immediately on making the diagnosis of appendicitis, can be floored by a boy who will ask these questions: (1) Can you tell in advance in which cases infection is to remain within the confines of the appendix? (2) Is not the operative death rate less than one per cent. at the hands of several American surgeons in cases operated upon before acutely progressive infection has extended beyond the confines of the appendix itself? (3) Are not the death rate and the suffering rate and the loss-of-time rate much greater under either medical or surgical treatment after infection has spread beyond the confines of the appendix itself? These questions, left to deliberation by a logical mind, lead to a logical conclusion which needs no elaboration in these pages. The death rate from appendicitis in the United States alone is estimated from safe data to amount to considerably more than fifty thousand annually.[1] This is mostly a preventable death rate. The distressing part of it is the thought that such a large preventable death rate attracts so little attention, while widespread interest would attach to the killing of fifty thousand of our citizens annually by a hostile nation in war. There is presumably no reader of these lines who has not lost friends and acquaintances unnecessarily from appendicitis. Many patients are not within reach of skilled surgical service at the time of their first attack, but such patients who recover can be sent to the nearest point for skilled services and have the appendix removed "in the interval" before the next attack comes on.

A careful examiner can usually determine by palpating the appendix, after the patient has recovered from a first attack, if the appendix contains a mucous inclusion or a concretion, or if it is otherwise disabled. There are few patients so poor in money or in friends that they cannot pay railway fares that will take them to some proper surgeon.

When a patient dies from appendicitis to-day we are to assume that somebody is culpable. Sometimes it is the physician, who allows the case to drift into desperate infection while thinking that it will improve every day. Sometimes it is the surgeon, who does an incomplete or unskilful operation: but more often it is the friends of the patient, who fearlessly take the responsibility of giving bad advice. The patient himself usually desires early operation. There is an indescribable appreciation of the gravity of the case on the patient's part, and whenever I am called in consultation to a house where one physician advises operation and another does not, where part of the family desire operation and another part does not, I customarily say, "Let us leave it to the patient." I do not remember a case in which the patient has not said, "Operate."

14. Statistics on the surgical side are satisfactory, because they have been carefully compiled. Statistics on the medical side are unsatisfactory, because they lack essential features. They should describe the number of deaths, the number of recoveries, length of time wasted in bed, the condition of the patient's general health in the interval between attacks, and the condition of the appendix as revealed by palpation. Observations should have some stated time limit, say five years, for instance. No one has ventured to give us any medical statistics of this sort. Physicians of my acquaintance who followed up their cases in this truly scientific way for a while soon became convinced that their appendicitis patients needed prompt operation, and they stopped trying to get medical statistics. Every now and then some physician publishes a slovenly compiled list of appendicitis patients cured by medical treatment. The reason why such statistics are readily determined to be absurd is because we know what a large proportion of the "cured" patients still carry incurable mucous inclusions and concretions and tuberculous foci, or chronic abscesses. Such statistics seem to be offered usually in a spirit of controversy, and they are extremely mischievous, because they are often believed in by physicians and by laymen who are not familiar with our classified data on the real pathology of appendicitis. The subject is thoroughly understood by a part of the medical profession.

[1] See "Lectures on Appendicitis," medical libraries.

Sterilization of Laryngeal Mirrors.—Dr. Körner (*Monatsschrift für Ohrenheilkunde*, No. 10, 1897) claims that laryngeal mirrors may be sterilized in a boiling soda solution without injury, provided the plating is of quicksilver, not tin amalgam, and the covering is of copper. The mirror must be immersed in water heated almost to the boiling-point, and dried immediately after removal.

REASONS WHY THE PLACARDING OF HOUSES IN WHICH ARE PERSONS SUFFERING WITH SCARLET FEVER OR OTHER CONTAGIOUS DISEASES SHOULD NOT BE CONTINUED.[1]

By ARTHUR V. MEIGS, M.D.,

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It may be that some of those who are present have not fully informed themselves in regard to the law which governs the present practice of the Philadelphia board of health. It is an act of June 18, 1895, and section 2 reads as follows:

"Section 2. Upon receipt by the health authorities of a report of the existence of a case of cholera, small-pox (variola or varioloid), scarlet fever, typhus fever, yellow fever, relapsing fever, diphtheria, diphtheritic croup, membranous croup, or leprosy in any of said municipalities, they may at once place or cause to be placed in a conspicuous place or places upon or near the house or premises in which said case may be located, a placard or placards upon which shall be printed in large letters the name of the disease from which the person or persons in said house or premises may be suffering as aforesaid, as the case may be. Provided that variola or varioloid shall be placarded as 'small-pox,' and that diphtheritic croup and membranous croup shall be placarded as 'diphtheria,' and said placard or placards shall remain thereon until such time as the rules and regulations established by the health authorities regarding the destruction or disinfection of infected bedding, clothing, or other articles which have been exposed to infection and the disinfection of houses and premises have been fully complied with. Provided that in addition to the placarding aforesaid, or in lieu of the same, the said health authorities may place a guard or guards upon said house or premises."

The point to which I wish to direct attention is that the law distinctly provides that placards *may* be placed upon houses, but that their use is not obligatory. It is desirable that every physician in the city should know that this whole question is absolutely in the hands of our local health authorities. The board has the power, if it should see fit, by the simple passage of a resolution, to change to-morrow its procedure and cease the use of placards.

The temptation to enter upon a detailed arraignment of the board of health of our city, both of its constitution and its administrative methods, is strong, but it would not be wise to do this now. It is enough at present to call attention to a few defects. Although the board is composed of six members (including the director of public safety, who is *ex officio* its president), two only are physicians. Whatever may be said of the physicians, it is certain that the other members have never been chosen because of their knowledge of sanitary science. Such being the composition of the board, let us pause a moment to consider in what manner it has administered its important functions. It must be conceded in the first instance that its duties are of such a nature that it often incurs unpopularity because its actions cause hardship to individuals. Are there heard in our city no expressions of disapproval of the board except these unavoidable ones which have been indicated? Far from it; as well as I can learn, all classes of people who come in contact with the board—citizens who suffer from sickness, physicians, plumbers, and undertakers—all alike condemn both the rulings of the board and its administrative methods.

I will give only two instances as types of unwise actions of the board—one to show the wrong it is capable of doing physicians, and the other as an illustration of the iniquitous behavior of one of its inspectors. In the early part of last summer the board by resolution directed the health officer to prosecute a physician for not having reported a case of scarlet fever. When the case was called in court it was shown that at the time of the first visit the diagnosis was not made. A second visit was not desired by the people, and the patient was not seen again until ten days or more afterward, when, on being summoned to the house and finding the patient to be suffering with dropsy and the skin desquamating, the physician judged the disease to be scarlet fever and at once reported it as such. The magistrate decided that as the case had been reported as soon as the nature of the disease was recognized, no offence against the law had been committed, and accordingly the physician was ordered to be discharged. What are we to think of a board which is so ignorant of the law or so careless of the rights of physicians as to subject one of them to the expense, humiliation, and injury of prosecution upon such flimsy grounds?

The second case is as follows: Within a few weeks a physician was called to the house of a man belonging to the working class, where he found a child with scarlet fever. The mother did not wish her child taken to a hospital, and, therefore, after investigation to satisfy himself that the house was in good sanitary condition, the physician reported the case and certified that the patient could "be properly cared for at home," and that the premises did not "need sanitary inspection." Notwithstanding this, the medical inspector of the board of health came to the house and rudely told the mother that she would not be allowed to keep her child at home and that the ambulance would come the next day to take the patient to the hospital. The ambulance never was sent, but a few days later the inspector returned and was much more polite, not so much as alluding to any necessity for the removal of the child to the hospital. What can be thought of an official inspector, whose duties necessitate constant intercourse with people in trouble owing to sickness, who could be so wantonly cruel and brutal as to indulge in an idle threat against a poor mother nursing her sick child, when the event proved that there was neither intention nor power to execute the threat?

The board of health is responsible for all misbehavior on the part of its officials, and if it continues in its present course of folly there is danger that at last our long-suffering people will rise up in rebellion against the injuries that are done them; and then sanitary science and the march of improvement will receive a check from which they can recover only very slowly, because measures that entail great hardship upon individuals can be put in execution only if supported by public opinion.

Last summer I took occasion in London and Paris to make inquiries in regard to what is done in the management of contagious diseases occurring in those cities. In London I was referred from the embassy of the United States to the local government board for information, and in Paris the secretary of the consul-general advised me to inquire of the administration générale de l'assistance publique. I was told that no such thing as placarding is done in either city. What struck me more than anything else in my interviews was that in both cities the officials seemed greatly impressed with the necessity of avoiding running counter to the sentiment of the medical profession. In London the official smiled when I told him of yellow placards, and said, "Our people would not submit to that." In Paris it was evident that the sentiment against any intrusion upon family privacy is so strong that the

[1] Read before the College of Physicians of Philadelphia, February 2, 1898.

government dreads rousing opposition upon this point. The feeling in France in regard to the sacredness of family privacy is well known by every one who has bestowed any consideration upon French customs.

There may be some here who will say that it is nothing to us in the United States what they do in Europe. Such a sentiment is very narrow-minded. Conceit in regard to the perfection of our own methods is as unbecoming as would be a slavish imitation of European customs. Our only wise course is to acquire information wherever we can get it, and to adopt improvements regardless of their source. It is therefore very important that we should be fully informed in regard to what is doing in Europe. Sufficient attention is not paid at present in this country to the opinions of physicians in regard to questions of health. It seems as if the guidance of sanitary legislation and its management had passed into the hands of politicians, and that little or no reliance is placed upon the statements of the physicians who actually attend the sick. This is a most foolish thing, for in the end it is upon the physicians that municipal and rural officers of the law must depend for much of their information in regard to disease, and if the ill will and opposition of the former are incurred little can be accomplished. In England the law provides that every time a physician makes a report of a case of contagious disease he is paid two shillings and sixpence if the case is in his private practice, or one shilling when the report is made as officer of an institution. If our city would send a commission of two or three properly qualified persons to study and report upon the methods of sanitary procedure in Boston, New York, Washington, and Chicago, and then in London, Glasgow, Paris, and Berlin, a great deal of useful knowledge would be acquired which is very much needed. At present our health authorities are not going about the matter in the right way. The diseases which may be placarded, according to the law of 1895, are of the kind against which most can be accomplished by efforts looking to their prevention, for which little or nothing is being done. Our health authorities should direct their efforts to cleanliness and measures to improve the general hygiene of the city instead of advertising by the posting of yellow placards the existence of disease after it has come. The right method is for the physicians to notify and the health officers to prevent.

There are several reasons why houses should not be placarded and various ways in which placarding is productive of harm. The state of panic created in the public mind is certainly an evil, for it is perfectly well known how difficult it is to deal with frightened people. Probably the greatest harm which comes from the enforcement of placarding is that it greatly increases the number of cases that are concealed. The public and physicians join hands in this practice, and it is only what might be expected. Respectable physicians have told me that they never report cases of diphtheria if they can avoid it, or report them only when they think death is imminent and the risk of detection becomes very great. In a pamphlet entitled "Rules for the Management of Contagious and Infectious Diseases by the Sanitary Committee, Adopted by the Board of Health, May, 1893," there is included an extract from the "Supplement to the Reference Handbook of the Medical Sciences," by William H. Ford, M.D., president of the Philadelphia board of health. Among other things in this extract, which is incorporated as an integral portion of the "Rules," is the following: "There is a difference of opinion as to the advisability of placarding houses in which contagious or infectious diseases exist. There are benefits to be derived from warning the public of danger; but on the other hand the common aversion to the requirement may lead to the suppression of the true knowledge of the disease, which may be attended with disastrous consequences. Under a well-organized system of sanitary inspection this practice might be dispensed with." As the late president of the board of health expressed himself in this manner and his opinion received the official indorsement of the board only two years before the same board adopted the practice of placarding houses, why is it not its duty to institute the "well-organized system of sanitary inspection," which the board itself declared would enable it to dispense with the oppressive practice of placarding?

The placarding of houses for contagious disease involves trampling under foot the rights of individuals and such violent intrusion upon family privacy that we ought to pause and ask if we are not in danger of losing one of our precious heritages derived from our English origin, that "every man's house is his castle." How much immunity from disease have we obtained in return? The mortality records would seem to indicate that we are less free from typhoid fever and diphtheria in Philadelphia than they are in London, where yellow placards are never used, but where there is a good sanitary system.

THE NODES OF RANVIER.

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These seem to be organs for the reception of sensory impulses, thus acting as a means of co-ordinating sensation, and not simply bands constricting a nerve fibre to equalize the white matter of Schwann, that being a secondary and purely mechanical function. In support of this let us give the following facts: There are no nodes in the tracts of the brain, in the cord, in the sympathetic system, or in the centres of the larger nerve trunks. The frequency of the nodes on a fibre is in proportion to the sensory or tactile power of that fibre. An injury of the brain parenchyma, cord, or sympathetic system cannot be localized by the injured individual. The nodes, as accessories to the terminal plaques, receive sensation through the so-called constricting band, which is in immediate contact with the axis cylinder, not being separated by the neurilemma; the neurilemma itself terminates in segments (excepting its outer layer, which covers the bands and the plaque), just as does the white insulative matter. This constricting band is identical histologically with the axis cylinder, so far as can be determined, after it is stripped of its neurilemmal covering. Silver nitrate does not easily penetrate the neurilemma between the bands; consequently the insulative matter is nearly, if not quite free from stain, while a nodal band and, continuous with it, the cylinder are intensely stained, showing their intimate contact. With aniline stains their behavior is relatively the same. How then are we to ascribe different functions to a homogeneous whole? We cannot; on the other hand, we can prove, circumstantially at least, that their uses merge into one another. For example, tease out a single fibre—the longer the better, and preferably with a terminal plaque (chemically pure glycerin will prove the best teasing-medium); have a microphone or finely adjusted telephone earpiece connected with a very weak interrupted-current battery; cut the afferent wire and solder a fine needle to each of the cut ends. Now place the nerve fibre in the microscopic field in order to gain facility in the application of the needle to the nodes, internodes, plaque, and cut end; the fibre must be still moist. Place the observer at a distance from the battery to avoid confusion of the buzz, having fixed one

needle in a position alternating with the other from node, plaque, and internode, without the observer's knowledge of the part being touched. The sound will be more than double in intensity when a node rather than an internode is touched, showing its superiority in the matter of conductivity. Substitute now a rheoscope from the earpiece and note the difference in deflection. This seems to prove that the node is capable of receiving impulse in nearly if not quite equal degree with the terminal plaque. That they are coordinators is suggested by the fact that one cannot localize the pain in the severed nerve trunk; but let the surface of the trunk be irritated and the sensation is at once assigned to the proper spot. Yet we do not deal with terminal plaques. Only those fibres nearing the part from which they are to convey sensation possess frequent nodes, and then always in direct proportion to the quality of the function that they are to fill.

Progress of Medical Science.

Hysteria in Childhood.—The *Centrablatt für Nervenheilkunde und Psychiatrie* (December 11, 1897) contains an abstract of a lecture by Dr. L. Bruns on the above subject. The author holds the same view as Möbius, and believes that the general symptoms of hysteria are of psychical origin and that such symptoms only should be regarded as hysterical as can be called forth by the will or can be simulated. Symptoms referable to organic lesions do not occur in uncomplicated hysteria. The hysteria of childhood forms about twenty per cent. of all cases, is equally frequent in both sexes, and is not influenced by social station. Hereditary taint often exists. Mimicry and careless bringing up are etiological factors. The periodical outbreaks depend upon some psychical disturbance, such as fright or fear. In development the symptoms are often monosymptomatic. Hysterical stigmata are most often absent; hystero-epileptic attacks rarely occur. The monosymptom is usually marked (hystérie maissive). Paralyses in all degrees, flaccid or with contractures, usually without involvement of the face, are common. Less often are there sensory disturbances; the writer has never observed complete hemianæsthesia. Other symptoms are astasia and abasia, mutism, stuttering, blepharospasm, wilful tremor seldom, choreic movements oftener, tic convulsif, grimace movements, chorea rhythmatica, hemiepilepsy, hystero-epileptic convulsions. Major convulsions are rare; usually the hysterical attacks are dependent upon a psychical basis; *e.g.*, somnambulism, chorea magna, and also hysterical cough, rapid breathing (tachypnœa). True neuralgias seldom occur; more often joint neuralgias. Single amblyopia or amaurosis of one eye, facial spasm, deafness, deaf-dumbness, sometimes dysphagia, anorexia, with refusal to take food. Seldom œdema. Occasionally trophic disturbances as a result of self-injury. The children are usually petulant, unruly, often wilful. The prognosis is good; the child is more easily influenced psychically than the adult. The treatment should be entirely psychical; foremost stands isolation. The child must be removed from its previous surroundings and completely separated from its parents; if possible, it should be placed in an institution. The family "doctor," being familiar to the child, impresses the child less authoritatively and has less power of suggestion than a strange physician. There are two methods of treatment—the one by moral chastisement, the other by wilful disregard of the symptoms. The first is more rapid and more certain. When possible it should be enforced at one sitting, until a cure is effected. The subjective psychical treatment, especially in the form of energetic verbal suggestion, is preferable to the objective (electricity and hydrotherapy). Hypnotism is not to be recommended. If the physician does not succeed, he is not to recommend illegitimate medicine; on the other hand, he should not necessarily prohibit its use, since a cure therefrom occasionally results.

Subcutaneous Rupture of the Spleen, Extirpation, Cure. — Dr. B. v. Beck (*Münchener medicinische Wochenschrift*, 1897, No. 47) gives the history of a case of splenectomy. A nineteen-year-old coachman fell from his coach seat and was run over by a wagon weighing about eight hundred pounds; the front and hind wheels were said to have passed transversely across his abdomen. There were temporary loss of consciousness, frequent and severe vomiting. He was brought to the hospital in a state of collapse, and the diagnosis of profuse intraperitoneal hemorrhage from rupture of the spleen was made. An intravenous salt-solution transfusion of five hundred cubic centimetres was at once given. Under chloroform, median laparotomy was performed. From the abdominal cavity seven hundred cubic centimetres of fluid blood was removed. In the splenic region about five hundred cubic centimetres of coagulated blood was removed, after which the spleen, bleeding fairly freely, could be seen. On the concave side near the hilus the spleen showed a rupture running transversely through the whole organ; on the convex side some small tears could be felt. The incision was enlarged by one running to the left hypochondriac region. The spleen could thus be isolated; the vessels at the hilus were ligated with silk, the spleen was removed, the abdominal cavity washed with salt solution, and the abdominal incision sewed up. A further intravenous transfusion of two hundred cubic centimetres of salt solution was then given. There was no fever after the operation. A slow recovery from the severe anæmia followed. The patient was up after four weeks. The indication in this case for a splenectomy was very clear. Since suture of the spleen would be too long a process and not reliable, the operator gives great weight to the transfusion in this case. The only pathological symptom noticed after the extirpation was the slow regeneration of the blood, both as regards the hæmoglobin and the number of red and white corpuscles.

Changes in the Skin in Acute Rheumatism, and Observations on the Nature of Erythema Multiforme.—Dr. S. Singer (*Wiener klinische Wochenschrift*, No. 38, 1897) writes that in the course of acute rheumatism lesions are observed in the skin, the most of which can be placed under the group erythema multiforme. This polymorphous erythema shows itself in the form of erythema gyratum, figuratum, or urticatum, on the trunk and extremities. Next to the rosy-red spots there come hemorrhagic surface eruptions; smaller or larger nodular painful infiltrations (erythema nodosum); in a few instances erythematous spots with vesicular formations. The extensor sides of the extremities are the favorite seats of the above lesions, though they are also found—but not to the same extent—on the flexor side of the limbs and upon the trunk. The writer has observed the accompanying polymorphous erythema in seven cases of rheumatism. Two of these cases were examined bacteriologically, in one of which the staphylococcus pyogenes albus was found in both the urine and the eruption. Besides studying the lesions accompanying rheumatism, Singer has made bacteriological examinations in two cases of erythema multiforme, the blood being obtained by lancing the lesions. The first case was one of septic infection, having its starting-point in a tonsillar abscess, accompanied by high fever and a polymorphous erythema of a scarlat-

inous nature, with disseminated nodules, papular efflorescences, many pustules, and acute nephritis. The urine and the pus from the tonsils and the skin pustules contained the staphylococcus pyogenes aureus. The second case occurred in a man with a papular erythema of the trunk. The cause of the erythema was an infected wound of the hand. The urine and the papules contained the staphylococcus aureus; the eruption might therefore be looked upon as a staphylococcus metastasis. The writer thus sums up his views: "Erythema multiforme is both symptomatic and idiopathic. The symptomatic form occurs most often as an accompaniment of a generalized pyæmic process; next often it accompanies articular rheumatism. The so-called idiopathic form of erythema—through its most frequent occurrence during the spring and fall; by fever, pains in the joints, relapses; its combination with angina and endocarditis—shows such a true relation to articular rheumatism that the majority of these cases we must look upon as rheumatic processes, the skin lesions overshadowing the joint symptoms. Staphylococci and streptococci are the only bacteria found in erythema multiforme. Because of the kind of bacteria present, we may look upon the erythematous eruptions accompanying septico-pyæmic processes as pyæmic skin lesions. Since erythema multiforme and acute articular rheumatism are so closely related, the latter may be discovered to be a pyæmic disease."

The Protective Power of Leucocytes.—Dr. Jacob (*Zeitschrift fur klinische Medicin*, Bd. xxxii., Hefte 5 and 6) says that if an infectious disease attacks the organism the protecting power of the leucocytes depends upon the amount of the toxin produced by the invading bacteria. If this toxin amount be very great, the white blood corpuscles are affected by a continuous negative chemotaxis; they do not leave the blood-making organs, and they do not form any bactericidal secretion. Should the amount of bacterial toxin, on the other hand, be only moderate, the negative chemotaxis is gradually changed into a positive one; the leucocytes hurry to the seat of conflict, and form bactericidal products. These latter, however, are of a generic, not of a specific nature; it is only from the two components—the toxin of the bacteria and the secretion of the leucocytes—that a resultant antitoxin is formed, which antitoxin kills or at least diminishes the power of the bacteria. It is at this time that phagocytosis sometimes occurs, the leucocytes taking upon themselves the rôle of transporters after having fulfilled that of bactericidal secretors.

Etiology and Histology of Pneumonia, both in Childhood and in General.—As a result of forty-one autopsies on children having primary and secondary pneumoniæ, Dr. H. Dürck (*Deutsches Archiv für klinische Medicin*, Band 58, Heft 4 and 5) found a more or less complicated mixture of bacteria, among which the diplococcus pneumoniæ was most often present. The composition of this bacterial mixture has, however, no effect upon the histological structures of the pneumonic exudate. A histological division between lobular or pseudo-lobular pneumonia and lobar pneumonia cannot be carried out. The term "broncho-pneumonia" is justified only when the inflammation has been proved to travel from the terminal bronchi into the peribronchial tissue. In thirteen autopsies of children who died from other causes and whose lungs were normal, the writer always found bacteria; here, too, the diplococcus pneumoniæ was most frequent. That the presence of bacteria in these normal lungs was not due to post-mortem infection, Dürck proves by his discovery of the same bacteria in the lungs of domestic animals but recently killed and dissected. The writer concludes from this that the presence alone of bacteria in the lungs—which bacteria are present in the lungs of every healthy person—is not sufficient to cause pneumonia, but the organs must in some manner first undergo harm and damage. This he proves by experimental research. The intratracheal application of pure culture of the bacteria found in pneumonia did not suffice to induce the disease; when, however, the lungs were irritated by the inhalation of dust and other similar extraneous materials, or by cold, then a pneumonia immediately developed. The effect of cold the writer explains by its producing an acute intense hyperæmia of the lungs.

The Modern Management of Diphtheria and Croup Cases.—The treatment of diptheritic inflammation consists in the early and proper administration of reliable antitoxin, supplemented by the nasopharyngeal toilet. The time for discussing the pros and cons of antitoxin treatment is past; the specific curative power of this remedial agent is an established fact. Behring's claim that if antitoxin be used early the mortality from diphtheria will not exceed five per cent. is borne out by the reports of competent clinicians the world over. Opposition to anything so radically new as Behring's discovery is one of the associating features in the evolution of scientific medicine. Vaccination and antiseptic surgery stand in evidence of this fact. Any practitioner who studies the collective investigation reports for 1896 and 1897 on antitoxin for diphtheria and croup in private practice, issued by the American Pediatric Society, and fails to use antitoxin because he "does not believe in it," should not be intrusted with the management of a case of diphtheria, and the practitioner who thinks a case is mild, and waits for severe symptoms before using antitoxin, utterly fails to grasp the situation, and will frequently be disappointed.—Dr. Augustus Caillé (at the eighty-fourth annual meeting of the Vermont State Medical Society, October, 1897).

The Present Status of Surgery of the Lungs.—During a meeting of the surgical section, Versammlung deutscher Naturforscher und Aerzte, September 20–25, 1897, Dr. Sonnenburg discussed the above subject. He divides lung surgery into pneumotomy and pneumectomy; he always makes a large flap and removes several ribs, in order to gain as large a field as possible. As to the pleura, he recommends the immediate—not mediate—suture thereof; often the pleura is already adherent. Puncture of the lung has been warned against because of fear of infection. It is certainly better to puncture after resection of the ribs; puncture, too, is very often uncertain, even though the abscess be near by, and repeated puncture with a short needle is often necessary if the abscess be a deep-seated one. On the other hand, the longer the needle the greater the danger to the large vessels in puncturing. Palpation gives better and quicker results. This is best carried out by separating the parietal pleura from the ribs, and then introducing the hand between the pleura and ribs; the field for operation being thus discovered, the ribs are removed directly opposite the diseased lung. Regarding the question of knife or cautery in attacking the lung tissue, Dr. Sonnenburg prefers the knife when the tissues are hard and sclerosed; there is no danger of hemorrhage. When the tissues are soft, inflamed, succulent, cautery is the proper method. The abscesses are to be opened wide and tamponed, particularly when a communication of the abscess with bronchi exists; else the patients cannot breathe. The operation for ecchinococcus of the lung gives very good results; the treatment of these tumors by aspiration and injection of medication the speaker considers dangerous. Among inflammatory conditions of the lung, abscess, gangrene, and bronchiectasis have been attacked surgically. Acute abscesses offer a good prognosis, particularly

when early operated on; they occur most frequently after true pneumonia and after influenza. Chronic abscesses, on the other hand, do not offer a good prognosis: most often leaving a fistula after the operation, because of the more or less indurated condition of the tissue. In eighty per cent. of the cases the abscesses were found in the lower lobes. Metastatic abscesses offer very little chance for the surgeon; such cases almost invariably are fatal. There is more hope in those cases produced by an abscess in the neighborhood, *e.g.*, diaphragmatic abscess, abscess of the liver. Abscesses caused by foreign bodies are generally putrid and accompanied by a purulent pleuritis; often the foreign body is situated quite distant from the seat of the abscess. Only when single and sacculated ought bronchiectases to be operated on; when small and multiple they most rarely heal—they leave fistulæ. Operations for gangrene have resulted in thirty-five cures out of forty-seven cases; Sonnenburg's cases all ended fatally. Finally, actinomycosis may be operable, particularly when the abscesses formed are superficial.—*Wiener medizinische Blätter*, No. 40, 1897.

Researches on the Injection of Lecithin.—Dr. Cesar Serono, *La Tribune Médicale*, December 1, 1897, says that Gobley has given the name of lecithin to the neutral phosphatic fatty material that Chevreul has noted in fibrin, and which, according to Berzelius, would be formed with fatty acids. We find this substance in the yolk of an egg, in the nervous system, in the blood, in the bile, etc. The author has made numerous experiments by injecting different kinds of lecithin under the skin of animals. Danilewski preceded him in these researches and observed that, after these injections in dogs and chickens, the weight of these animals increased rapidly and that there was an extraordinary modification of red blood corpuscles. Dr. Serono has noted the same results in frogs; he has called attention to the energetic action of this substance on dogs and also on patients of different ages in whom he has used lecithin as a reconstituent, which compares favorably with arsenic but is more rapid in its action. There are always an increase in weight and an improvement in the general condition. A series of eight, ten, or fifteen injections of from fifteen to twenty centigrams of lecithin daily suffices completely to transform the patient's condition. This substance increases the red globules and the hæmoglobin slowly, organic changes are accelerated, the amount of urea is even more than doubled, and there is a great increase in weight. The author has never injected lecithin in large doses, and it would be interesting to follow the effects that would be produced in certain morbid conditions.

Culture Media for the Bacillus of Smegma.—Dr. H. Laser (*Munchener medicinische Wochenschrift*, October, 1897, No. 43, page 1,191) states that the bacilli of smegma that one finds on the surface of indurated chancres and of condylomata, and which do not develop in ordinary culture media, do so very well when a sowing has been made on agar to which blood has been added. On these plates or in tubes of mushroom, at the end of twenty-four hours, colonies analogous to those of streptococci or of the bacillus of diphtheria are found. Stained by the process used by Koch for the tubercle bacillus, the bacilli of smegma present a rose color under the microscope. A pure culture of the smegma bacilli transplanted to gelatin does not grow. It increases but slightly on agar, in an aqueous solution of peptone, in beef bouillon, and but little better in bouillon to which glucose has been added and on mushroom to which glycerin has been added. On potato there is scarcely any development. The results of inoculation with pure cultures made under the skin or into the peritoneum of guinea-pigs and white mice show that, at least with these animals, smegma bacilli are not pathogenic. According to the author, the culture of the bacilli of smegma in a state of purity may have a practical interest, especially in cases in which the microscopical examination of the sediment of the urine shows the presence of rose-colored bacilli having all the appearance of the bacilli of tuberculosis. If there is any doubt, it suffices to make a culture of the sediment; the smegma bacilli give a culture at about the end of twenty-four hours, while the bacilli of tuberculosis develop only at the end of from ten to fourteen days, or even later.

Uropoiesis and Faradization of the Liver.—Dr. Gino Gini, *La Tribune Médicale*, December 1, 1897, says that it is well known that the salts of ammonium in the human organism and in that of the higher animals are transformed into urea by a process of synthesis with the carbonic acid and with the elimination of water. Salomon and Schröder have proved that this transformation takes place in the liver. According to other scientists the formation of urea takes place in other organs, and especially in the muscles. The conditions which favor uropoietic activity are but incompletely understood; we know only that the presence of acids greatly retards the synthesis of urea, and also that febrile processes do not modify the production of this substance to any appreciable extent. We do not know that the destructive processes or slow inflammations of the liver have any influences; nevertheless it has been ascertained experimentally that extirpation of a part of the liver diminishes proportionately the excretion of urea. We may or may not ignore the intervention of the nervous system in uropoietic activity; certain works of Cavazzani seem to prove that any innervation of the liver does not influence directly the production of urea. A communication of Chassevant and Richet to the Society of Biology demonstrated the existence of a special ferment in the process of uropoiesis. The importance of the activity of the hepatic cells in the act has not been sufficiently studied or recognized; it is not known whether the liver transforms all the ammoniacal compounds which the blood brings to it into urea; or whether the synthetic activity of the liver is able, at certain times or in certain pathological conditions, to perform the work of transforming all the ammoniacal compounds in the blood into urea; or if the liver is able to form urea otherwise than by synthesis from the products of "regression of metabolism." The author has sought to find out if a stimulus applied directly to the liver could modify the uropoietic activity. Other scientists have also worked along this line by using faradic currents applied to the liver through the abdominal wall, but the result has not been definite. Dr. Gini offers the following conclusions founded on his researches: 1. Faradization of the liver does not cause any immediate modification in the elimination of urea (experiments were made on rabbits). 2. After the second or the third day of faradization there will be an increase in the quantity of urea lasting for two or three days. 3. This increase is the direct result of the force and of the extension of muscular contractions provoked by the electric current. It is the effect of the increase of the organic construction of the muscles. 4. Uropoietic action of the liver is subordinate to the quantity of the products of "regression" of the organic exchange, and since stimulation of the nerves of the liver does not increase the uropoiesis of this viscus, one cannot by stimulation directly increase the uropoietic function of its cells. It remains to determine the effect of direct or indirect stimulation; this has not yet been done.

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ACCLIMATIZATION IN THE TROPICS.

THE question of the white man's ability to conquer the tropics and to make for himself a permanent home in those delightful regions is one that has hitherto possessed a purely academic interest for physicians in this country, but the fortunes of war and projects of annexation are making it probable that this will soon be changed. Porto Rico, the Sandwich Islands, and the Philippines are all tropical islands, and if they, one or all, come under our flag, doubtless many of our citizens will go thither to seek their fortunes, and the question of acclimatization will at once become a most practical one.

We find, in the *British Medical Journal* of April 30th, an interesting account of what is therefore for us a most timely discussion on this topic. The discussion took place in the rooms of the Royal Geographical Society, in the presence of many of the best-known authorities on tropical pathology. Most of those taking part in the debate held that there is no reason whatever why the white man should not be able to adapt himself to the new conditions of life in the tropics and protect himself against the diseases that prevail in those regions. The popular belief that the white man cannot successfully colonize the tropics is disproved by the fact that he has done so. It is undoubtedly true that many Northerners who go to equatorial regions contract disease there and die, but in the majority of such cases the man is the victim of his obstinate unwillingness to change his habits in respect to eating, drinking, and clothing, and to conform his mode of life to the new conditions.

The chief diseases, both acute and chronic, of tropical countries—those which formerly caused such ravages among the white settlers and gave rise to the prevalent theory that Europeans could live only in the temperate zone—are all microbic in origin and consequently preventable in great measure. We cannot, of course, expect to see them absolutely wiped out of existence, at least this side of the sanitary millennium; but their sting, like that of small-pox, can be extracted by means of an improved public and private hygiene and other prophylactic measures. A comparison of the healthfulness of the West India Islands under enlightened British rule with that of the two until recently under Spanish misrule shows what can be done by sanitation to convert a pest hole into a paradise. Indeed, as Dr. L. Sambon, in opening the discussion above referred to, well said, sanitation has within the last few decades wrought wonderful changes in all tropical countries, as regards health conditions, and the changes have been so great in some places that regions which were once considered most deadly are now even recommended as health resorts.

Dr. Patrick Manson, than whom there is no greater authority on the pathology of equatorial regions, began his remarks with the confession that in former years, under the influence of early teaching, he shared in the pessimistic opinions then current about tropical colonization by the white races. In recent years, however, his views on this subject had undergone a complete revolution—a revolution that began with the establishment of the germ theory of disease. He now firmly believed in the possibility of tropical colonization by the white races. Heat and moisture, he contended, were not in themselves the direct cause of any important tropical disease. The direct causes of ninety-nine per cent. of these diseases are germs. When these germs and their habits are known fully, victory will be within man's grasp. Most microparasites, when they are once within the body, are fairly safe. But these same parasites, in order that their respective species may keep in existence by spreading from one host to another, must at some time or another leave the human body, and during this necessary extra-corporeal state they are eminently vulnerable. To kill them then is simply a matter of knowledge and the application of this knowledge—that is to say, sanitary science and sanitation.

One earnest contention of those who argue against the possibility of successful colonization of the tropics by the white races is that, even if the original colonist lives out his natural term of years, his children will bear in themselves evidences of the degenerative influences of a hot climate. It is true, indeed, as was admitted by Sir Harry Johnston, that in many parts of the tropics the climate does cause a deterioration of European races. As an example of this is cited the offspring of British parents in India, who, if brought up in that country, do not reach the standard of stamina seen in the home-bred Briton. This is no doubt true of other places than India and also of other than tropical regions, but it is not true of all tropical countries. It is a question whether it is the heat alone that works this change, or whether there are certain as yet unappreciated telluric influences which are responsible for the loss in stamina. In India, Ceylon, tropical America, and Australia, the problem of colonization may be regarded, to quote Sir Harry Johnston again, as solved. In other regions certain definite diseases still stand in the way—namely, malaria, dysentery, and yellow fever in the West Indies, and blackwater fever or hæmoglobinuria in Central Africa. Even for malaria quinine is by many regarded as a not absolutely sure prophylactic; and for the other diseases there is none as yet. The real question of colonization of the tropics lies in the finding of means of protecting Europeans against the diseases named. That this means will some day, if not very speedily, be found, can hardly be doubted by any but the most confirmed sanitary and therapeutic pessimist.

THE MICROBE OF BALDNESS.

ANOTHER important discovery in the field of bacteriology has recently been announced. Nowadays the discovery of the germ of a disease is an event of so frequent occurrence that the finding of a new one does not possess the surpassing interest of a few years ago; in fact, it appears that it might not be rash to predict that ere long men of science may find themselves in the position of Alexander the Great, who is said to have wept because there were no more worlds for him to conquer. The researches which have just been crowned by success, and which have, it is stated, solved the mystery connected for years without number with the cause of baldness, is naturally a matter of surpassing concern to people in all parts of the world. Baldness has ever been regarded as one of those bodily changes to which all flesh is heir, and esteemed an ordinary incident in the course of nature; but we are now told that we have given too much credit to nature —that in this instance at least she is not responsible, and that the cause of baldness must be laid to the charge of the ubiquitous microbe. M. Sebouraud, an ex-pupil of M. Pasteur, a well-known authority on the nature and cause of ringworm, has by his investigations exposed the secret of baldness and thrown new light on that well-worn subject. He declares that common baldness is a perfectly definite malady of microbial origin. In a leading English review an instructive account is given of the elusive microbe, which runs as follows: It is a minute colorless body, pointed at both ends, and increasing in number by constant division into two, and, since the divisions do not immediately break off, long chains frequently form, each link in the chain being a distinct microbe. It congregates in colonies of enormous numbers in the hair follicle below the epidermis and just where the sweat gland joins the follicle. At this point there is somewhat of an enlargement, and in this little cavity it finds a convenient habitat. But, further, each colony is wrapped up in a kind of cocoon, by fatty matter from the sebaceous gland; the cocoons vary in size, and are easy to obtain by squeezing the skin at the mouth of the gland. For instance, the coil of fatty matter which is ejected when a "blackhead" is forced out of the skin by pressure, is simply an enormous cocoon holding within it myriads of this bacterium; indeed, it is appalling to think of the bacteriological flora for which our skins are the happy hunting-ground. Sometimes the cocoons have an opening—a kind of road to their interior; at other times they are completely closed; but always they contain a vast collection of this particular microbe. M. Sebouraud explains that the manner in which the microbe acts to cause baldness is by slowly poisoning the hair at the roots. For some time, although M. Sebouraud was satisfied in his own mind that he had discovered the cause of baldness, he was unable clearly to demonstrate the fact. To give convincing proof of his theory, he must show himself able to produce baldness by introducing the microbe into a head of hair. As no human subject came forward to offer his head and hair in the interests of science, M. Sebouraud was compelled to fall back on a rabbit. He accordingly procured and inoculated a rabbit with a liquid in which he had cultivated isolated microbes. The result exceeded his most sanguine expectations, as, after undergoing the inoculation treatment for six weeks, the animal was entirely bald. Unfortunately for the immense army of bald persons, M. Sebouraud holds out no hope of a radical cure; in fact, he regards it as an impossibility. Nevertheless, the discovery of the cause is a decided advance, and will assuredly incite the bald to hope that by further investigations a reliable antitoxin may be evolved.

News of the Week.

Medical Practice in the Klondike.—A correspondent of the *Medical Sentinel* utters a warning to physicians from this country who may be contemplating a journey to the Klondike. Before any such are permitted to practise medicine in that region it will be absolutely necessary, he writes, to pass examinations before the board of examiners of the Northwest Territory (not British Columbia), whose headquarters is Calgary, and of whom Dr. Britt, Banff, N. W. T., is registrar. The provincial authorities have announced that the medical law will be strictly enforced.

Sterilized Milk for the Children on Randall's Island.—The department of charities of New York has accepted the sterilized-milk plant on Randall's Island which Nathan Straus, formerly president of the health board, presented to the city. The plant has a capacity for sterilizing enough milk for one thousand children per day. There are six hundred children in the institutions on the island.

The Doorkeeper at the Pasteur Institute.— The new *concierge* of the Pasteur Institute in Paris was the first patient who was treated by Pasteur for hydrophobia. While a shepherd, he had been badly bitten by a mad dog, and was persuaded to offer himself for trial of the injection treatment. Pasteur presented him with a silver medal and employed him in his laboratories, and now he has just been appointed *concierge* of the institute.

Obituary Notes.—DR. ISAAC N. QUIMBY, of Jersey City, died of pneumonia at his home in that city. He was born in Bernardsville, N. J., sixty-eight years ago, and was graduated from the medical department of the University of New York in the class of 1859. He served as a surgeon in the army of the Potomac during the civil war. He was an active and prominent member of the American Medical Association.— DR. DAVID WENDELL YANDELL, of Louisville, Ky., died at his home in that city on May 2d, after a long illness. He was born in Murfreesboro, Tenn., in 1826, and was the son of Dr. Lunsford Pitts Yandell, who had just began practice in that year. He was a graduate of the medical department of the University of Louisville in 1846. He served as surgeon in the Confederate army during the civil war. He was president of the American Medical Association in 1871.

—Dr. Lott Southard, of Newark, N. J., died at his home in that city on May 14th, after a long illness. He was a graduate of the Geneva Medical College in 1852. He was born in Baskingridge, N. J., seventy-one years ago.

The Late Dr. I. N. Quimby.—At a special meeting of the Jersey City Hospital staff, held May 7, 1898, the following resolutions were unanimously adopted:

"*Whereas*, Dr. Isaac N. Quimby, for many years a member of the Jersey City Hospital staff, has been removed by death, therefore be it

"*Resolved*, That we, members of the staff, fully realize how great is our loss in being deprived of the kindly counsel and companionship of our late associate, Dr. Isaac N. Quimby.

"That we feel that by his death, not only among ourselves but in the community at large, a vacancy has been created which cannot easily be filled.

"That we tender our most sincere sympathy to his family in their sad bereavement.

"That a copy of these resolutions be published in the daily papers of the city and in the prominent medical journals of the country."

Extension of Relief of the United States Marine Hospital Service.—In a circular dated May 2, 1898, Dr. Walter Wyman, supervising surgeon-general of the Marine Hospital service, writes that the United States marine hospitals are to be made available for the reception of the sick and wounded of either the United States army or the United States navy. All medical officers of the service are directed, upon a written request of the proper military or naval authority, to receive and care for such patients.

Reduced Fare to Denver.—The various trunk lines have reduced their fares to one and one-third for all delegates from Greater New York to the meeting of the American Medical Association in Denver, making the round trip $65. To all who join the association party the transportation committee of the County Medical Association will give a full sleeping-car berth to Denver free of charge, thus saving each delegate $11. The train leaves West Forty-second Street ferry, June 2d, at 6:15 P.M., *via* New York, Ontario, and Western Railroad. Each person desiring to avail himself of this privilege is requested to forward $10 to Dr. J. J. E. Maher, 34 West Twenty-fifth Street, the chairman of the committee, the balance, $55, to be paid before June 1st. The committee will be in attendance for half an hour before the departure of the train, and will issue tickets on presentation of receipts for money paid. Excursion tickets are not available before June 1st.

The New York State Medical Association.—The fourteenth annual meeting of the third district branch of the New York State Medical Association will be held at Syracuse, on Thursday, June 2d, under the presidency of Dr. H. W. Carpenter. The secretary is Dr. F. W. Higgins, of Cortland. The fourteenth annual meeting of the fifth district branch will be held in Wurzler's Building, 315 Washington Street (near City Hall Square), Brooklyn, on Tuesday, May 24, 1898. The president is Dr. N. W. Leighton, and the secretary Dr. E. H. Squibb, of Brooklyn.

The Indian Territory Medical Association.—The semiannual meeting of this society will be held at Wagoner, I. T., on June 1 and 2, 1898. The president of the association is Dr. E. N. Allen, of South McAlester, and the secretary Dr. Le Roy Long, of Caddo.

The American Medical Editors' Association.—The annual meeting of this society will be held at Denver, on Monday, June 6th, the day preceding the opening session of the meeting of the American Medical Association. The association will be entertained at a banquet on the evening of that day by the local committee on medical journals. Dr. Thomas H. Hawkins is the chairman of this committee.

A Legacy for the Advancement of Medical Science.—Mrs. Caroline Croft is reported to have left $100,000 to Drs. Henry K. Oliver and John Collins Warren, of Boston, for the purpose of making investigations to ascertain some method of curing cancer, consumption, and other diseases which are now regarded as incurable.

Female Nurses for the Army.—Four trained nurses were recently sent to the army hospital at Key West, they having been regularly enrolled in the army. They belong to the hospital corps of the Daughters of the American Revolution, and were selected by Dr. Anita Newcomb McGee, director of the corps, for this duty.

The Pharmacists and the Manufacturers.—A writer in *The Evening Post* says that a discussion between the physicians and druggists of Philadelphia, carried on by the druggists ostensibly in advocacy of a national formulary, which would give a standard method of preparing the many prescriptions which have become popular with the physicians and the public, assumed later the appearance of a war by the pharmacists on the manufacturing chemists. The latter have been in the field for a long time with pellets prepared according to standard formulas, and there is less profit in the sale by the druggists of these standard tablets than in the compounding of prescriptions. Some of the Philadelphia doctors told the druggists that in their opinion the manufacturing chemists, with their facilities for getting drugs in large quantities, and accomplished chemists to assay them and supervise the manufacture, could accomplish results more cheaply and more certainly than the druggists. In answering this the druggists asserted that many manufacturing chemists employ children in the weighing and mixing of drugs, and that they are not covered by the law which requires a drug store to employ a registered pharmacist.

Turkish Losses in the Greek War.—It is stated that Turkey lost less than one thousand men in battle in the Greek war, but nineteen thousand died in Thessaly of disease, and twenty-two thousand were

sent home invalided, and of the latter eight thousand subsequently died. Among the dead were seventeen army surgeons.

New London (Conn.) County Medical Association.—The one hundred and seventh annual meeting of this society was held at New London, on April 7th, under the presidency of Dr. A. W. Nelson, of New London. The following officers were elected: *President*, William Witter, of Norwich; *Vice-President*, E. P. Douglass, of Groton; *Clerk*, Carlisle F. Ferrin, of New London.

Dr. Carlos Finlay, of Havana, is reported missing from that city, and fears are entertained for his safety, as it is known that his name is in the blacklist of the Spanish volunteers, who have been in full control since the city was placed under martial law. His many friends in this country are hopeful, however, that he has succeeded in escaping among one of the several bands of refugees who have come away or have fled to the interior since the blockade of Havana was established. Dr. Finlay is well known for his studies in yellow fever, and was, we believe, the first to promulgate the theory that this disease is spread through the agency of insects, and especially of mosquitoes. He also employed mosquitoes as a means of inducing a mild attack of the fever, and so effecting immunity with a minimum of risk to the unacclimated.

The American Gastro-Enterological Association.—The annual session of this association was held at Washington, D. C., on May 3, 1898. The following papers were read: "A Case of Atrophy of the Stomach, with Exhibition of Specimen," Dr. Julius Friedenwald, Baltimore, Md.; "A Case of Acute Pancreatitis, Carcinoma of the Cardia," Dr. Morris Manges, New York; "Nervous Dyspepsia, with Report of Cases," Dr. Frank H. Murdoch, Pittsburg, Pa.; "The Effect of Auto-Intoxication on the Liver and Kidneys. Exhibition of New Instruments for Intubating the Duodenum and Outlining the Greater Curvature and Colon," Dr. John C. Hemmeter, Baltimore, Md.; "Precision of Terms in Diseases of the Stomach," Dr. Charles D. Aaron, Detroit, Mich. The election of officers resulted in the choice of the following: *President*, D. D. Stewart, Philadelphia; *First Vice-President*, Max Einhorn, New York; *Second Vice-President*, John C. Hemmeter, Baltimore; *Secretary and Treasurer*, Charles D. Aaron, Detroit; *Councillors*, Henry L. Elsner, Syracuse, A. P. Buchman, Fort Wayne, Frank P. Murdoch, Pittsburg.

The American Association of Genito-Urinary Surgeons.—The twelfth annual meeting of this association will be held at Cranston's Hotel, West Point, N. Y., June 7 and 8, 1898.

Cremation in Germany and Austria.—The *British Medical Journal* say that the Vienna Medical Society at a recent meeting considered two reports presented by Professors v. Hoffman and Gruber on the advantages and drawbacks of cremation in regard to public health. The society passed the following resolution: "Cremation by means of modern combustion ovens is unexceptionable from the hygienic point of view; but earth burial does not involve such drawbacks and dangers that cremation should be considered as a necessary sanitary reform. Compulsory cremation presents insurmountable difficulties and is open to objections of great importance from a medico-legal point of view. Optional cremation, on the other hand, is not open to the slightest objection provided that the burning of bodies is carried out only after careful post-mortem examination." The same paper states that cremation appears to be making headway in Germany. In addition to the crematoria at Gotha, Heidelberg, and Hamburg, one has recently been established at Jena. The last has been erected by private subscription, and is reserved for private use. There is a likelihood of another being erected before long at Mannheim. Germany now stands third among the nations in respect of the number of its crematoria. Italy comes first with twenty-four, America next with twenty-two, Germany is a bad third with four; then come England with three, France with two, Sweden with two, Denmark with one, and Switzerland with one.

The Working of the Wisconsin State Medical Law.—Dr. Gilbert E. Seaman, of Milwaukee, writes that the statement of the *Chippewa Falls Herald*, recently referred to in these columns, that the Wisconsin medical law is not enforced with great rigor, is incorrect. "The fact is," he writes, "that the Wisconsin medical law has worked admirably. We have a very efficient board of examiners, and I believe that every man who has begun practice in this State since the law went into effect has the certificate of the State board." The *Milwaukee Sentinel* says that the law has had the effect of keeping many undesirable physicians out of the State. As an evidence of this, it is cited that during the first quarter of the board, from July 12th to October 12th, ninety-six applicants for licenses did not put in an appearance when the board met, and after notice of the qualifications required by the board had been sent to the applicants. During the second quarter about fifty applicants failed to respond, and this last quarter some sixty failed to appear. The qualifications are not only a diploma but affidavits from two reputable physicians testifying to the good character and morality of the applicant.

New York Mycological Club.—At the annual meeting of this society, held Monday, April 4th, the following officers were elected for the ensuing year: *President*, Henry G. Piffard, M.D.; *First Vice-President*, W. C. Deming, M.D.; *Second Vice-President*, W. B. Garside, M.D.: *Third Vice-President*, Miss C. C. Bedford; *Secretary*, Mrs. A. R. Witte; *Treasurer*, Thomas J. Keenan.

The Black Hills Medical Society.—At the second annual meeting of this society, held in Lead, S. D., on April 14th, the following officers were elected: *President*, A. H. Bowman, Deadwood; *First Vice-President*, C. W. Hargens, Hot Springs; *Second Vice-President*, C. E. Zerfing, Lead; *Secretary and Treasurer*, A. G. Allen, Deadwood; *Board of Censors*, Drs. Dickenson, Hargens, and Torrence.

Society Reports.

MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

One Hundredth Annual Session, Held at the Hall of the Faculty at Baltimore, April 26 to 29, 1898.

Tuesday, April 26—First Day.

The one hundredth annual session of the Medical and Chirurgical Faculty of the State of Maryland was called to order at the hall of the faculty, 847 North Eutaw Street, April 26th, at twelve o'clock noon, Dr. Charles M. Ellis, of Elkton, president, in the chair; Dr. J. Williams Lord and Dr. Robert T. Wilson, secretaries.

The president, Dr. Charles M. Ellis, spoke of the improved financial condition of the faculty, and referred to the fact that in one year it would celebrate the completion of one hundred years of existence as a medical society, and hoped to have at that time all debts paid and a sum of money laid by as a surplus. Up to the present time fifty-one members had applied for admission.

A paper, entitled "School Desk, Eyesight, Etc.; Cases in Practice," was then read by Dr. J. B. R. Purnell, of Snow Hill, in which he spoke of the size of the school desks in proportion to that of the children using them, and the effects it had on the eyesight, and referred also to the adjustable school desk.

The Antiseptic or Germicidal Treatment of Disease.—Dr. Edward Anderson, of Rockville, read a paper with this title. He referred to the great scope of the subject, and said that we should not rely too much on text-books, but use our own experience. We do not remember in using germicides that the blood has marked germicidal properties, and we should also bear in mind that such substances as common salt have a certain amount of antiseptic and germicidal power. In many cases of infant diarrhœa he had found great benefit from antiseptics, and he thought that the sooner physicians ceased to consider these as local troubles, the better it would be for the patients themselves. In making these remarks he was speaking, he said, not only for himself, but for the large number of country physicians whom he represented.

A report of "Thirty-five Cases of Hip-Joint Disease, Treated at the Robert Garrett Hospital for Children," was then made by Dr. W. B. Platt. He said that hip-joint trouble was one of the most tractable of diseases when treated early, but when treated late was one of the most intractable of diseases. There was always a serious question as to when to operate and when not to operate. Sometimes it was better to do so early, and sometimes late. It depended on the condition of the patient, his surroundings, etc. Some patients could not be kept in the hospital long and did not recuperate properly after the operation. The results after resection of the hip-joint were often very good, even when done late. He had two or three cases of his own in mind. Two were doing well and one was not. One patient was wearing a brace and high shoe. The third patient died of shock soon after the operation, but out of the hospital. Some would recover after careful curetting of the sinuses and cleaning them out. Hip-joint cases were extremely susceptible to eruptive diseases. He noticed that in the Robert Garrett Hospital those with hip-joint trouble had been especially affected by such diseases as measles and scarlet fever. Joint diseases were usually attributed to injury, but there were so many children falling and hurting themselves and being knocked about without having hip disease, that this cause could not always be relied upon. In nine out of his thirty-five cases there was a clear history of injury. In eleven the right side, and in twenty the left side was affected, and of these thirty-five patients seventeen were boys and eighteen were girls. Twenty-three had, and twelve did not have sinus. He showed two very interesting cases of double hip-joint disease which were making a very good recovery.

Dr. Anderson said that he had often noticed that there was a great amount of counter-irritation, and when one hip became diseased the other grew better. He had noticed also that in cases of consumption when sinus was established the lung trouble often grew better.

Dr. Platt stated that it had been said that heredity played a great part in these hip-joint diseases, some asserting that the complaint was often hereditary for two generations back. Tuberculosis was so common that it was a little uncertain if that had the influence it was said to have. It was known that many of these patients died of tuberculosis, but he did not think that the joint trouble was necessarily the cause of the tuberculosis. There was no reason why these hip-joint cases should be fatal, and, in fact, many were not.

Dr. J. C. Harris spoke of the extreme tenacity of life exhibited in some cases of cured hip disease, and mentioned cases in his own practice.

The Country Doctor was the title of an address delivered by the president, Dr. Charles M. Ellis. He said that he wished to submit to the faculty such observations of the country doctor's habits of life and thought and of the influence of environment as an intimate participation and personal experience for a third of a century might give him. He showed how the country doctor differed from the town doctor; what his needs were and the difficulties in overcoming them, and finally made some suggestions for helping him. He made no attempt to throw around him the glamour of romance and poetry, but exhibited the man only as he knew him, with all his virtues and his vices. Often he was without the proper equipment and he had no help at hand as did the city physician. The speaker then gave a very minute description of the life, habits, and characteristics of the country doctor.

Many a physician in the country grew to be a very important man and took the lead in his community; such a man might have many faults, but they were known more to himself than to his neighbors. Such a man gained the respect of all around him, and soon grew into the perfect family doctor. He made no attempt at specialism, but was ready in all emergencies. In surgery, in obstetrics, in skin diseases—in fact, in any department he must be ready to act without consultation; and while he must succeed in all branches of surgery, he was also successful, as a rule, in internal medicine. There were few such men who could fill all these requirements, but the type served to show the difference between the city and the country physician. But men who were thus successful rarely stayed in the country. Like Sims, Agnew, Goodell, and others, they soon found their way to the large cities, where they made their marks.

The greatest objection to the country doctor was that, as a rule, he took the short course in medicine and then he was launched on his labor without any further experience. The city doctor had the advantages of medical societies, intercourse with colleagues, and post-graduate experience, while the country doctor had to exercise his own ingenuity, and it was in the constant exercise of his own natural resources that his education was completed. It was this habit of self-reliance that made him such a capable man, but he also might become too conceited and have too much self-esteem and self-possession. Then, in a

small place, there were the effects of social surroundings and professional jealousies, which were more keenly felt than in the large cities. The city doctor and country doctor were supposed to be alike at the start, but the city doctor soon left the other one far behind. There was one way in which the facilities of the country doctor might be improved, and that was by the establishment of cottage hospitals throughout every community. Then, again, the country doctor should take a post-graduate course at the end of his fifth and of his tenth year, and nothing could ever prevent his doing this. The county medical societies should also be cultivated and the meetings should never be missed. The speaker said he had learned this by his own personal experience. The country doctor should also belong to the State society, and this he should consider second only to his own county society.

The lack of books and the absence of hospitals were a great drawback to the country doctor. This could be in part prevented in Maryland by the State faculty library. The country physician hesitated to read a paper before a city society, on account of the critical audience. Educational clubs in the country districts could help to enlighten and instruct the country physician, and books could be distributed by means of the cottage hospitals, and if there were no such hospitals then the drug store might be used as a centre. There were nearly four hundred cottage hospitals in Great Britain, a few in New England, and none in Maryland or the South. In the cottage hospital the country doctor could gain a certain amount of experience in exhibiting and in studying the various cases. He could perform a certain number of autopsies and have the advantage of using the microscope. The first hospital in England was established in 1853. There were no trained nurses at that time, but they had become very important now. There was very poor nursing in the country districts. The trained nurse acted as a subsidiary physician, and paid visits when the doctor could not come. She should be an adaptable woman, of good moral tone.

Some would say that it was very difficult to establish such hospitals, but in Maryland, with the aid of the faculty, it would not be at all difficult. Assistance could be had from the State treasury, from the county treasury, from private subscriptions, and from various organizations. The county medical officer could also act as bacteriologist and pathologist. Thus could be formed a kind of medical society. It would be a sort of university-extension teaching, as it were. It would cause a great addition to the membership of the faculty, and would be a power to command respect to any demands.

After the reading of this paper, the thanks of the society were extended to Dr. Ellis and the paper was referred to the publication committee.

The Vaginal Operation for Extra-Uterine Pregnancy.—Dr. William S. Gardner related a series of cases and showed that while these operations were not at all easy, and that the number of cases reported was very small, still the success had been considerable, and it was evident that this was a very practical method of treating extra-uterine pregnancy.

Dr. Howard A. Kelly said that this matter was extremely important, and that it was one of the more serious and dangerous operations, but when properly done it saved some unnecessary mutilation. The operation, as formerly done, was to tie up the vessels and thus ward off the danger from hemorrhage. Another way was to open the cavity through the posterior vaginal vault, clean out the clots, and thus save the patient. But there should be one word of caution to surgeons who were doing this operation: they must be prepared to open the abdominal cavity and take out all the structures necessary. All of his patients got well but one.

Pathology of Endometritis.—Dr. Thomas S. Cullen read a paper with this title. The histological appearance of the epithelium covering the mucous surface was composed chiefly of large nucleated leucocytes; it was swollen and somewhat distorted. The uterine glands might be normal in part, but the mouths of the glands were very much swollen and there were many pus cells present. In chronic endometritis the mucous membrane was highly granular and had an appearance like that of polypi. Between the acute and the chronic stages were all transitions. The term granular endometritis was highly improper, and it should be abandoned. Endometritis was supposed to be very frequent, but the speaker had found only forty-nine cases in eighteen hundred gynæcological cases at the Johns Hopkins Hospital. The treatment there consisted in dilating and curetting the uterus. Dr. Cullen exhibited several beautifully executed drawings.

Dr. H. A. Kelly said that endometritis was exceedingly rare; only about one case in fifty that came to the clinics was really endometritis.

Dr. William H. Welch said that some considered chronic endometritis as being very common, and some as being rare. It was not uncommon to have variations in the number, shape, and size of the uterine glands, and it was not right to call this endometritis even if it was clinically so. The scrapings were not normal, but they were irregular in shape and size, and there was a sort of hyperplasia. There were cases which showed actual change in the stroma, with hyperplasia of the stroma cells. As to microscopical diagnosis of the scrapings, this was particularly of value in cancer. Many physicians were careful in risking a diagnosis after examining these scrapings. The negative results did not necessarily convince, but experience had shown that cancer cells would usually reveal themselves in the scrapings.

Dr. B. B. Browne said that many patients with so-called endometritis got well after curettage, and it was not known what the disease was until the scrapings had been made; *i.e.*, the diagnosis was not made until the patients had been treated by scraping, so that the diagnosis does not make much difference.

In conclusion, Dr. Cullen said that he agreed with what Dr. Welch had stated about his cases, and that upon a study of the specimen he had found that the scrapings and specimens were hardened in different fluids.

The Treatment of Tuberculosis of the Uterus and Fallopian Tubes.—Dr. W. W. Russell said that the principal work in this field had been done by Dr. J. Whitridge Williams, of Baltimore. There were two forms of tuberculous salpingitis—one in which the disease was found in the abdominal cavity and in the tubes; the other in which it was found in the tubes and the abdominal cavity was not necessarily affected. He had had no cases of the first sort and twelve of the second. The uterus was found to be tuberculous in every case of endosalpingitis. If the disease was limited to these organs, then the affected tissues should be removed and the patient's general condition should be looked after, but if tuberculosis was in other parts of the body, then it was useless to operate; when there were dropsy and other symptoms operation was not necessary. He then spoke of the various methods of removing the ovaries, and of the choice of routes, whether abdominal or vaginal. If the latter route was chosen, the dissection should be made carefully. The speaker then described the operation in detail. He said that few cases were recognized soon enough to be operated on, and this was true in many of Williams' cases. Diagnosis was made in about one-half of one per cent.

Treatment of Fibroid Tumors of the Uterus.—Dr. H. A. Kelly said that rapid strides had been made in this field, and it was but a little while ago that surgeons hesitated to take out these tumors. This operation had gone through several stages in the last fifteen years, and had been performed in a very haphazard way. The abdomen was opened; the uterus was pulled out; the peritoneum was sewed down around the uterus and pinned to it, and the stump was left to mummify and slough off. Schröder, of Berlin, urged the treatment of this by creating a pedicle and dropping it back into the cavity, and the result was a large mortality from sepsis. Fritsch, of Breslau, and Kelly, of Baltimore, were the first to do the operation in the more modern way and thus avoid sepsis and hemorrhage. They stitched the peritoneum around the uterus. About this time Stimson, of New York, suggested ligating the four sources of blood supply, and after these vessels were tied the stump could be dropped back and there was no sepsis. The technique was important and so was the time. It used to take from one-half to one hour to complete this operation, and then often the patient died. It was necessary to break up the adhesions and tie the vessels, but now the operation could be done in three minutes and the mortality should not be more than three or four per cent. He referred to two young women who had fibroid tumors, who were both engaged to be married, and on whom he had operated with success. He based his remarks on an experience of ninety-one cases. He took out the tumors in these cases and left the uterus, and undoubtedly this could be done in nearly all cases, especially with women in the child-bearing period. He had four deaths in these ninety-one cases, but none in his experience became pregnant afterward. He said he wore gloves, used gauze, and looked out for hemorrhage. He urged conservatism in the treatment of these cases, and also as to any operation.

Dr. Thomas S. Cullen said that in one of these cases the fatal result was through his fault and not Dr. Kelly's. One woman upon whom Dr. Kelly had operated had had four miscarriages. The speaker said that he never did a myomectomy if he found any evidence of sepsis in the tubes.

Wednesday, April 27th—Second Day.

Interstitial Pneumonia.—Dr. Jackson Piper read a paper in which he described three cases tending to show that (1) interstitial pneumonia, the result of acute pneumonia, was amenable to treatment, even after some months' duration; (2) that a consolidation under the second day would terminate either in gangrene or in consumption. His conclusions were that it was never well to leave a patient with unresolved pneumonia until all remedies had been tried.

State Sanatoria for Tuberculosis.—Dr. J. E. Gichner said that tuberculosis in all its various manifestations was caused by one and the same organism; that the cause of disease was distributed by consumptives; that there was no place in Maryland where patients could be exclusively treated and taught how to live; that many tuberculous persons got well without suspecting infection; and that the patient tended to recover when given the opportunity to create resisting tissues, which fact went to explain the many cases of recovery; and, lastly, he thought that the best results of our labors to ameliorate the disease were in prevention. Physicians should be sanitarians. There should be a State sanatorium, where patients could be treated properly.

Dr. William B. Canfield said he thought that one point which Dr. Gichner had made was especially good—it was that patients tended to get well when given the opportunity to create resisting tissues. He had been connected with a small hospital for the treatment of consumptives in the city of Baltimore, and had noticed the marked improvement in patients who had received no medicine, but only food. This hospital was supported entirely by private contributions and received no city or State aid. There had been treated in the last two years forty-two patients, and of these probably twelve had so far recovered that they were able to return to their former occupations. This hospital was for the treatment of incipient cases only, and he would be glad to have physicians throughout the city and State who had cases of early tuberculosis notify him and they would receive free treatment.

Dr. Gichner said in reply that he purposely had not mentioned this institution, because of its being a private one and being situated on a dusty street where cars passed, which was not in accordance with his ideas.

The Preventive Treatment of Rabies.—Dr. John Ruhräh said that in the year past, at the Pasteur Institute of the College of Physicians and Surgeons in Baltimore, thirty-five cases of rabies had been treated, with no deaths. He was glad to say that the Germans had taken up the Pasteur treatment. Statistics of this institution would be issued yearly. He had divided his patients into (1) those bitten by animals which were undoubtedly rabid and proven so by inoculation experiments; (2) those bitten by animals whose condition had been verified by a competent veterinarian; and (3) those bitten by animals which were said to be rabid by others than veterinarians. His cases were principally from the first and third classes. It was necessary also to classify the cases with regard to the position of the bite, according as the animal had bitten through the clothing or into the skin directly. If cauterization was of any use, it had to be done within the first half-hour, as when done an hour or more later it was perfectly useless. The actual cautery or hot iron would suffice. Nitric acid was the best chemical agent; nitrate of silver was perfectly useless, yet many physicians used this. There seemed to be a great prevalence of rabies in Baltimore and surrounding counties. It seemed to occur periodically among animals. Of the thirty-five patients treated, twenty-five were bitten by animals that were proved to be rabid afterward, and ten by animals so suspected. He then compared his statistics with those of other institutions.

Facial Paralysis.—Dr. Henry M. Thomas read a paper based on a study of eighty cases. He said this was peripheral facial paralysis or Bell's paralysis, and all of his cases were from the medical ward of the dispensary of the Johns Hopkins Hospital. He had had eighty-five cases, of which forty-nine were in women and thirty-six were in men—the usual proportion. One woman had two attacks on the right side. Of his patients, forty-three were paralyzed on the right side, and thirty-three on the left side, and two on both sides. As to the ages, in one it was congenital: five were between one and ten; seventeen between eleven and twenty; seventeen between twenty-one and thirty; twenty-one between thirty and forty; thirteen between forty-one and fifty; seven between fifty-one and sixty; and four over sixty. As to cause, in forty-seven of his cases none could be given; in seventeen cases exposure was given as the cause, but in many cases the history was indefinite: injury was said to be the cause in twenty-eight cases; twenty-five were from some surgical cause, and three were accidental. One seemed to be caused by removal of an ear; another was from a foreign body in the middle ear; a third was from an injury of the lower jaw; and a fourth was from the removal of a tumor from the front of the ear. Another case was caused by the injection into the jaw of an iodoform-oil emulsion for an injury. The speaker thought that injury was not so prominent a

cause of paralysis as text-books would have people believe. Great stress was laid on the neuropathic tendency. One case was due to injury by forceps. The symptoms were not very marked; sometimes there was a slight pain; sometimes the sight was affected, sometimes the hearing.

Dr. John Bloodgood spoke of a surgical operation in connection with some of his cases, and the difficulties of avoiding the nerves in some operations.

Cancer of the Stomach. — Dr. Thomas McRae reported one hundred and fifty cases of gastric cancer treated in the Johns Hopkins Hospital. All of these were cases of primary cancer except three, which were secondary. Generally the diagnosis was made post mortem. He referred to the age of these patients: six were between twenty and thirty; one was twenty-two and one twenty-four; two were twenty-six and two twenty-eight; seventeen were between thirty and forty, thirty-eight between forty and fifty, forty-nine between fifty and sixty, thirty-six between sixty and seventy, and four over seventy. Of the thirty-six twelve were male and twenty-four female. Of the whole number, one hundred and thirty-one were white and nineteen were colored, the proportion in the Johns Hopkins Hospital being seven white to one colored. In eleven cases there was a family history. Thirty-eight had tuberculous involvement, but there seemed to be no connection between the tuberculosis and the onset of the disease. As to habits, seventy-seven used alcohol—eight excessively, sixty-six moderately, and three very sparingly. Thirty-three complained of dyspepsia, seventeen had had attacks of acute gastritis, eleven had chronic stomach trouble, while five came to the hospital complaining of troubles dating one or two years back. Ten had no complaint of stomach trouble at all. Others complained of pain and vomiting, and showed the presence of a tumor. The method of onset was also marked. In thirty-nine cases the onset was rather sudden. Twenty-six had notice of disease in three months, eight between three and six months, and eight over six months. He then gave statistics of the time, place, and manner of diagnosis.

Latent Cancer of the Stomach. — Dr. Julius Friedenwald read the paper. There were two varieties of latent cancer: (1) those cases in which the gastric symptoms were absent or masked by other general symptoms and the gastric disease was not suspected; and (2) those cases in which there were no symptoms. The pathological conditions leading to latency were the position of the growth (at neither orifice) and a surface not ulcerated. He reported an interesting case with the autopsy history.

Dr. Osler said that he had seen so many cases of cancer of the stomach since he had been in Baltimore, he was almost inclined to think that it was a peculiarity of this region.

Dr. McRae also discussed this paper.

The Necessity of Postoperative Treatment of Congenital Clubfoot.—Dr. Tunstall Taylor emphasized especially the fact that after a child's clubfoot had been operated on, the proper instruments should be used and the child should be looked after until the muscles and other parts should regain their normal condition. Many surgeons operated and then expected results at once. He also showed several very ingenious instruments for holding the muscles in place.

Thursday, April 28th—Third Day.

Excision of the Ossicles for Chronic Purulent Otitis Media.—Dr. Harry Friedenwald read a paper with this title, showing a patient. The serious nature of these cases, he said, had been recognized, and the rule now was to give the flow of pus every opportunity to escape. The cavity of the middle ear, being very small and irregular and containing small bones and bands and membranes, was difficult to drain. In his case, the walls of the middle ear or the attic had become carious, and the patient, who was sixteen years of age, came to this condition as the result of diphtheria. He had pain in the ear, and on examination a large polypus was found reaching beyond the outer opening of the auditory canal. This was removed, and afterward the ossicles were removed on account of caries and the polypus was curetted. After this the case went on to recovery, and the patient was doing well except that he was very slightly deaf.

Suppurative Appendicitis; Operation Followed by Fæcal Fistula.—Dr. Thomas H. Emory, of Taylot, Md., reported the case. The patient was a colored man, twenty-four years old, upon whom he had operated for appendicitis under most unfavorable circumstances and with most unhygienic surroundings. The case went on to recovery, there being only a small fistula remaining. The interesting features of this case were (1) absence of chills at any time; (2) a moderate range of temperature and the character of the pulse; (3) the symptoms, which two or three days before the operation seemed to be subsiding; (4) the fact that at the time of the operation the abscess was apparently ready to break, the walls being extremely pliable; and (5) the absence of any tumor or fluctuation.

A Case of Stab Wound of the Abdomen.—Dr. J. W. Chambers reported a case of this nature. The patient was a man who, on January 28th, had been stabbed with a case or table knife at the penitentiary by one of the convicts. There were two abdominal wounds, one to the left of the median line and extending through the abdominal muscles and through the omentum, cutting the transverse colon for a distance of three inches. There was also a transverse incision through the small intestines. After he received these injuries the man walked one hundred yards, the intestines protruding, and one hour later he was brought to the hospital, and twenty minutes after that he was operated on. The intestines were washed, put back, and sewed up with Lembert's interrupted sutures; the other wound was treated as an open wound and was more in the region of the liver. There was prompt recovery. The fact that the intestines protruded probably kept the peritoneal cavity free from any contamination. The case was interesting as showing how much injury could be done to a man in this way without bad results, and then it was also well to know the importance of a rapid operation. Within an hour after the injury this man was operated on. He was now apparently well, was able to attend to his work, and had not suffered very much from the shock.

Dr. John Morris, who was on the lunacy board of Maryland, spoke of the man who did the stabbing. He said that over many of the men who were confined in institutions where there was no work there came a wave of insanity once or twice a year. This man was detained in an insane asylum, and seemed so much better that he was brought to the penitentiary, where he stabbed one of the keepers.

The Transplantation of the Rectus Muscle in Operation for the Cure of Certain Cases of Hernia.—Dr. John C. Bloodgood read a paper with this title. The important points to be recognized at the operation were that the conjoined tendon was obliterated, or was very narrow, or was very attenuated; that the lower angle of the inguinal canal had lost its support, and therefore something must be substituted for it. He divided his cases into two large groups: those in which the conjoined tendon was wide and firm, and those in which practically it was completely obliterated. Dr. Bloodgood had advised and in eight

cases had performed a plastic operation in the rectus muscle, bringing the muscle down and so suturing it as to form a support. The procedure was a very simple one. The method of operation was about the same as that followed by Halsted. On insertion of the deep sutures, the sheath of the rectus was divided in the direction of the muscle bundles from its insertion through the symphysis pubis upward for a distance of five centimetres. After the division of the sheath the outer border of the muscle bulged out, but it could be held back with sutures. The deep silver wire sutures were then inserted, as Halsted described. During the last few months the operation had been performed several times in the Johns Hopkins Hospital.

Rectal Medication.—Dr. Samuel T. Earle, Jr., said that there had always been great difficulty in applying ointments and suppositories in diseases of the rectum. Allingham had devised hard-rubber tubes, which were well enough in chronic cases, but which were rather expensive for short use in acute cases. A well-known firm had devised compressible, collapsible tubes, such as painters used, with a long nozzle, and he had found that these tubes, being made in definite sizes, could be filled with ointments according to the prescription desired, and applied with great certainty and exactness. He used them now entirely in his practice.

Bacteriological Study of Cystitis and Urinary Infections.—Dr. Hugh H. Young said that this work had been begun about two years ago at the Johns Hopkins Hospital, and was extremely interesting, though very hard to carry out. The object was to see, in cases of cystitis, what organisms could be found in the bladder, and his method of making examination was by suprapubic puncture of the bladder, so as to get out the cultures. This was done with every antiseptic caution. The bladder was always easy to be reached above the pubes, even when nearly empty, by compression of the abdominal walls. He spoke of the bladder walls in posterior urethritis. It was strange that the bladder was not affected by specific urethritis, but this was rarely the case. It was only when there was a wound of the bladder walls that infection took place. Of eighteen cases of acute cystitis which he had had, the staphylococcus pyogenes albus was obtained in eight, and in several it was found after the use of instruments. A young man, eighteen years old, had specific urethritis, and was treated in the proper way at the hospital, with apparent cure. He was sent home with instructions to continue his treatment, and owing to some faulty technique returned with cystitis. On examining the contents of the bladder as above stated, the speaker found the same organisms as in another case. This continued for two weeks, but the man recovered finally. The other case was that of a German, fifty years old, who was rather fond of beer; one night he drank an unusually large quantity, and the next day showed symptoms of cystitis with some hæmaturia. Here the staphylococcus pyogenes albus was again found. The man had never had urethritis and no instrument had been used on him. In five of these cases nothing was found. Melchor held that the bacillus coli communis was the most common cause of inflammation in the bladder, but it was not the cause of acute cystitis. Some organisms seemed to produce a mild attack and some a severe attack of cystitis, and in the long-continued cases the colon bacillus seemed to drive all the others away. These conditions had not been explained. He had also found cultures of gonococcus in gonorrhœal rheumatism, and Dr. Thayer, in one case, had even found organisms in the blood.

Dr. William B. Canfield said that the work which Dr. Young had described was most elaborate and was greatly to be admired, and he thought that the physicians ought to be very grateful to him for bringing out the details so clearly. In the case of the German above mentioned, he thought it was rather strange that the organisms should be found simply from the beer and from no external cause. He also thought that five sterile cases among so few was a very large proportion.

Dr. Young replied that these organisms might find their way in the body through the blood, as they did in other internal disorders. He was also surprised that five cases were sterile, but he had done his work with great care and was satisfied that he was correct.

Epidemic Cerebro-Spinal Meningitis.—Dr. William T. Councilman delivered the annual address on this subject. He said it was only within recent years that physicians had been able to distinguish in epidemic cerebro-spinal meningitis a definite disease of definite etiology. An organism which might be distinguished by certain characteristics of its own had been found in the inflammatory exudation in certain cases of meningitis. This organism could be grown in suitable cultures, and the pure culture when inoculated into susceptible animals produced the disease and this disease followed a regular recognized course. There was a great deal of confusion at first by mistaking this disease and its organism for other diseases and other organisms. What was needed now was a series of a sufficient number of cases in which the meninges had been examined during life, so that the different types of the disease could be more sharply defined. The first description of what was now known as this disease was made by Vieusseaux in 1805. An epidemic of cerebro-spinal meningitis occurred in Medfield, Mass., in 1806, and later other epidemics occurred in various parts of this country. This disease, he said, affected principally the young. It might be carried by infected clothing and in various ways. It was commonly called brain fever. There was little in the literature on immunity from this disease. The organism which was now recognized as the specific cause of this disease was first described by Weichselbaum in 1887, and the description was confirmed later by Jager in 1895. It was a micrococcus of about the same size as the ordinary pathogenic micrococci, and appeared in diplococcus form as two hemispheres separated by an unstained interval. It stained with any of the ordinary stains for bacteria and was decolorized by the Gram method. The speaker then described at some length its manner of growth on various media and its effect on animals. In the post-mortem examinations made it was generally found, and its situation varied according to the stage of the disease. Besides the meninges of the brain and the coverings of the spinal cord, the organism was found in few places in the body. The spleen was often enlarged. There were described three forms of the disease—the acute, the chronic, and the intermittent. Pneumonia was often a complication, but it must not be supposed, as was once thought, that the pneumococcus was a cause of meningitis. The surest way of making a certain diagnosis was by lumbar puncture, and this should always be carried out when possible. The method was easy and experience had shown that it was devoid of danger.

At the conclusion of this admirable address, which was listened to with attention by many hundred physicians, a vote of thanks was tendered the orator and a copy of the address was requested for publication.

Friday, April 29th—Fourth Day.

The Importance of the Early Recognition of Enlargements of the Pharyngeal Tonsil.—This was the subject of a paper by Dr. Frank D. Sawyer, in

which he dealt especially with this trouble as manifested in young children, spoke of the symptoms and bad effects if it was allowed to continue, and showed how easy the treatment was and how often it was neglected.

Dr. Edward M. Schaeffer said that this subject was an important one and he was glad it had been brought forward. He spoke of the utter ignorance of the laity on such things, and insisted that they should be instructed on the dangers of allowing a child to go unoperated on when it gave every evidence of a large growth of adenoids filling the posterior pharynx.

Dr. William Osler said that the profession was also to blame, and he thought that the profession at large needed education on this subject just as much as the laity. He saw every year eight or ten cases of serious trouble resulting from negligence on the part of the physician, who should have compelled the parents to have the child submit to an operation at the hands of a specialist. Diagnosis was a very easy matter. A child that breathed with open mouth and snorted in its sleep should be at once put in the hands of a specialist. It was not every specialist in nose and throat complaints who could treat properly such cases. This was an important subject and the profession needed enlightenment as well as the public.

Free Leucocytic Granules in the Blood and their Reaction to Various Stains. — Dr. William R. Stokes and Dr. Arthur Wegefarth demonstrated these. In the white blood corpuscles of normal human blood the small granules could be seen in motion like the Brownian movement, and in other specimens the granules were shown free and stained. This was a preliminary report only.

Officers.—The following officers were then elected for the ensuing year, which will mark the completion of the one hundredth continuous year of the existence of the faculty, it having been founded in 1798: *President*, Samuel C. Chew; *Vice-Presidents*, Mary Sherwood and J. McP. Scott; *Secretaries*, J. Williams Lord, Robert T. Wilson, W. Guy Townsend, and H. O. Reik; *Treasurer*, T. A. Ashby.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, May 9, 1898.

W. W. Van Arsdale, M.D., Chairman.

Resection of the Rectum for Carcinoma of Three Years' Duration.—Dr. James P. Tuttle presented a man, fifty-four years of age who, when first coming under observation, had complained of pain in the sacrum and rectum, and had had bloody stools. Examination showed carcinoma of the rectum, and as the growth could be moved on the bladder and prostate, and could be dragged down, Dr. Tuttle had inferred that the case was operable. At the operation he found not only the upper part of the rectum but also an inch of sigmoid flexure was involved. This required the removal of about ten inches of the gut. After the removal of the meso-rectum it was found easy to take away the remainder. An end-to-end anastomosis of the bowel was made, and the man recovered without any complications beyond the occurrence of a fæcal fistula in the wound. This lasted four or five months, a complication which, the speaker said, was exceedingly common in such cases. In a recent case he had used the Murphy button, reinforced by the Lembert suture, and in this instance there had been no fæcal fistula. The patient presented was in excellent condition, was able to work, and was entirely free from pain. By direct examination of the rectum with the Kelly tube and the electric light, it was demonstrated that no stricture was present.

Cancer of the Breast in the Male.—Dr. Ramon Guiteras presented an Italian, who had been admitted to the Columbus Hospital on February 17th, with a tumor of the right breast, said to have existed for fifteen years. The fact that the man spoke in a peculiar dialect prevented a thorough understanding of the details of his previous history. There was a tumor on the outer side of the right breast, along the border of the pectoralis major muscle. It was three inches in length and one and one-half inches in width, was markedly indurated, and presented an ulcerating surface. Palpation showed the axillary glands to be enlarged. The man was well nourished, and was well developed except that the upper extremity on the right side was several inches larger in circumference than that on the other side. Three days after his admission the tumor was removed by the ordinary incision, which was continued along the border of the pectoralis muscle and into the axilla. This muscle being much infiltrated, it was also removed. The pectoralis minor was cut in two, and the glands were removed, after which the divided muscle was reunited with sutures. The case was reported because of the great rarity of carcinoma of the breast in the male.

Dr. L. Bolton Bangs said that he had seen at one time the patient presented by Dr. Tuttle, and the examination had impressed him with the fact that there was a new growth of the rectum so extensive as to make the case unfit for operation. Consequently when he had learned subsequently of the successful issue of the operation he had fully appreciated the great diagnostic skill of Dr. Tuttle.

Dr. Rogers said that his experience in operating on the rectum was limited to three cases. Two of them had been operated upon by the Kraske method, both with disastrous results. In the third he had operated through the abdomen, and the result had been exceedingly satisfactory.

Dr. Tuttle said that the portion of the rectum taken out extended down within an inch and one-half of the anus. The disease practically did not involve either of the sphincters.

The Surgical Treatment of External Deformities of the Nose.—Dr. D. H. Goodwillie read a paper on this subject. He said that some of the more important causes of external deformities of the nose were: (1) congenital, from imperfect intrauterine development; (2) traumatisms directly, or indirectly by the pathological changes set up; (3) hypertrophies and tumors of the hard and soft tissues, both intranasal and extranasal; and (4) malignant, specific, and other constitutional diseases. The first patient presented, a lady of twenty-one years, showed the good result obtained in a case in which there had been an opening in the bridge of the nose produced by sloughing away and the removal of a metallic bridge that had been inserted by another surgeon. Six cases were reported in detail, representing a variety of external nasal deformities, and these, as well as a number of other curious conditions, were illustrated by wax casts, showing the appearance both before and after treatment.

Arthropathy Consequent on Trauma.— This is often relieved by the hot-air treatment, especially when combined with massage and passive motion. Frazier found its physiological effect to be as follows: a temporary increase of circulation, respiration, and temperature; moderate fugacious anæsthesia; loss of weight, probably due to the loss of water from the skin and lungs; and a decided nitrogen output. These effects are purely local in origin.—*Annals of Surgery*, October, 1897.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 13, 1898.

T. Mitchell Prudden, M.D., President.

Aneurism of the Ascending Arch of the Aorta.—Dr. Harlow Brooks presented three cases. The first one was that of a man, seventy-five years of age, who had been brought into the hospital in a moribund condition. The body exhibited the usual senile changes, and the arteries were atheromatous throughout. In the ascending arch of the aorta, at the point of origin of one of the coronary arteries, was a sacculated dilatation. The general condition of the heart was fairly good for one so old. The kidneys showed chronic diffuse nephritis.

The second case was that of a woman who had been admitted to Bellevue Hospital with a history of alcoholism and of acute articular rheumatism five years before. Three months before admission she began to have shortness of breath on going up and down stairs. Swelling of the feet and shortness of breath were her chief complaints on admission. She died very shortly after entering the hospital, so that no physical examination was made. The pericardium was injected and greatly distended. The heart was enormously enlarged, weighing twenty-eight ounces. Its walls were flaccid and relatively thin, showing recent dilatation. The cavities contained post-mortem clot. The general arterial trunks showed very little disease. In the arch of the aorta, just above the sinuses of Valsalva, was found a foramen, about 1.2 cm. in diameter, bifurcated by a column of tissue, about 1 mm. thick. This led into a cavity, measuring 3 cm. in diameter. The sacculation so produced was completely enclosed in the thin walls of the right auricle.

The third case was that of a man, forty-four years of age, who entered the hospital complaining of shortness of breath and cough. Fourteen years ago he had rheumatism, and had had numerous attacks since that time. During all the subsequent years he had had more or less shortness of breath. For the last six months there had been constant cough without expectoration, and at the time of his entrance into the hospital there were slight œdema of the lower extremities and pain in the upper part of the back. The physical examination revealed an extreme degree of pulmonary emphysema and a diffuse systolic and diastolic murmur over the lower portion of the manubrium of the sternum. The pulse was small, equal, regular, rapid, and of considerable volume. The liver was apparently increased in size. At the autopsy the heart was found to be enlarged, weighing sixteen ounces. In the right cavity was some fluid blood, and there was considerable interstitial change, especially in the papillary muscle. There was considerable thickening of the aortic and mitral valves. In the ascending arch of the aorta, just below the innominate artery, was still another sac, which had ruptured through the walls of the aorta and had made a wall for itself, consisting of the external wall of the trachea and of the adhesions existing between the trachea and the transverse arch of the aorta. This sac was lined by recent granulations. The sac was not occluded by clot, and did not contain even post-mortem clot.

A New Method of Obtaining Blood during Life for Bacteriological Examinations.—Dr. Walter B. James exhibited a small instrument which he had been using at the Presbyterian Hospital during the past year for this purpose. He said that previous attempts to obtain cultures from the blood had been more or less disappointing, because of the varying results of different observers. Thus, one observer had examined nine cases of typhoid fever, and claimed to have obtained the specific organism in all of them, while another investigator examined fourteen cases and obtained it in none. These differences in results were apparently largely due to the method employed. One method was to use sterilized glass bulbs, having tapering points, which when the ends were broken off were thrust forcibly into the vein. The results were accurate enough, but this method was so uncomfortable and dangerous that it had not been much used in this country. A sterilized hypodermic syringe had been used by many, but it was difficult for the physician to keep it properly sterilized. The method which he was about to describe, and which had been used with satisfaction at the Presbyterian Hospital, had three objects in view, viz.: (1) to render the procedure as nearly as possible absolutely sterile; (2) to make it absolutely safe and not too uncomfortable for the patient; and (3) to have it sufficiently simple to be available for the house staff of a hospital or for general practitioners. Some small glass tubes were drawn to a taper, and each one was fitted with a hypodermic needle. The end of the tube was stopped with cotton. A number of these tubes could be sterilized by dry heat, and kept in stock ready for use at a moment's notice. Experience seemed to show that no elaborate preparations for disinfecting the skin were necessary. The practice had been to thrust the needle into the vein at the bend of the elbow. The tube would ordinarily be almost filled by the venous blood pressure, but if necessary gentle suction might be made with the mouth. The tube was then withdrawn and the blood forced out by the breath on to suitable culture media. From examinations made in one hundred and sixty cases, representing many different diseases, and from a study of the literature of the subject, the conclusion had been reached that blood culture experiments, as ordinarily made, from puncture of the tip of the finger, were absolutely worthless. In a fair proportion of the cases of typhoid fever at the Presbyterian Hospital the specific bacillus had been found, and in a fair proportion of cases of sepsis, showing general pyæmia, a culture of the streptococcus had been obtained from the blood. In two out of three cases of endocarditis in which cultures were made from the blood, in a case due to infection with the pneumococcus lanceolatus, this bacterium was repeatedly obtained.

Dr. R. H. Sayre asked if any experiments had been made, following out those of Dane, of Boston, regarding blood in cases of tuberculosis associated with abscesses, with a view to determining if possible when the case became a mixed infection and when it was simply tuberculous.

Dr. James replied that they had examined a dozen or more cases of tuberculosis in which there was thought to be mixed infection, but the streptococcus was not found in any of them.

Dr. W. H. Park said that for the past year the workers in the laboratory of the health department had been endeavoring to get results from streptococcus serum, and the chief difficulty had been to get blood free from contamination. The literature of the subject showed that streptococcus serum had been not infrequently employed when the blood examination showed only the staphylococcus present.

Dr. James Ewing thought that some such simple apparatus as that just described would greatly facilitate the more general examination of the blood. The apparatus was certainly very simple and easily sterilized, and hence was in that respect superior to any aspirating syringe. But on the end of the glass tube were connections for a hypodermic needle, necessitating the same sterilization as for the aspirating syringe. On the other end was a cotton pledget, through which he supposed the blood was aspirated by the mouth. Unless the cotton pledget was left in, he

thought there would be great liability to contamination. Another objection to the instrument was that it did not have sufficient capacity; one cubic centimetre was hardly enough—at least five cubic centimetres should be obtained and planted on different media. The larger the quantity of blood, the greater the chance, in cases of mild infection, of securing the particular germ which was in the circulation. He had found a hypodermic syringe a satisfactory instrument, except that it was somewhat difficult to sterilize. With it, five cubic centimetres could be obtained without trouble. He had not found great difficulty in sterilizing the syringe with a ten-per-cent. formalin solution, the syringe being kept filled with it. Just before being used, the syringe should be washed out thoroughly with boiled water. He had not experienced any great difficulty in getting into the vein, except in moribund patients, and in these by the application of a tourniquet for a few moments sufficient blood could be obtained. A vertical puncture was better than a longitudinal thrust. The advantage of using a large quantity of blood had been well shown in a series of observations on diphtheria made by Wright. By using a larger quantity of blood he had obtained the diphtheria bacillus in a considerable percentage of severe cases. Personally he had failed to get the streptococcus in fatal cases of malignant endocarditis, even when five cubic centimetres of blood had been subjected to examination.

Dr. James said that, of course, the instrument could be made larger, but he had thought it better not to use too much blood, for fear that there might be some bactericidal action set up. The method of cleansing the hypodermic syringe described by Dr. Ewing was of course satisfactory, but these details would not be carried out by many in general practice. His tubes could be kept in stock absolutely sterile. In not one of the cases examined was there any local reaction whatever, and none of the patients complained any more than they would of an ordinary hypodermic injection.

A Case of Hemorrhagic Disease of the Newborn, with a Bacteriological Examination.—Dr. Elizabeth Mercelis reported a case of this kind. She said that at the New York Infirmary for Women and Children, from February 25 to April 20, 1897, there had been nine cases in which hemorrhage had occurred in the newborn. In three it had been multiple and severe, and all had been fatal. In three others it had been multiple and slight, and of these one had been fatal. In two of the infants, who were small and frail, there had been hemorrhage from the nose only. One of these children died. Some of these cases were slight, and occurring independently would have been disregarded. Six of the nine cases were in male children. The mortality in the whole series was fifty-five per cent. Two of the more marked cases were made the subject of special study. The first of these cases developed hemorrhagic swellings, which ruptured spontaneously. Cultures were taken from the finger before death, which occurred on the thirteenth day. The cultures remained sterile. The autopsy showed extensive cutaneous and subcutaneous hemorrhages, extending from ear to ear and from the maxilla to the clavicle. On the left side was a sloughing area, with an opening, three centimetres in diameter, which exposed the external jugular vein. No point of rupture of the vessel could be detected. The skin of the hands and feet was tough, leathery, and almost black. The umbilicus was normal. The thoracic and abdominal organs were congested, but there were no hemorrhages. The heart showed slight vegetations. Cultures taken from the liver and kidney were planted on agar plates and on broth, but no growth resulted.

In the second case there were hemorrhages from the bowel, stomach, and uterus, and death occurred on the sixth day. The autopsy showed petechial spots on the right arm and chest. The umbilicus was normal, and the cord was still adherent. The lungs were congested posteriorly. The tricuspid and mitral valves of the heart exhibited vegetations along their edges; the foramen ovale was almost closed. The liver was fatty. The spleen was very much congested. The kidneys showed no special congestion and no hemorrhages. The pancreas, adrenals, and thymus were negative. The stomach was pale, and there were no hemorrhages or ulcerations. The intestine throughout was filled with dark reddish, tarry material showing blood. There was slight enlargement of the isolated follicles of the colon, but there were no other changes in the mucosa. About the ureteral openings in the bladder were elevated hemorrhagic areas. The uterus was filled with fluid blood; the adnexa were negative. The brain showed moderate congestion of the meninges; there were no hemorrhages into the ventricles or basic ganglia.

Cover-slip preparations from the different organs in the second case showed several large and small cocci, without a definite capsule, which stained more or less, and were scattered in groups, pairs, or short chains. The cocci were often oval, and here and there a distinct bacillus form was seen. Agar plates from the liver, spleen, and inferior vena cava showed no growth after twenty-four hours. The broth tube from the heart's blood was uniformly cloudy. The agar-agar tube from the uterus showed a continuous delicate whitish growth along the line of puncture, but no surface growth. That from the kidney had a slight growth below the surface. Preparations from these gave an organism varying much in size, shape, and intensity of staining, as described; bipolar staining was common. It was examined on various culture media, but whatever the medium the growth was always delicate and did not increase after twenty-four or forty-eight hours. There was no growth in gelatin. When broth was inoculated directly from an animal, a growth occasionally occurred — rarely otherwise. When one-fourth to one-eighth centimetre of hæmoglobin was added to the broth, or a decinormal solution of KOH, until the media were quite alkaline, a growth in aerobic and anaerobic cultures took place. In glycerin-agar the development was more noticeable along the puncture, but there was none on the surface. In blood serum there was a colorless surface growth. Ascitic fluid seemed to be the most favorable medium; here the clouding was general. Milk, after twenty-four hours, became slightly acid, and after forty-eight hours coagulated. The normal limit of viability of the organism was from two to four days. When one and one-half cubic centimetres of an ascitic fluid culture was introduced into the peritoneal cavity of a pig, death resulted in twenty-one hours. There were marked subcutaneous œdema and an accumulation of a moderate amount of turbid fluid in the peritoneal cavity. The heart, liver, and kidneys were negative. The intestine, spleen, and uterus were congested, but contained no hemorrhages. There were no hemorrhages in the lungs. Cover-slip preparations gave the same pictures as already described. In the cultures from the liver and heart the growth took place below the surface.

The microscopical appearances found in rabbits and other animals inoculated with this organism were as follows: The liver showed engorgement of the vessels, degeneration of the liver cells, and fragmentation of the nuclei. In the rabbit, small hemorrhagic areas were found. The spleen was much congested. The pancreas showed an area of free blood in the tissue. A cross-section of the ventricle of the heart of the pig showed an absence of the endothelium over one-fifth of the wall and a few diplococci in short chains.

Certain areas in the lung of the rabbit showed the alveoli to be filled with blood and epithelium. Except in the lungs, the effused blood was not to be distinguished from congestion by the naked eye.

Morphologically, the organism at times suggested the pneumococcus lanceolatus or the bacillus of Friedlander, but was distinguished from them by culture peculiarities, some of which had been already mentioned.

In conclusion, Dr. Mercelis expressed her indebtedness to Dr. W. H. Park for the privilege of working in the laboratory of the board of health, and to Dr. Anna Williams for verifying the results.

Carcinoma of the Œsophagus with Involvement of the Trachea and Subclavian Vein.—Dr. John H. Larkin presented a specimen of this kind, removed from a man, fifty-four years of age, who had always been well up to two months ago. About that time he began to grow pale and weak. At the time of his admission to hospital, two weeks before death, there were some cough and considerable dyspnœa. Physical examination gave the typical signs of bronchitis and emphysema. With the exception that the heart action was irregular and the sounds were muffled, the other viscera were normal. The urine contained no albumin, and no tubercle bacilli were found in the sputum. The case was treated for chronic bronchitis and emphysema and anæmia. The dyspnœa became very distressing, but there was no noteworthy change in the man's condition up to just before his death, which occurred very suddenly. The autopsy was performed four hours after death. The body was well nourished, but exceedingly pale. There were no evidences of peritonitis. The lungs were extremely emphysematous. The liver was exceedingly pale. Behind the manubrium of the sternum was a large firm mass, about the size of a small orange, in front of and to the left of the trachea, and behind and above the arch of the aorta. In the œsophagus was a small papilliferous tumor, about 15 cm. above the cardiac end of the stomach. It measured 2 cm. longitudinally, 1.5 cm. transversely, and 1 cm. from base to apex. About 4 cm. above this tumor were two small, irregular ulcers, probably the result of pressure. The lumen of the trachea was narrowed to a mere slit. The mass lay chiefly to the left of the trachea, extending from the arch of the aorta to the suprasternal notch. The great vessels lay in front, and the tumor mass was rather firmly wedged between the manubrium and the spinal column. The cross-section of the tumor measured 6 cm. antero-posteriorly, and 5 cm. laterally. About 2 cm. above the bifurcation of the trachea the mass protruded into the lumen. The left subclavian vein was adherent to the top portion of the tumor, and two small nodular masses were found projecting into its lumen.

Microscopical examination showed the tumor to be an epithelioma, which was undoubtedly primary in the œsophagus, and extended directly around the trachea and subclavian vein.

The points especially emphasized were: (1) The smallness of the primary growth and the extent of the growth around the trachea; (2) the penetration of the subclavian vein by direct extension and the possible mode of dissemination of metastases by the blood; (3) the mildness of the symptoms compared with the grave post-mortem findings; and (4) the fact that the sudden death was due to mechanical asphyxia.

Dr. Prudden remarked that examination of the sections was interesting, because over the epithelioma growing into the vein was a thin pellicle of fibrin which had bound the loose epithelial cells in place against the wall. Certainly the loose cells would have been in contact with the flowing blood except for this protection.

A Sarcoma of the Leg of Slow Growth.—Dr. R. H. Sayre presented the skiagraph of the leg of a boy of seven years, who when eighteen months old fell, striking the crest of the tibia and producing a slight abrasion. A little nodule appeared shortly afterward, and some months later it was incised and scraped out. The wound healed, but the leg was somewhat crooked. He then had another fall. Subsequently another surgeon made a long incision, and removed a large quantity of soft material and packed the wound. The boy was kept off his feet for about a year, yet the leg began to bend. Finally he broke the leg. The case came under Dr. Sayre's observation last fall, and an operation was advised but not consented to. When seen again quite recently the boy had a temperature of 99.2° F. The skiagraph showed a peculiar soft condition of the bone. On operation for the purpose of removing a wedge-shaped piece of bone, the bone was found to be soft like sponge. It bled quite profusely, and the appearance suggested syphilis or malignant disease. The operation was extended until fairly healthy-looking bone was encountered. On decalcification of the removed bone, it was found to be a spindle cell sarcoma, and amputation was performed. The bone had made no effort at repair. It was remarkable that the disease should have lasted for six years without giving rise to metastasis.

A Method of Recording Anatomical Data and the Results of Special Observations and Research in Laboratories, Colleges, and Hospitals by the Application of the Card-Catalogue System.—Dr. Henderson B. Deady read a paper on this subject, and gave a demonstration of the method as used in the Pathological Institute of the New York State Hospitals. He said that the record of a case could be considered in three divisions, viz.: (1) The autopsy notes, history, and date of accession; (2) the data relating to preservation; (3) the subsequent work relating to the slide and its technique. The old form of case book, he said, was discarded, and the data of accession were entered in the "accession book"—an adaptation from the library accession book which was considered the keystone to all the systematized laboratory work. In this book were entered: (1) The accession number; (2) the date on which the case was received; (3) the name of the patient or specimen; (4) its source, *e.g.*, hospital; (5) the clinical diagnosis; (6) the date of death; (7) the date and hour of autopsy; (8) a reference as to the receipt of autopsy notes and history. The history and autopsy notes were kept in a separate book, typewritten on paper of uniform size bearing the accession or case number, which the case got from the accession book. The slide labels were small squares divided by two horizontal lines into three spaces. On the first line was placed the accession number, followed by a decimal point. The number which immediately followed the decimal point was any unit from 1 to 9, and represented an arbitrary but convenient anatomical classification of the material. The pieces from the material as it was divided for preservation were all numbered, and these numbers followed the classification number in regular order. Thus, 871.13 meant case No. 871, and the third piece of brain, the figure "1" immediately following the decimal point meaning in the anatomical classification "brain and its membranes." Pieces taken from a specimen after preservation were numbered consecutively. The number was written on the second line (this the speaker called the block or distribution number). The slides made from this piece were also numbered consecutively and the number was written on the third line. All the notes of preservation were kept on cards, one card for each specimen. In this card catalogue was also kept a memorandum of the pieces "distributed." Each worker had one card for

the piece assigned to him, called a block card. On this were written the complete number describing the piece and the notes of technique referring to the piece from the time he received it. In the same way he filled out a card for each slide made from this piece, the card bearing the full number and notes of technique. The same system was applied to drawings made from material in any of these three phases. The drawing bore the number of the specimen, and a colored card bore the number, drawing, technique, and delineator. By this system each piece of material, the notes referring to it, and drawings were indexed, quickly put away or referred to, and were made permanent records of the laboratory, accessible and intelligible to any one for all time—the material in all stages bearing the number only, the data being on cards bearing the same number.

Dr. D. H. McAlpin inquired as to the relative expense per thousand cases, the number of clerks required to maintain the system, and also whether a fireproof safe was provided for these important records. The system, he said, would not be found to be at all complex as soon as one had become thoroughly acquainted with it. In different laboratories there were somewhat similar systems, though smaller and less pretentious. At the Carnegie Laboratory the cost was less than two cents each for a complete record of cases.

Dr. Frederick S. Ward spoke of the system employed at the Pathological Laboratory of the College of Physicians and Surgeons. The record of a case, he said, made use of an accession book, a book of complete records, a card index to anatomical material, and a cross-reference card index to material and slides. In the accession book were recorded the number of the specimen, date of receipt, name of patient or specimen, source, clinical diagnosis, date of autopsy or operation, by whom the autopsy or operation was performed, anatomical diagnosis, collection number, references, and remarks. The first eight of these items were made when the specimen came to the laboratory and the last three when the necessary data had been obtained. In the book of notes were recorded the foregoing items, together with the full clinical history, macroscopic and microscopic examinations, and references to slides and literature. The card index of material presented the accession number, source, diagnosis, preservation of material, reference to slides, etc. The cross-reference catalogue was one of organs and lesions, referring both to material in the collection and to slides in the cabinet. The slides were filed away and indexed according to systems and subdivisions of these systems. For instance, there were the alimentary and genito-urinary systems, tumors, etc., as the main division, with subdivisions of organs and varieties of tumors. The initial letter of the system to which the slide belonged was printed in red; and others, when required, of the subdivision in which it fell were printed in black, together with the number of the slide, the latter being the reference to the slide. Every specimen coming to the laboratory was recorded in the accession book, receiving thereform the accession number, examined, and then met one of three destinations: 1. It was thrown away; 2, saved for gross demonstration before the class; 3, placed in the laboratory collection. In the latter case it carried its accession number to the card index and to the book of notes. A specimen having received a collection number, this was borne on jar label, record, all reference cards, and slides.

Dr. Francis C. Wood exhibited the cards used to index the histories in St. Luke's Hospital. Cards of different colors, he said, were provided for male and female patients. The large cards with little tags on the top were indexed according to diseases and the tags referred to the attendant treating the case, so that each could, with very little expenditure of time, pick out the patients who had been under his care. The small cards were used to index the patients by name. Pathological reports were indexed on a card of a special color. On all these cards were given the volume and page of the history book in which the record of the particular case could be found in full.

The following "card" specimens were also exhibited.

Advanced Cirrhosis of the Liver with Marked Atrophy of the Right Lobe and Compensatory Hypertrophy of the Left Lobe.—Dr. Eugene Hodenpyl presented this specimen, which had been removed from a man who had died of pulmonary œdema, and had suffered for a number of years from frequent and profuse epistaxis. No other symptoms referable to the liver were observed until a few days before death, when slight jaundice and anasarca developed.

Sacculated Aneurism of the Arch of the Aorta, Showing Perforation and Frequent Hemorrhages.—Dr. Hodenpyl also presented this specimen which had been taken from a man, fifty-five years of age, formerly a truck driver, and accustomed to lift heavy weights. There was no evidence of syphilis. He had been well up to three months ago, when he had a rather profuse hemorrhage from the mouth, which was followed after several days by a second and a third. On his admission to the hospital, a pulsating tumor was detected in the thorax at the root of the neck. Bleeding from the mouth took place several times while he was in the hospital, the last occurring just before death. At this time he lost thirty-five ounces of blood. The autopsy revealed a sacculated aneurism of the arch of the aorta, measuring ten by ten centimetres and extending upward, backward, and to the left. There was a large opening on the posterior aspect firmly adherent to the bodies of the vertebræ, which were not eroded. There was a second circular opening into the œsophagus, five millimetres in diameter, at a point three centimetres above the bifurcation of the trachea. The left lower lobe of the lung was distended with aspired blood.

Gummata of Brain with Widespread Syphilitic Infiltration.—Dr. John H. Larkin presented this specimen, which came from a prostitute, twenty-six years of age, who had had the primary lesion four years before, and little or no treatment at the time. For three months before her death she complained of severe nocturnal headache, vomiting, and diminution of vision in the right eye. On her admission to the hospital, one week before death, she had headache, double right-sided hemianopsia, and confusion of ideas. There was also a large elevated mass over the left parietal protuberance. She grew rapidly worse and died in coma. At the autopsy the bone over the left parietal eminence was found to be soft and necrotic; the dura mater was adherent to the brain and necrosed bone; the periosteum was greatly thickened over the whole left parietal bone, but especially at the site of the necrosis. There were no other manifestations of syphilis in other viscera, which were, including the heart and liver, in a state of advanced fatty degeneration.

Chronic Nephritis and Cardiac Hypertrophy; Extensive Hemorrhages.—Dr. G. A. Tuttle presented the heart and kidneys from an Italian, twenty-five years of age. For a month and a half the man had had hemorrhages from the nose and mouth, but no cough. Later there had been some bleeding from the lobe and canal of the ear, from the lip and tongue, and a clot had been passed by the rectum. He had a general convulsion on the day of his death. The urine contained albumin, but no casts. There was marked anæmia. The autopsy revealed no cause for the hemorrhages beyond chronic nephritis and cardiac hypertrophy.

Heart Clot; Granular Nephritis.—Dr. Tuttle also exhibited the heart from a woman who had complained for a few days of feeling vaguely ill. A few hours before her death she became deeply cyanosed. There was a double murmur at the apex and at the base; the urine contained albumin and casts. Microscopical examination of the mass in the left auricle showed it to consist largely of clotted blood, apparently fresh, and in other parts of organized clot. The kidneys showed a granular nephritis.

Simple Ulcer of the Stomach Involving the Splenic Vessels and the Pancreas.—Dr. Tuttle also exhibited a specimen showing simple ulcer of the stomach, with the pancreas for its base at each end, the central portion of the pancreas having sloughed away. In the floor of this ulcer were seen the openings of the splenic vein, the intervening portion of the vein having entirely disappeared. There was also a single opening into the splenic artery, which caused the death of the patient. In addition there was a small abscess in the tail of the pancreas. Microscopical examination of the pancreas and edges of the ulcer showed no new growth. The specimen was taken from a woman, fifty-one years of age, who died August 24, 1897.

The society then went into executive session.

Correspondence.

LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENT—TUBERCULOSIS COMMISSION'S REPORT—RENAL CALCULUS—BLOCKING OF MESENTERIC VESSELS CAUSING INTESTINAL OBSTRUCTION—MILITARY EXPEDITION WITHOUT A SURGEON—SMALL-POX—DEATH OF DR. MARSHALL, OF CLIFTON.

London, April 29, 1898.

The habitual-drunkards bill was read in the House of Commons for the first time on Monday. Its object is to substitute reformatory treatment in special institutions for penal treatment in prisons. It is thus practically confined to criminals, and some disappointment will be felt that it is not more comprehensive.

The bill for permitting prisoners to give evidence on their own behalf has passed a second reading.

The report of the royal commission on tuberculosis has been presented to Parliament. Some of its conclusions were inevitable, but it is well for the public that they have been put on record after exhaustive inquiry. The commissioners find that that milk plays the most important part of any article of food in infecting man, and they regard the inspection of this article as at present amounting to nothing. The inspection of meat, they say, varies in value with the class of men employed as inspectors. They recommend that in urban districts public slaughter houses should be obligatory, and that all carcasses should be inspected and if found sound stamped. Tuberculin they pronounce an infallible test in the hands of a competent veterinary surgeon. They further recommend that meat inspectors should be required to pass an examination; that notification of all diseases of the udder should be compulsory and that milk venders should be compelled to give information to the sanitary authorities as to the sources of their supplies; that all cowsheds should be registered, properly drained, ventilated, lighted, and distant at least one hundred feet from any dwelling-house. It will thus be seen that examinations, notification, and registration—three methods of dealing with questions which are continually being urged as cures for all evils—are advised to be tried and trusted against the infection of man by animals.

In order to eliminate bovine tuberculosis, it is recommended that stock owners should be encouraged to test their herds, by the gratuitous provision of the services of a veterinary surgeon to carry out the treatment with tuberculin, also supplied gratis. Owners availing themselves of this provision must undertake to isolate reacting animals from healthy ones.

Renal calculus has just occupied the attention of two of the societies, though from different points of view. To the Medical Society Mr. Battle related three unusual cases. In one there was continual hæmaturia, even when the patient was lying in bed, without the characteristic pain. In another there had been more or less pain for some ten years, but no attack of renal colic. In the third acute pyonephrosis was caused by obstruction of the ureter. Nephrotomy was performed and a calculus removed. Subsequently exploration of the ureter was performed and later a pultaceous mass passed through the urethra, after which the lumbar wound healed.

Dr. Holman asked whether myxœdema as a complication would make hemorrhage more likely, as he had a case of this disease in which renal colic supervened; the ureters became blocked and an abscess formed. This was evacuated, but the urine continues to pass through the wound, as the stone has not been removed.

Mr. Bruce Clarke said he had sometimes detected impacted stones by passing a rubber bougie down the ureter, and so was able to remove the calculus.

To the Clinical Society Dr. Taylor and Mr. Fripp related a case in which the calculus was detected by the Roentgen rays. There seems to be great difficulty in detecting calculi by this method, for some of the most skilful operators fail. Dr. Blacker said that though he had examined dozens of cases of supposed renal calculus he had been able to suggest the presence of the stone in only three. The case brought forward had the classical symptoms, except that there was no hæmaturia. The chief points of interest in the case are: the indication of the position of a calculus by the skiagraph after failure of an exploratory operation; the unusually high position of the stone, above the twelfth rib, although it was on the right side; the fact that the twelfth rib had its deep surface covered to a large extent by pleura; the completely atrophied condition of the kidney. Having failed to detect the stone through the usual lumbar incision, Mr. Fripp reopened the wound a week later, and, guided by the skiagram, removed part of the twelfth rib, and so was able to extract the stone from its abnormally high position. It weighed half an ounce, was of the shape and about the size of the end of a small pencil; it was surrounded by a cyst, consisting partly of atropied kidney substance, which was also removed. The patient did well.

Another subject was before the Clinical Society at the last meeting. This was the blocking of the mesenteric vessels as a cause of intestinal obstruction. This rather unusual circumstance had occurred in a case related by Dr. Bradford. A young man, aged twenty years, was admitted with abdominal pain and vomiting which became stercoraceous, and a mass was felt in the left iliac region. Abdominal section was performed, but no band or volvulus found. At the post-mortem the mesentery was thickened and its veins were thrombosed. The superior mesenteric vein was wholly blocked with firm decolorized clot. The trunk was thickened and its disease extended into the tributaries. The mesenteric glands were enlarged and congested, and one had suppurated; the abscess cavity communicated with one of the thrombosed veins. Dr. Taylor said that some years ago he had brought forward a

somewhat similar case, which had occurred in a child, aged seven years, but in that it was the artery and not the vein which was obstructed. It was pressed on by a calcareous substance, probably of tuberculous origin. Dr. Toogood referred to a similar case in which the artery was obstructed; the symptoms came on suddenly and closely simulated intestinal obstruction. On section blood was found both in the peritoneal cavity and in the mesentery. In reply to questions, Dr. Bradford said that the pancreas was healthy in his case, and it was obvious that the veins had been affected before the intestine.

The next subject down for this meeting was closely allied. It was a case reported by Mr. Raymond Johnson, of tuberculous peritonitis in a woman, aged thirty-three years, who was suddenly attacked with symptoms of intestinal obstruction. The abdomen being opened, yellow tubercles were found scattered over the intestines and there was a solid mass felt, which proved to be thickened and congested mesentery. The whole length of the small intestine was examined but no cause for the symptoms discovered, and the abdomen was closed. The patient left the hospital in three weeks. It was conjectured that the condition of the mesentery and bowel might be due to thrombosis of some branches of the mesenteric vein, caused by the deposit of tubercle around them, and that the symptoms resulted from temporary paralysis of that part of the intestine, the circulation of which was interfered with.

The *Army and Navy Gazette* has published the statement that an expedition was sent forward in Uganda without any provision for wounded or sick, although fighting was expected. A captain was seriously wounded and died without surgical aid. Surely this will rouse indignation against the war office and disgrace "my military advisers." This is what the obstinacy of the authorities has reduced the army service to. What a comment on Lord Wolsley's boast, that he could embark two army corps, completed in every respect, as soon as the ships could receive them!

Dr. Collins, whose name was removed from the "Register," is being tried for criminal abortion.

A student has committed suicide through failing to pass his final examination.

The deaths from small-pox at Middlesborough have reached one hundred and eighty-eight out of thirteen hundred and thirty-one cases. The epidemic seems to be declining.

Dr. Marshall, of Clifton, died on Sunday, aged sixty-five years, of pneumonia. He was M.D. and F.R.C.S. Edin., and consulting surgeon to the Bristol General Hospital and lectured in the school for about ten years. He was a skilled operator and a great admirer and follower of his former teacher, Syme.

THE LIMITATIONS OF THE ELECTROLYTIC METHOD OF TREATMENT.

To the Editor of the Medical Record.

Sir: A paper by my friend, Dr. Rockwell, in the Medical Record of April 16th last, "On the Value and Limitations of the Electrolytic Method of Treatment," etc., contains several statements so distinctly at variance with the experience of modern electro-therapeutists that I am impelled to draw attention to them. I have, indeed, received several letters from physicians in different parts of the country, urging me to correct these statements, as they were totally opposed to the experience of the writers.

Probably the most inadmissible statement of Dr. Rockwell is that "the limitations of electrolysis are distinct and positive." No one is entitled to make such a statement at the present time, for the possibilities of an electrolytic alteration of the tissues of the body are coterminous with the powers of chemical action itself, when enforced by adequate power. It is the idea that "electricity"—a name hateful to many physicians who ignorantly associate it with the old quackery—accomplishes these physical alterations that is distasteful to many, and this mental attitude influences even timid operators. Those who encourage this foolish prejudice may turn their minds entirely away from the mere conveying-agency for power, which electricity really is, and, like the trolley-car motorman, speak only of the power that is conveyed by the electric agency. Converted within the body into mechanico-chemical energy, its effect is limited only by the supply of organized flesh to be changed into inorganic elements when the power itself is adequate. With an adequate supply of power the whole of the doctor's person could be reduced to hydrogen, carbon, etc. It is evident, therefore, that the true limitations of electrolysis are not to be gauged by the effect of old-fashioned toy batteries, but rather by actual experiment under as favorable conditions of power supply as modern equipments give, and controlled only by expediency, vital resistance of the organism, and clinical results.

This conception of the almost limitless chemical energy available by means of electricity renders Dr. Rockwell's reminiscences of his old-time experiments in cancer of only historical value. These experiments must have been made in the dark ages of electricity ("twenty and more years ago"), in total ignorance of the actual current employed, and are therefore on a par with our ancestors' inability to run cars, light streets, etc., with electricity; in other words, the technique was defective. My own recently devised cataphoric method of treating cancer owes something of its success to all such experiments.

Dr. Rockwell says a good word for the Apostoli treatment of fibroids, but doubts whether they are ever dissipated. I can introduce him to several persons whose fibroids, which had been measured accurately by previous medical attendants, have disappeared under the Apostoli treatment. One of these ladies is a resident of New York City, having come to Philadelphia for this method of treatment.

As to the value of negative-pole electrolysis in stricture of the urethra, as demonstrated by Dr. Newman, I can also bear full and favorable testimony, in spite of the possibility of its misuse in the hands of electrically ignorant persons. In this procedure the cataphoric action of the current attracts water to the electrode, which, with the slight electrolytic softening of the stricture, results in a marked assistance to dilatation as well as a stimulus to absorption. That this method requires time, skill, and patience is true; but in spite of these drawbacks I cannot conceive of a well-informed patient preferring any other form of treatment, except in the rare instances when this has been intelligently tried and failed.

I have been an agnostic myself at times in passing judgment on new electro-therapeutic procedures and claims, but the more I deal with currents approaching in character and force those most successful in the industrial arts, the more I feel that judgment should be withheld in such matters until the technical details of new procedures have been scrupulously reproduced.

G. Betton Massey, M.D.

1636 Walnut Street, Philadelphia.

Diagnosis of Hip Disease.—Puncture the joint with the needle of a syringe and make microscopical examination of the fluid. This puncture is made in the line of Barker's incision, over the anterior part of the joint below, and in a line with the anterior superior spinous process of the ilium.—Young.

THE SURGEON'S GLOVES.

To the Editor of the Medical Record.

Sir: The report in the Medical Record of the recent discussion on aseptic surgery in the Academy of Medicine has no doubt been read by many of the profession with a certain amount of surprise. The letter in last week's issue of the Medical Record from the pen of Dr. R. T. Morris echoes the sentiment of every intelligent and common-sense operator in the land.

How much could the gynæcologist do with his fingers covered with gloves, thus masking all his sense of touch? The student in the dissecting-room commits a grave error by working with gloves, thus making his first lesson in the cultivation of the flesh-and-tendon sensation, so essential to the surgeon, a complete failure. To use "boxing gloves" in an ovariotomy is, indeed, hard on the ovaries.

E. C. Chamberlin, M.D.

57 West Eighty-Third Street, New York City.

AN INGENIOUS SWINDLER.

To the Editor of the Medical Record.

Sir: You will be doing the profession of the country a service if you will put them on their guard against a swindler who has recently been "working" the profession in Chicago. The fellow's method is to call upon a physician and introduce himself as a doctor who is in trouble of a peculiar nature. When he called upon me he stated that he formerly practised in Owasso, Mich. He said that he committed a criminal abortion on a woman, who soon after died of septic poisoning. The woman, as he told his story, made an ante-mortem statement, incriminating him. On being told by a friend, who met him as he was driving on a country road, that the sheriff had a warrant for his arrest, on the charge of manslaughter, he turned about and fled, never returning to Owasso. He added that he left $2,900 in bank in town, and owned a valuable business block, left him by his father. This, in brief, was his story. He then anxiously inquired if I could give him any assistance in getting his money out of the bank. I at once asked him to give me his real name, which he readily consented to do. In his presence I at once opened my copy of Polk's "Medical and Surgical Register of the United States," and informed him that he had made a mistake in the middle initial of his own name. He disputed the accuracy of the "Register," but I didn't wish to have anything to do with him, and so dismissed him. I saw nothing more of him, but I have just been informed by a friend, of Cleveland Avenue, this city, that this man has since been industriously "touching" physicians on the north side, by telling his tale of woe and getting them to cash checks on that money in the bank, always at enormous discounts. The doctor caused the fellow's arrest, and after spending two weeks in the North Chicago Avenue station he has left the city. But he will doubtless try to "work" the profession in other cities. Hence you will be doing a service by publishing this in your widely circulated journal.

Charles Gatchell, M.D.

Eczema.—In acute cases, when we have heat and swelling, employ soothing remedies; in subacute cases, when the swelling has subsided and when the papulation, vesication, pustulation, or exudation is more or less active, use astringents and slightly stimulating remedies; in chronic cases, when we have thickening with scaling, stimulate; in all cases protect the skin from external irritation.—Dr. George Thomas Jackson, "Handbook of Diseases of the Skin," p. 175.

New Instruments.

THE URINO-GLUCOSOMETER.

By Heinrich Stern, Ph.D., M.D.,

New York.

Robert's fermentation method for the determination of dextrose in urine is a most trustworthy one. The present writer has devised a little apparatus for the more practical and convenient application of this quantitative test.

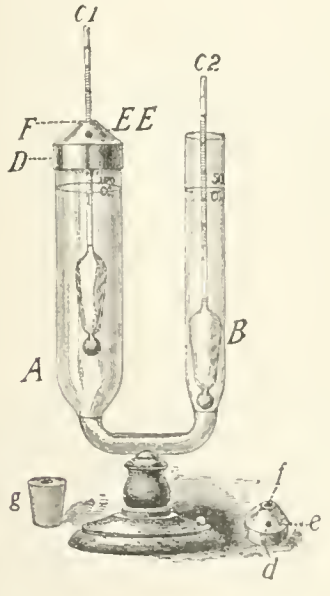
Description of Apparatus.—The apparatus consists of one wide (*A*) and one narrow (*B*) glass tube, which are united together in the form of a "U," and mounted on a wooden foot.

The wider tube is made to contain one hundred cubic centimetres, the narrow one to hold fifty cubic centimetres of urine. The tubes are carefully gauged and marked.

Both tubes are fitted with aluminium caps (*Dd*). These caps possess a flat top, the centre of which is perforated (*Ff*), through which the hydrometer is passed.

There are still other perforations in the cap (*EEe*) for the escape of the developing CO_2.

A rubber stopper (*g*), fitting the narrow tube, accompanies the apparatus.



To assure greater accuracy and a more distinct reading, the urinometer is made in two parts (C_1, C_2), one for the specific gravity from 0.990 to 1.030, the other for that from 1.030 to 1.070.

The scale of these hydrometers is so plainly visible that even a quarter of a degree may be readily estimated. The older urinometers and hydrometers in general present this drawback—that the reading is a direct one, the level of the fluid being the indicator of the specific gravity on the scale. Inaccuracies arising from this fact are quite numerous. The reading on my urinometer is an indirect one, the fixed, flat top of the cap serving as an indicator.

The cap also keeps the hydrometer in position, without causing any friction and giving the instrument ample play.

To ascertain the specific gravity of urine both tubes may be utilized; the urinometers are made to work in either of them.

I do not think that there is a more accurate urinometer in the market than this instrument, which is manufactured by Messrs. Eimer & Amend, New York, under the name of "Stern's urino-glucosometer."

Utilization of the Apparatus for the Determination of Glucose.—In the narrow tube place fifty cubic centimetres of the urine to be examined, and close tightly with the rubber stopper; in the larger tube place three or four grams—that is, one-quarter or one-third of a cake—of Fleischmann's yeast. Pour the urine into the tube to the mark one hundred cubic centimetres. Insert the desired urinometer and place the aluminium cap in its proper position. The urinometer, however, need not be inserted at once; this can be done after fermentation is completed. Still it is better to place it in position when starting, as it thus will indicate, step by step, the progress of the fermentation. The yeast cell will become active at a temperature of from 27° to 28° C.—that is, from 80° to 82° F. The apparatus should therefore be placed in a room in which there is a constant temperature of that degree. Fermentation in this moderate temperature will be completed in from twelve to fifteen hours. The CO_2 which is evolved during the process will escape through the perforations in the metal cap. After completion of the fermentation the cap should be lifted for a short time, the urine stirred or whipped, or the apparatus shaken, to effect a more complete elimination of the CO_2. Next the cap should be put in position again, the yeast particles should be allowed to settle, which takes place rapidly, and the specific gravity may be read off at the flat top of the cap. Following this the specific gravity of the urine contained in the narrow tube should be taken. Next ascertain the degrees of density lost during fermentation. Each degree of specific gravity lost will correspond to 0.2196 gram of glucose in every 100 c.c. of urine. Thus, if the density of the unfermented urine is 1.036, and of the fermented portion 1.020, the sixteen lost degrees must be multiplied by 0.2196. Therefore 3.1536 grams of glucose were contained in the one 100 c.c. of the urine examined. The amount of dextrose voided per diem may be easily calculated, if the quantity of urine passed for that time be known and if the examined part of the same was a specimen of the twenty-four hours' secretion. If it is desired to ascertain the quantity of glucose in grains to the fluid ounce of urine no calculation is necessary, as each degree of density lost corresponds exactly to one grain of dextrose per fluid ounce. For instance, if the specific gravity of urine be 1.036 before fermentation and 1.020 after this process, sixteen grains of dextrose were contained in each ounce of the tested urine.

Remarks.—The mother yeast cells will flow in the urine and on its surface. They are protoplasmic elements, and will slightly alter the specific gravity, but only slightly. The test as described will suffice for all practical clinical purposes, and will readily and with a great degree of trustworthiness point out dextrose in quantities of 0.5 per cent. and above. If greater accuracy is looked for, the urine should be boiled and filtered to effect a complete removal of the absorbed CO_2 and the yeast albumins before the final reading of the specific gravity is made. The yeast cell will bring about complete fermentation much sooner if the saccharine urine is subjected to a somewhat higher and steady temperature. To effect complete fermentation in six hours, the author has devised special fermentation tubes to be used with a sand bath. The sand should have a temperature of 33.5° C. The fermentation test, as above described, is to be recommended not so much for the detection of glucose, but as an easy means for ascertaining the fluctuations in the quantity of urinary dextrose during the time of observation.

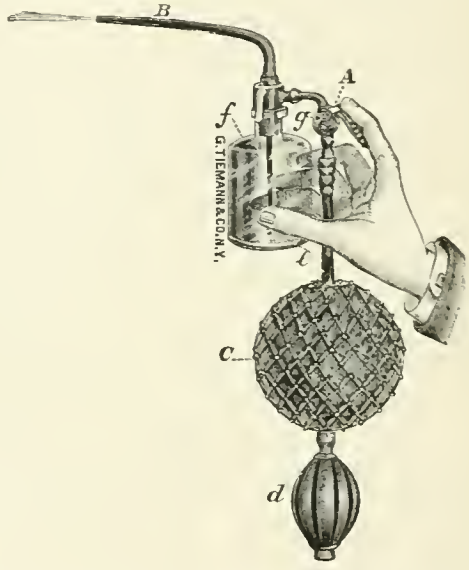
Vomiting of Pregnancy.—Oxygen water (ten volume gas strength) ℥ ss.–℥ i. Dilute at time of giving about sixteen times.

NEW CONSTANT-CURRENT EAR SYRINGE OR INJECTOR.

By HENRY W. WANDLESS, M.D.

DALLAS, TEXAS.

During my practice I have been greatly annoyed with the inefficiency of the ordinary ear syringes. They are seldom in order and are bunglesome; besides, the valves or pistons afford a very convenient place for storing bacteria and other sepic matter. The current thrown with them cannot be accurately landed or its force guarded. If the piston is hard to start, it often goes with a sudden jerk and with considerable force, sometimes causing the patient great pain. The fluid used must be kept in an open vessel and the syringe reloaded for each injection. The fluid gradually cools, often below the desired temperature, without the knowledge of the operator, unless advised by the patient, which does not always happen. The quantity of fluid used is necessarily large. The nozzle of the syringe must rest in the external meatus, and if there is much swelling this is very inconvenient and sometimes impossible. The temperature of the fluid is usually determined by putting the end of the finger into it, which is neither clean nor accurate. I remember that when I first saw this operation the same bowl was used as a drip cup and for holding the fluid



injected, the same fluid being syringed over and over again, which seems to me a dangerous practice (the danger being to the next patient).

Some of the advantages of this new constant-current syringe, or injector, are as follows: 1. It has no piston to get out of order; 2, it may be operated with a rubber receiver and hand inflation bag or from a compressed-air tank; 3, the quantity of fluid it uses is small; 4, the force of the current may be regulated precisely; 5, the jet may be landed on any particular part of the membrana tympani or in the external canal; 6, the current thrown is small and the outflow does not interfere materially with the inflow; 7, the temperature of the fluid can always be known, as the bottle containing it is held in the hand; 8, the flow is continuous until the solution or the compressed air is exhausted, or is cut off by the operator; 9, the instrument is clean and practically aseptic; 10, it is convenient and always in order; 11, the current may be started or discontinued suddenly or gradually; 12, the air pressure is completely under the control of the operator by means of the author's new instantaneous cutoff; 13, it is not necessary to place the tip in the external meatus in order to insure accurate landing of

the stream; in fact, it is used more satisfactorily when held an inch or so from the ear; 14, the solution retains its temperature longer, being in a tightly corked vessel.

The apparatus is composed of a bottle (*f*) for holding the fluid, a hard-rubber stem (*e*) for conveying the fluid out of the bottle, a tip (*B*), a soft-rubber receiver (*C*), an inflation bag (*d*), the author's new instantaneous cutoff (*A*), and (*g*) an opening for instantaneous escape of air from the bottle when it is cut off.

The bottle is made to withstand about thirty pounds' pressure to the square inch and the rubber receiver about fifteen pounds to the square inch; the latter is about all one can overcome by hand. The instantaneous cutoff need not be described here; suffice it to say that the current is instantaneously cut off and at the same time the air pressure in the bottle is released, stopping the entire operation instantly.

The apparatus is operated upon the plan of an ordinary spray or atomizer. Persons who have an air tank may dispense with the soft-rubber receiver and inflation bag, and attach the instrument directly to the air tank.

To operate the instrument, the receiver is first filled with air to the desired pressure, which requires a few compressions of the hand inflation bag, and is stored to be used as occasion requires. The cutoff is then attached to the thimble and the bottle is held in the right hand between the thumb, second, third, and fourth fingers, while the index finger operates the lever or trigger of the cutoff. The current is turned on by depressing the lever and is cut off by releasing it, the left hand being free to manipulate the external ear.

In operating the instrument attached to an air tank, the *modus operandi* is the same as stated above, except as to the source of the air pressure. The air being turned on by means of the cutoff, it passes directly into the bottle, forcing the fluid up through the stem (*e*) and finally through (*B*). No air can escape until all the fluid is driven before it.

I was particularly pleased when I observed the small volume of air necessary to operate the syringe. To use a bottle full of solution requires a like volume of compressed air, uninterrupted; an interrupted current requires somewhat more.

The full force should not be turned on at first, as it startles the patient and sometimes gives him considerable pain; besides, the danger of injury and shock to the tympanum is considerable.

Pulling the external ear up and out generally throws the drumhead in plain view of the operator. After the stream is discontinued the drum is hidden by some of the solution remaining in the canal, which is released by lowering the ear. A speculum may be used and the stream thrown through it, which often is quite an advantage. The patient unconsciously assumes with his head the position suggested to him by the manipulations of his ear. The interruptions in the current may be as frequent as desired, being entirely under the control of the operator.

In removing impacted cerumen from any part of the external canal, the instrument is exceedingly efficient. One may play upon the impaction with the stream with the greatest accuracy, and it may be undermined and dislodged easily. For removing purulent and other discharges from the ear, it has given me the greatest satisfaction.

The satisfaction and pleasure which I have experienced in the use of this syringe are not, I am sure, due to the interest I would naturally have in my own device, for I have used it sufficiently to have abandoned it were it not a superior instrument, in my judgment.

The tube should always be cleared of any of the solution before it is put away; especially is this necessary after using a solution of salts. These solutions sometimes dry in the end of the tube and block it; a wire passed through the end tip is sufficient to remove this. A solution for this purpose, and one which I have found generally satisfactory, is that made from an alkaline antiseptic tablet, the formula for which I recently published in the *Journal of the American Medical Association*. The strength of the solution is one tablet to from one to four ounces of boiling water. A convenient way is to keep this solution made up full strength, one tablet to the ounce of water, and dilute when necessary with water or a solution of boric acid.

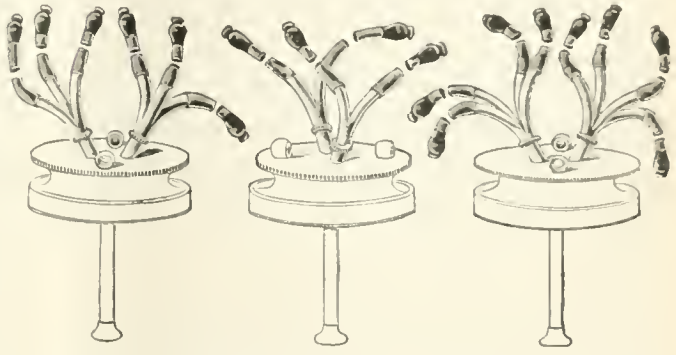
The apparatus is made by George Tiemann & Co., of New York.

NEW ATTACHMENTS FOR THE PHONENDOSCOPE.

By A. S. WALSH, M.D.,

NEW YORK.

The occasions on which the phonendoscope may simultaneously be used by a number of physicians are too numerous to mention. It very often happens that physicians may, when in consultation, want to examine the same patient at the same time. If only one ear of the physician is used, the regular tubes that come with the phonendoscope will answer, but if both



ears of each examiner are to be used of course four tubes are necessary. For this purpose we have the set of tubes shown in the centre of the illustration, to which it will be noticed four tubes are attached. This is simply a Y-shaped fork. Thereby two or four physicians can examine with the same phonendoscope. The figure on the left shows a tri-fork, by the use of which either three or six physicians may examine with the same phonendoscope. The other illustration shows a four-fork, enabling four or eight physicians to examine with the same phonendoscope. I understand that these attachments are very extensively used in the European universities, especially in lectures and for private instruction. These instruments have been made by George P. Pilling & Son, Philadelphia, from samples obtained from Europe.

For the Coughing-Attacks of Influenza.—For the coughing that comes on in attacks accompanying influenza Dr. Capitan (*Medecine Moderne*, No. 5) recommends the following:

℞ Tinct. droseræ,
Tinct. grindeliæ ..... āā 2 gm.
Tinct. aconiti..... ..... 1 gm.
Bromoformi ..... 60 gtt.
Glycerini puri ..... 2 c.c.

M. S. Six to fifteen drops in sweetened white wine, three or four times daily.

—*Klinisch-therapeutische Wochenschrift*, No. 4.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending May 14, 1898:

	Cases.	Deaths.
Tuberculosis	189	168
Typhoid fever	10	4
Scarlet fever	244	26
Measles	500	17
Diphtheria	202	37
Laryngeal diphtheria (croup)	14	8
Chicken-pox	19	0
Cerebro-spinal meningitis	0	4

The Passing of the Reflex.—Dr. Patrick (*Intercollegiate Medical Journal*, February, 1898) writes as follows: "And this leads me to mention what has already begun and what, God grant, may soon be consummated—the passing of the reflex. When to the nerve specialist comes a case of epilepsy, with a note from the family physician saying that the ovaries have been removed without effect, and so perhaps the trouble is in the brain; or a case of convulsive tic, with the message that the spasm has continued in spite of cauterization of the turbinates; or, as occurred to me a few days ago, he sees a born neuropath with typical traumatic neurosis who has undergone five pelvic operations for relief of her nervous symptoms—he groans in spirit and looks longingly forward to the millennium, when the man who operates shall have or procure an adequate understanding of that for which he cuts. In the mean time, under the keen scrutiny and rigid requirements of neurology, the so-called reflex as a cause of great nervous disorder is gradually being pushed into its rightful place—that is, among the relatively unimportant curiosities of etiology."

Prohibition in Norway.—*The Times* of April 13th published a valuable account of the working of prohibitory liquor laws in Norway. The people there are genuinely alarmed at the spread of liquor drinking, and, after trying the Gothenburg system, which purified the pothouses, eighteen towns resolved to prohibit the sale of liquors altogether. They did prohibit it, closing every spiritshop, with the result that drunkenness immediately and decidedly increased. Not only was a strong kind of port wine drunk in quantities, but illicit stills were set up in most back kitchens, and the people drank the raw spirits with lamentable results. Even the children were found intoxicated, and the arrests for drunkenness increased by from thirty to eighty per cent. Prohibition, in fact, totally failed, as it always will fail where it is not supported by a popular conviction that it is criminal to drink alcohol. There it succeeds, and then it is also totally unnecessary. It is always forgotten that the population of any town or village can prohibit the sale of liquors at once and finally by the simplest of expedients, viz., not buying them. The dramshops will not give away one drop. Drink is not sold because it is seen, but because it is wished for.—*London Spectator.*

Improved Practice in Surgery.—A report by M. Reclus in one of the French journals, of several cases of severe injuries of limbs treated by a novel conservative method, has attracted much attention. Instead of removing a crushed limb, M. Reclus would embalm the injured structures in antiseptic applications and wait for a natural separation of the dead from the living parts, not interfering except to saw through bone. After careful disinfection of the skin and removal of detached fragments of bone and of loose tendons and torn muscle, the whole wound is forcibly injected with water heated to 140° F. Hot water acts as an antiseptic and increases the activity of other antiseptic agents, and, moreover, when injected into a large and deep wound, it arrests hemorrhage and warms the chilled and collapsed patient. The interior of the wound is next thoroughly disinfected with a solution of permanganate of potassium applied on pieces of wool, and finally embalmed with what is called a polyantiseptic pomade containing a very large proportion of active agents, some of which, being absorbable—such as corrosive sublimate, carbolic acid, and iodoform—are in small quantities; while others which are not so absorbable—as boric acid, salol, and antipyrin—are distributed more abundantly. This pomade is spread quickly on bands of tarlatan, which are thrust into all the crevices of the wound. The injured part is covered with a layer of cotton wool, which is firmly bound down to the surface of the limb with bandages. By the end of the third week, it is stated, the dead have become detached from the living structures and the sloughs are quite loose.—*Scientific American.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

YELLOW FEVER IN THE WEST INDIES. By Dr. I. Anderson. 8vo, 106 pages. H. K. Lewis, London. Price, 3s. 6d.

REPORT OF THE THIRD ANNUAL MEETING OF THE AMERICAN ACADEMY OF RAILWAY SURGEONS, 1896. Edited by Dr. R. H. Reed. 8vo, 282 pages. American Medical Association Press, Chicago.

A LABORATORY TEXT-BOOK OF PATHOLOGY. By Dr. H. J. Whitacre. 8vo, 172 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia. Price, $1.50.

ESSAYS ON BACTERIOLOGY. By Dr. Theodore Potter. 8vo, 161 pages. The Indiana Medical Journal Publishing Company, Indianapolis.

PUBLIC HEALTH REPORTS. Vol. XIII. 8vo, 1,441 pages. Supervising Surgeon-General, Marine Hospital Service, Washington.

THIRD ANNUAL REPORT OF THE METROPOLITAN WATER BOARD. 1898. 8vo, 172 pages. Illustrated. Wright & Potter Printing Company, Boston.

ESSAYS ON ORTHOPÆDIC SURGERY. By Dr. Newton M. Shaffer. 8vo, 81 pages. D. Appleton & Co., New York.

PROMPT AID TO THE INJURED. By Dr. Alvah H. Doty. Second edition. 8vo, 302 pages. Illustrated. D. Appleton & Co., New York.

THE DEVELOPMENT OF THE CHILD. By Dr. Nathan Oppenheim. 8vo, 296 pages. The Macmillan Company, New York.

OPERATIVE SURGERY. By H. J. Waring, M.S., M.B., B.Sc., F.R.C.S. 8vo, 661 pages. Illustrated. The Macmillan Company, New York.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS. Vol. X. 1897. 8vo, 433 pages. Illustrated.

EPIDEMIC DIPHTHERIA. By Dr. Arthur Newsholme. 8vo, 196 pages. Illustrated. Swan, Sonnenschein & Co., Ltd., London.

ACCIDENT AND INJURY. By Dr. Pearce Bailey. 8vo, 430 pages. Illustrated. D. Appleton & Co., New York.

DISEASES OF THE STOMACH. By Dr. William W. Van Valzah and Dr. J. Douglas Nisbet. 8vo, 674 pages. Illustrated. W. B. Saunders, Philadelphia. Price, $3.50 net.

INTERNATIONAL CLINICS. Eighth Series. Vol. I. 1898. Edited by Dr. J. Daland, Dr. J. M. Bruce, and Dr. D. W. Finlay. 8vo, 355 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

DIABETES MELLITUS AND ITS TREATMENT. By Dr. R. T. Williamson. 8vo, 417 pages. Illustrated. Young J. Pentland, London.

EAR RECORDS. By Dr. J. C. Lester and Dr. V. Gomez. 4to, 175 pages. J. W. & G. H. Hahn, New York.

Medical Record

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Summer Health Resorts.

The Virginia Springs, both on account of the celebrity of the waters and the healthfulness of the region in which they are situated, appropriately take precedence of the summer health resorts of the United States. They are located in a branch of the great valley between the Alleghany and the Blue Ridge mountains, at an elevation of from sixteen to twenty-five hundred feet above sea level, replete with magnificent scenery; in a relatively dry atmosphere, with a summer temperature of about 66° F.; in a clean soil thoroughly drained by means of living streams, and consequently wholly devoid of the conditions that give rise to malarial diseases. Altogether their situation is one of the most salubrious in America.

The region is mountainous throughout, and in some parts rough. These are no less attractive to the tourist mountain climber who is well and wishes to be better, than are other parts to the invalid who would repose in some secluded nook and obtain the utmost benefit of the joint influence of the climate and of the renowned mineral waters.

The accessibility of the region may be so easily traced from every direction that it is deemed unnecessary to particularize the routes.

Springs of widely different chemical and therapeutic properties are in the same vicinity. The Hot, Warm, Sulphur, and Healing springs are all located in a narrow valley, about fifteen miles long between two lofty mountain ranges, east and west, parallel with the main Alleghany divide, in Bath County. From the crests of the towering mountains, four thousand feet above sea level, settlements and intervening stretches of country over fifteen hundred feet below are spread out before the beholder in a magnificently beautiful and animating panorama.

The Warm Springs occupy a shaded valley five miles distant from the **Hot,** reached by stage over an easy boulevard, and are under the same management.

The gentlemen's bath is an octagon, forty feet in diameter, and holds forty thousand gallons of water; and the ladies' bath, circular in shape, half as large again, has a capacity of sixty thousand gallons.

These pools are supplied from separate springs, each discharging upward of one thousand gallons a minute, at a temperature of 96° F., and the water constantly boils with myriads of bubbles of sulphuretted hydrogen gas which greatly contributes to the luxurious and invigorating pleasure of the bath.

The Warm Sulphur Spring—temperature, 96°–98° F.—No. 1 (sulphuretted) contains:

	Grains Per Gallon.
Calcium carbonate	4.20
Calcium sulphate	5.47
Magnesium sulphate	3.38
Calcium chloride	1.47
Soda	trace.
Total	23.11

	Cubic Inches.
Sulphuretted hydrogen	.13
Nitrogen	1.02
Carbon dioxide	2.04

No. 2 (acidulated calcic) contains:

	Grains Per Gallon.
Calcium carbonate	5.22
Calcium sulphate	14.53
Potassium sulphate	1.38
Ammonium sulphate	0.36
Sodium silicate	1.72
Magnesium silicate	
Iron crenate	2.50
Total	25.71

Gases:

	Cubic Inches.
Carbonic acid	7.94
Sulphuretted hydrogen	0.25
Nitrogen	3.25

At the Hot Springs a new and elegant bathhouse has been finished recently, adapted to every convenience. A great variety of baths is provided, and at any desired temperature, from a cold plunge to 108° F. The spout and boiler baths, which have long been the favorites, are continued, but to these are now added needle, spray, and shower douches in variety, electric, plunge, hot vapor, and mud baths, in suites of apartments especially arranged for their use. The house is also provided with rooms and appliances for inhalations, nasal douches, etc.

There are large and well-furnished separate resting-rooms for ladies and gentlemen on each floor; and a large solarium, where sun baths may be enjoyed by day; and, in the same elaborate apartment, theatrical and other amusements, for which it is adequately equipped, are given in the evening.

Sulphur (bath and drinking) Spring—temperature, 102° F.—(alkaline calcic) contains:

	Grains Per Gallon.
Magnesium sulphate	7.991
Magnesium carbonate	2.727
Calcium sulphate	4.184
Calcium carbonate	21.15[illegible]
Sodium sulphate	2.542
Potassium sulphate	1.183
Potassium chloride	0.417
Silica	1.328
Total	41.812

Boiler (bath) Spring—temperature, 108° F.—(alkaline calcic) contains:

	Grains Per Gallon.
Magnesium sulphate	8.47[illegible]
Magnesium carbonate	3.41[illegible]
Calcium sulphate	1.[illegible]5
Calcium carbonate	23.[illegible]0
Sodium sulphate	3.184
Potassium chloride	520
Silica	1.[illegible]40
Total	42.[illegible]34

Carbonic acid gas given off freely. Not measured.

The Healing Springs, three miles south of the Hot, under the same management, are amid singularly peaceful surroundings. Here the water is also abun-

dantly supplied by four springs, essentially of the same character, beautifully bright and sparkling, at a uniform temperature of 87° F. It is extensively used for drinking, and some marvellous cures have been attributed to its use. And here, too, there are extensive and elegant bathing facilities.

No. 1 (alkaline) contains:

	Grains Per Gallon.
Sodium carbonate	0.02
Calcium carbonate	9.93
Magnesium carbonate	1.36
Iron carbonate	0.56
Calcium sulphate	1.38
Potassium sulphate	0.23
Aluminium sulphate	0.03
Calcium phosphate	0.01
Sodium chloride	0.15
Potassium chloride	0.04
Silica	1.00
Carbonic anhydride	5.39
Lithium carbonate, manganese carbonate, calcium fluoride	traces.
Total	20.10

	Cubic Inches.
Sulphuretted hydrogen	1.64
Oxygen	3.05
Carbon dioxide	4.64

Thirty-five miles south of the Warm Springs are the famous

White Sulphur Springs—the "Old White," in Green Brier County, W. Va., but in the same spring region, near Howard's Creek. They are situated in a beautifully picturesque valley, about six miles from Alleghany Ridge, which separates the waters that flow into Chesapeake Bay from those that flow into the tributaries of the Mississippi River.

Here during recent years there is renewed life with increasing attractions. The natural beauty and grandeur of the scenery have never waned; indeed, during the three decades since this ceased to be the unrivalled summer resort for statesmen as well as for health and pleasure seekers, the natural attractions seem to have taken a new growth. Of this the enterprise of the "New South" has been quick to take advantage. The fashionable spirit of the "old South" has been quickened, and again, as of yore, the gallantry and beauty of Southern society—legitimately descended and perpetuated through many generations—comes to the fore. That the fame of the "Old White" is again in the ascendant is well attested by the annually increasing number of the society leaders from the more northerly cities.

The outlook of the White Sulphur Springs is that of a well-kept, magnificent park, with extensive drives, bicycle paths, and walks through splendid groves of trees. The surrounding mountains are the grandest peaks of the Alleghanies, and the lower ranges picturesque and inviting to tourists.

The principal spring of this group (of three springs) is situated twenty-two hundred feet above sea level. For more than a hundred years its waters have been famed for their efficiency in treatment of rheumatism and gout. A remarkable characteristic of this spring is the uniform temperature of the water as it flows from it—62° F. at all seasons; and equally remarkable is the regularity of the flow, thirty gallons a minute. "While other springs of the country have failed during long droughts of summer, this has invariably preserved the even tenor of its way." The outflow is clear and transparent, but deposits copiously as it flows over the surface a white and sometimes a red-and-black precipitate. Its taste and smell, fresh at the spring, are that of all waters strongly impregnated with sulphuretted hydrogen gas.

Chemical properties, No. 1 (sulphuretted):

	Grains Per Gallon.
Calcium carbonate	7.07
Calcium sulphate	78.35
Magnesium sulphate	35.42
Silicates	3.46
Magnesium chloride	1.00
Organic matter	4.36
Total	129.66

	Cubic Inches.
Carbonic acid	11.28
Sulphuretted hydrogen	0.24
Oxygen	0.48
Nitrogen	4.64

The bath facilities are adequate and excellent, with water at any temperature required in the treatment of the various diseases for which it may be recommended.

There are grand hotel accommodations and cottages with homelike surroundings, and visitors are enabled to live in the whirl of gayety or in privacy, as their taste or state of health may dictate.

There are nightly amusements of one kind or another—grand, fancy, and masquerade balls—and other entertainments throughout the season.

Roanoke Red Sulphur Springs, near Salem, Roanoke County, have been much extolled in years gone by for consumptives—probably more due to the purity of the atmosphere than to the use of the waters, though some of these are of old and well-merited repute in many disorders. The springs are situated in a particularly romantic region, twenty-two hundred feet above sea level, with many marvellous objects round about well calculated to divert the attention of the invalid as well as of the tourist simply bent on sightseeing.

"Murder Hole," an enormous hole in the ground, one hundred and thirty-six feet deep and three hundred by sixty feet in length and breadth, laid up naturally in solid rock, is the entrance to a cold cavern of supposably great magnitude, that has not yet been explored. Descent has been made into it by means of ropes, and it has been penetrated to the extent of about twelve hundred and fifty feet, revealing apparently several large chambers, inviting entrance but offering a very cool reception, 44° F., during the hottest days of summer. Near by is the twice daily Flowing Spring. The water gushes forth for about an hour each time, and then it subsides. The cause of this action has been the subject of as much speculation as that of the geysers of Montana. But the most conspicuous object in the neighborhood is the McAfee Knob—one of the grandest overhanging landscapes on the continent—an enormous projecting mountain table, four thousand feet above sea level.

Hence the tourist may make railroad connection by branch with the Shenandoah route northward, and take in the *Natural Bridge*, "one of the great natural wonders of the world," where there are a fine summer hotel, well equipped with carriages, and splendid drives round about. Thence, a few hours farther on, are the *Luray Caverns*, but a mile distant from the railroad station, where there are excellent hotel accommodations, carriages, and guides. These now famous caverns were discovered only twenty years ago, and new wonders within them are still being disclosed. Already, however, there are opened up some of the most marvellous stalagmite and stalactite formations that have ever been described. The visitor here should be provided with overshoes and rubber wrap, for the floors are damp and there is some dripping from above; nor will he be any too warm for this, the temperature of the air within being about 56° F. As described by a visitor on first entering: "The darkness was only faintly illuminated by our few candles, and I was about to remonstrate, when the click and flash of an electric arc flooded the whole place with the light. Our candles were intended merely for

peering into dark corners and helping our footsteps." The general illumination is accomplished by dozens of electric lamps hung in all parts of the wide winding vaults and passages. Despite all descriptions and photographic views of this wonderful cavern that have been published, the general verdict of persons who have visited it is that the wonderful display of colors reflected by the crystal formation illuminated by electric light is altogether indescribable—to be appreciated it must be seen. Hence the tourist may skip to

New York City, the byway of all summer tourists northward bound, on health and pleasure bent. No other place in the country has so many attractions round about within one day's sightseeing, severally accessible by elevated or surface railway or by excursion steamboats. In geographical extent, as in population, New York City is now the second city in the world. Its area is a square mile for every day in the year—three hundred and sixty-five. Its length from Mount St. Vincent to Tottenville is thirty-five miles, and its width from the Hudson River at West Fourteenth Street to the inlet of Far Rockaway Beach nineteen miles. Yet it can be traversed from one end to the other, or across, for *fifteen cents*.' There are routes in the borough of Brooklyn, fifteen miles long, which may be covered for five cents. Indeed, like the Empire State, of which it is now in population (3,438,900) the greater part, it enjoys the cheapest rates of travel in the world. If the surface and elevated roads within the city limits were extended in a single line, they would reach to Kansas City. Yet it has been estimated that by their fullest use, a thorough exploration of the great city—of all its objects and points of interest—would occupy sixty days of ten hours each, and involve an expenditure of not less than $100—fares of railroad lines and steamboat ferries. Nevertheless, *en passant*, the tourist need not despair of seeing much of abiding interest in a shorter period of time and at less expense. Of the places of amusement, of which New York is the American paradise, nothing need be said; nor of its hotels—the finest in the world.

The public parks and squares in New York are much greater in area than those of any other American city, and none are so well adorned with fine monuments, statues, portrait busts, and sculpture by eminent artists.

The Grant Mausoleum, Riverside Park, overlooks the Hudson from a height of three hundred and fifty feet; and from this viewpoint the eye takes in Barnard College, the Woman's Annex to Columbia, now erecting on One Hundred and Twentieth Street, on the Riverside Drive. Immediately below, in the square bounded by the Boulevard and Amsterdam Avenue and One Hundred and Sixteenth and One Hundred and Twentieth Streets, is the group of *Columbia University Buildings*, seventeen in number, now going up, and upon which, ere they are finished, $5,000,000 or more will be spent. In the same neighborhood is the *Cathedral of St. John the Divine*, to cost as much or more, designed by Lafarge. The cornerstone of this structure was laid December 27, 1892, but it will yet be several years before it is completed. For stateliness and beauty it will rank among the greatest ecclesiastical buildings of the world. *The Metropolitan Museum of Art*, in Central Park, near Fifth Avenue and Eighty-second Street, possesses an unparalleled collection of stone sculptures, sarcophagi, bronzes, glass, jewelry, etc.; also an important and valuable collection of paintings by the most celebrated masters, ancient and modern; and other rare objects of art too numerous to mention. The museum is open to the public five days in the week, including Sunday, without charge for admission. *The American Museum of Natural History*, also in Central Park, at Seventy-seventh Street and Eighth Avenue contains an extensive collection of birds, animals, shells, fossils, insects, minerals, and implements of the aborigines of our own and foreign lands. *The Public Aquarium*, the whilom Castle Garden, in the southwest corner of Battery Park—for many years used on great occasions—is now an object of interest to all who would see life as it is below the ocean wave—fishes, beautiful, curious, and useful.

Steamboat and railroad excursions: to *West Point* and back, comprehending the most magnificent single-day's view of river-bank scenery in the world; across the upper bay to *Staten Island*, the borough of Richmond, with a ride among or around its beautiful hills and villas, overlooking the Narrows and the lower bay, and a view seaward, limited only by the extent of vision. Another is *via* the borough of Brooklyn, thence by elevated or surface railroad—or by steamboat from Manhattan direct—to *Coney Island*, where may be seen the most enchanting exhibition of surf bathing imaginable—the outpouring of New York's circumscribed excursionists on the beach and the rush into the surf. It is indeed one of the most animating as well as most captivating views of the summer tourist; for no one can look upon this bath-needing multitude, just let loose from the narrowest confines of the great city, now rollicking in the clean white surf and filling their lungs with the needful pure air from the face of the ocean, without being animated and invigorated by the sight. And it is the more enjoyable by reason of the delightful music in the foreground, while the observer sits on the balcony of any one of the three magnificent hotels, with abundant and excellent accommodations for the hour or for the whole season if required.

Farther along the beach, but for another day's excursion, *via* the Long Island Railroad, wholly apart from the conditions of the multitude common to Coney Island, is

Long Beach, with its grand hotel and a long row of cottages, where there is delightful surf bathing in conjunction with the best of hotel refreshments and accommodations for the hour or the whole summer.

Long Branch, too, is within the regular daily excursion trips, by steamboat or railway, and if by the former, with views of the harbor and the Statue of Liberty to the best advantage, the fortifications along the Narrows, Sandy Hook, and the Highlands. No spirited tourist can afford to miss seeing Long Branch, at so little inconvenience and on such a pleasure trip too, though it be for one day only—the sublimity of the surf bathing, excellence of the life-saving police, magnificence of the hotels and stylish cottages, and the wonderful display of wealth and fashion.

Atlantic City and **Cape May,** beyond the single day's excursion trips, are nevertheless so accessible that they may be easily taken in during the ten days or two weeks devoted to sight seeing in and round about New York. They have like attractions with Long Branch, only a little warmer weather; and for those who would enjoy, or for special reasons avail themselves of a soft warm air on a clean ocean shore, with excellent surf-bathing facilities, there are no better resorts. Ten days' or two weeks' time thus spent in and about New York, besides the immediate pleasure which it affords, is well calculated to enhance the pleasures of social fellowship in subsequent travel.

Northward from New York City, one may at least hesitate for a time among

The Catskill Mountains, for a few weeks' diversion, if not indeed for all summer, provided he would get the most for his money; for there is no region of similar magnitude, charm of scenery, and healthfulness of climate in the country that is equally well equipped with excellent hotels and boarding-houses at such economical rates as the region of the Catskills.

Two and one-half hours by the New York Central or the North Shore Railway, or twice that length of time by steamboat, with a view of the magnificent scenery of the Hudson, lands one at the foothills, Rhinecliff or Catskill, one hundred and ten miles from New York. The new Otis elevating railway, recently completed, connects with the Catskill Mountain Railway at Otis Junction, and is now the popular route for Catskill Mountain House, Hotel Kaaterskill, Laurel House, Haines Falls, Twilight Park, and Tannersville. The ascent of the mountains from this point is made in ten minutes.

Of particular places more or less enjoyable in the Catskills it is not necessary to speak; for to spend the summer there to the best advantage, the tourist should ramble; and he can hardly go amiss for interesting passes, climbs, and views. It is a much better region for such tourists than it is for invalids; not that the mean summer temperature at about 70°, and the relative dryness of the air at an altitude of sixteen hundred to two thousand feet above sea level, are not agreeable and salubrious, but in default of diversion.

The Adirondack Wilderness has acquired a world-wide reputation as a sanitary resort for consumptives. Inferentially, any region or climate found to be particularly beneficial to persons afflicted with or predisposed to a disease so intractable as pulmonary consumption is, can scarcely be otherwise than beneficial to persons afflicted with or predisposed to other diseases; indeed, salutary generally. Such, at any rate, the Adirondack Wilderness appears to be. The region is accessible *via* the New York Central Railway connecting with the Adirondack division at Utica. Or *via* the Delaware and Hudson Railway to Lake George, Lake Champlain, and the northern portion of the Adirondack Mountains; as also from all points of departure in northern New England and Canada. The area comprehends 3,588,800 acres, of which nearly one-half consists of forest. It has a general elevation of about two thousand feet above sea level, and is traversed by five distinct mountain ranges, with well-defined intervening valleys, with numerous subdivisions. Over thirteen hundred lakes and mountain lakelets are scattered throughout the area, while from its central watershed twenty rivers diverge in every direction, and with these a hundred or more rivulets, famous for their trout, coalesce.

The scenery is wonderfully varied, grand, and picturesque. There are over five hundred designated mountains and mountain peaks. Five of them reach altitudes of from 4,871 to, 5,344 feet above sea level. The average altitude of the lakes above sea level is about fifteen hundred feet, and of a few of them twice that elevation. Some of these cover only a few acres, while others are twenty miles or more in length; and the shores are generally approachable, there being but little mud and no stagnant water, the affluence of the mountain streams and the porosity of the subsoil being such as to maintain the constant purity of the water.

Amid the pine and spruce growth, two thousand feet and upward above sea level, there are many delightfully sunny areas and slopes with well-drained sandy soil, and the summer temperature is of remarkable equableness, of about 68° F.

Fulton Chain Station, fifty-two miles from Utica, New York Central Railway, is the gateway to several new hotels, cottages, and summer camps, in and along the plains and slopes, with short stage or boat connections with places where comfortable accommodation can always be secured. One of the particularly notable places of this region is Childwold Park, a picturesque track of fifteen thousand acres, through which the beautiful Raquette River winds northward, after leaving Tupper Lake; it is reached by way of Childwold Station. Its principal lake is the Massawepic, upon the eastern shore of which are located the Hotel Childwold and cottages. The tallyho drive, five miles from the station to the hotel, is a delightful feature of the trip. Tupper Lake village is one mile by stage from Tupper Lake Junction. Here there are excellent hotel accommodations, and good fishing in the big and little Tupper Lakes. Saranac Inn, at the head of Upper Saranac Lake, is one of the most charming and fashionable resorts in the wilderness. It is reached by stage ride of two miles from Saranac Inn station. It presents one of the most beautiful views of lake and island scenery in the mountains. A small steamer plies between Saranac Inn and the foot of the lake, where are located Hotel Wawbeek, Rustic Lodge, Saranac Club, and Hiawatha House. The Wawbeek is one of the most commodious and best-known hotels in the region. Its architecture partakes of the picturesque scenery by which it is surrounded, and with its shapely towers and admirable proportions it forms an imposing feature in a landscape that claims the admiration of every beholder. "Paul Smith's," three and one-half miles from Paul Smith Station—one hundred and thirty miles north of Utica—is one of the oldest and most justly noted hotels in the Adirondacks. It is located on Lower St. Regis Lake. The beautiful scenery hereabout has allured many wealthy sojourners, whose costly and elegant camps have greatly contributed to the attractions of the place. But the limitation of space forbids the further attempt to describe this—all things considered—queen of summer health resorts. At its southeast corner, on what may be considered the terminal spot of the Adirondack Mountains, descending eastward to an elevation of about four hundred feet above sea level, is the beautiful village of

Saratoga Springs, the most popular and the most fashionable summer health resort in America. Saratoga Springs is accessible by the ordinary routes of transit from all directions, so that there is no need of specification. Primarily famous on account of the mineral spring discovered and first used here in 1774, Saratoga's attractions otherwise and chiefly have been and continue to be the successful results of enterprise in turning its only natural advantage to the best possible account; for there is really nothing sufficiently remarkable about the topography or natural scenery of Saratoga to attract the attention of any lover of nature, art, science, or sport. Nevertheless there has been created round about a panorama of grand hotels and ornamentation so superbly attractive to the highest social requirements as to place it in the foreground of summer resorts of the most varied types of the leisurely and affluent citizens, not only of our own country but of many foreign lands.

The hotels and springs are abundantly equipped with every requisite for health, comfort, and social enjoyment. The city is beautifully laid out, and has broad and well-shaded streets with good pavements, and good drainage.

A highly interesting object to visitors is "The Pompeia," an exact reproduction of the house of Pansa, buried by Vesuvius in the year 79. The building is an artistic monument that well ranks with the most impressive of American contributions to the art of this century.

The environments are in admirable keeping with the beautiful and cleanly streets, broad and smooth roads, and interesting drives. The most popular of the latter is that to the lake, three and one-half miles distant; and this, the lake, is a frequent attraction during the season for boat racing. Moreover, a little steamer plies it, between the Lake House and White Sulphur Spring Park Hotel, seven miles apart, and to other points. The Race Course is also an entertaining feature.

The Saratoga Mineral Springs have been among the most thoroughly studied and are consequently among the most widely known of any mineral waters in the country.

Of the other mineral-spring resorts in the State of New York, the most noted are the following:

Richfield Springs, in Otsego County, fourteen miles from Coopertown, six miles from Otsego Lake, accessible by the New York Central route, connecting with the Delaware, Lackawanna, and Western Railroad, at Utica, thence fifteen miles to the springs, near the shore of Canandarago Lake, one of the most picturesquely surrounded sheets of water in America. It is a particularly attractive feature of the springs for healthful outing.

The waters are of high reputation in the treatment of rheumatic and cutaneous affections.

The bathhouse occupies a space one hundred and eighty feet in length by one hundred and twenty feet in width, and is said to be one of the best designed and most elegantly finished bathhouses in the country. It comprehends rooms specially fitted for the use of spray, douche, steam, and electricity; and Turkish baths complete. There is a large swimming pool, constructed with special reference to instruction in swimming. The hotels are commodious and well equipped in all particulars.

The springs are saline, saline sulphuretted, sulphuretted, saline chalybeate, and calcic. "Sulphur Spring" (chiefly used), contains:

	Grains Per Gallon.
Calcium bicarbonate	4.47
Magnesium bicarbonate	6.01
Iron bicarbonate	0.24
Sodium sulphate	22.29
Calcium sulphate	67.39
Magnesium sulphate	32.82
Sodium chloride	21.73
Potassium chloride	8.23
Sodium and calcium sulphides	6.22
Alumina	0.10
Silica	1.35
Total	170.85

	Cubic Inches.
Sulphuretted hydrogen	3.63
Carbonic-acid	2.94

"Iron Spring" (chalybeate carbonated) contains:

	Grains Per Gallon.
Calcium bicarbonate	11.71
Magnesium bicarbonate	12.52
Iron bicarbonate	4.92
Sodium sulphate	0.30
Calcium sulphate	5.00
Sodium chloride	0.43
Silica	0.81
Total	35.69

	Cubic Inches.
Carbonic-acid	15.9236

Sharon Springs, sometimes called the Baden-Baden of America, are situated in Schoharie County, N. Y., in a romantic valley, eleven hundred feet above sea level, accessible by the New York Central, in connection with the Delaware and Hudson Railroad, or by a delightful drive of nine miles from Palatine Bridge, a station on the New York Central, a few miles beyond Fonda.

The springs are calcareous, calcareous sulphuretted, and one (calcareous) called "Eye Water Spring." The chiefly used are:

"White Sulphur Spring" (calcareous sulphuretted) contains:

	Grains Per Gallon.
Magnesium bicarbonate	24.00
Calcium sulphate	85.40
Magnesium sulphate	34.00
Sodium chloride	2.70
Magnesium chloride	2.70
Calcium sulphide	3.00
Magnesium sulphide	3.00
Total	154.80

	Cubic Inches.
Sulphuretted hydrogen	20.50

"Eye Water Spring" (calcareous) contains:

	Grains Per Gallon.
Magnesium bicarbonate	32.00
Calcium sulphate	77.50
Magnesium sulphate	7.50
Sodium chloride	2.50
Magnesium chloride	2.50
Total	122.00

Mud baths are used here to a considerable extent, and some extraordinary cures of syphilides and other cutaneous eruptions have been atributed to their use.

Clifton Springs, a delightfully situated village, midway between Seneca and Canandaigua lakes, twelve miles from Utica (via New York Central), is noted for its sulphur springs, which were taken advantage of fifty years ago, by Dr. Henry Foster, by the erection of the "Clifton Springs Sanatorium," which is still worthily maintained by a generous patronage.

There are three springs. The one most used, according to the most recent authentic analysis, contains:

	Grains Per Gallon.
Calcium carbonate	9.68
Magnesium carbonate	13.12
Sodium sulphate	7.76
Calcium sulphate	69.20
Magnesium sulphate	16.48
Sodium chloride	9.28
Calcium chloride	4.08
Magnesium chloride	4.08
Organic matter	trace.
Total	133.68

Sulphuretted hydrogen and carbonic-acid gases present.

Many other mineral springs are scattered—so to speak—throughout the middle and northern sections of the State, and for the most part in the midst of, or in easy communication with, delightful lake and mountain scenery, and well equipped for the entertainment of tourists or sojourners.

Lake George, two hundred and ten miles from New York, and but seventy miles from Albany, is the most famous and the most frequented of American lakes; chiefly on account of the natural beauty and grandeur of the scenery by which it is surrounded, but no less on account of the historic and legendary associations with which the vicinity is invested. For hereabout it was where Ethan Allen and the Green Mountain boys earned a nation's gratitude, and the sombre ruins of Fort Ticonderoga, still standing, memorize the victory. And here, too, it was, where the gallant French General Montcalm with ten thousand men besieged Fort William Henry; where General Abercrombie with an army of fifteen thousand men made an unsuccessful attack upon Fort Ticonderoga; and where, during the early days preceding our country's independence, engagements between the French and English with Indian allies were of such frequent occurrence as forever to render Lake George a place of historical interest to every American, of which no tourist can afford to be ignorant.

The lake is situated at an altitude of three hundred and fifty feet above sea level, is thirty-five miles long, and from three-quarters of a mile to four miles wide. It is surrounded by high hills and precipitous cliffs on all sides, and its surface is dotted with numerous little islets of remarkable beauty. Fort William Henry, Lake House, Sagamore, Fort George, Crosbyside, Lake View, Marion House, Fernwood, Pearl, Prospect House—on the summit of Prospect Mountain—and many excellent boarding-houses besides, afford ample hotel accommodation and unlimited facilities for enjoying the scenery, and there are delightful drives and boating.

Within a hundred miles of Lake George, in the adjoining counties of Essex and Hamilton (extending to Warren, in which Lake George is mostly situated), there are about two hundred smaller lakes interspersed amid a landscape of great beauty and healthfulness. They are easily accessible, and there is no lack of hotel or boarding-house accommodations. Farther west there is a chain of larger lakes, and in the southwest are still others. A striking feature of the river and lake scenery of the State of New York is the number, beauty, and grandeur of the *waterfalls*. Trenton, Taughannock, Minnehaha, and Rainbow Falls, near Watkins Glen, and several others in relation with the group of lakes in Cayuga, Seneca, Yates, and Ontario counties, are notable for the charming scenery in the neighborhood and the healthfulness of the region.

Watkins Glen is justly celebrated for the marvellous beauty of the scenery roundabout, and, above all, for the beauty of Seneca Lake Falls close by—a region, indeed, possessed of an individuality as distinctly characteristic as that of Niagara, though insignificant in comparative grandeur. All of these delightful resorts and the lines of travel to reach them are so thoroughly designated on travellers' maps as to render description in this regard wholly unnecessary; and so, too, with regard to accommodation—they are almost unexceptionally adequate and suited to the varied tastes and requirements of tourists or sojourners.

Niagara Falls is now brought within a single day's journey from New York, *via* the New York Central Railway, by which all daylight tourists, in passing, are given a few minutes' delay for a glance at the cataract. But no adequate appreciation of Niagara can thus be gained, nor can there be by any description. For, as Anthony Trollope wrote:

"Of all the sights on this earth of ours which tourists travel to see, I am inclined to give the palm to Niagara. In the catalogue of such sights I intend to include all buildings, pictures, statues, and wonders of art made by men's hands, and also all beauties of nature prepared by the Creator for the delight of His creatures. This is a long word; but, as far as my taste and judgment go, it is justified. I know of no other one thing so beautiful, so glorious, and so powerful."

Michigan possesses many attractions for the summer tourist and health seeker, particularly after the summer has advanced a little—after one has had time during the early summer to "do" New York, as it were: for the great lakes, which hold Michigan by many beautiful facets, serve to keep back the spring temperature. The land warms up more slowly than that which is otherwise situated, and makes the enjoyable season a little later. The extent of the lake coast of Michigan is over eleven hundred miles. Besides the four great lakes—Superior, Michigan, Huron, and Erie—and the smaller one, St. Clair, which form so large a part of the lower border of the State, there are hundreds of smaller lakes and straits which greatly contribute to the beauty of the scenery. The shores of these have been greatly improved during recent years. The southern portion of the lower peninsula, now the garden orchard of the Northwest, formerly encumbered with swamps and unhealthful, is for the most part well drained and highly healthful.

The islands are very numerous, and some of them have been converted into delightful health resorts. The principal are Isle Royal and its dependent islands in Lake Superior; Beaver, Fox, and Manitou Isles in the northern part of Lake Michigan: Bois Blanc and Mackinac Islands in the Mackinaw straits; Drumond Islands in Lake Huron, and the Sugar Islands in the Straits of St. Mary. These islands, as a whole, and several places on the lake shores, are remarkable for the beauty of the scenery and improved advantages as summer health resorts.

Petoskey, once the site of the largest Indian village in the State, built on the succession of natural terraces rising from the beach of Little Traverse Bay, is near the centre of what may be called the health-resort region of Michigan. Its location is at once commanding and beautiful. The cool, invigorating breezes from Lake Michigan and Little Traverse Bay, its pure water, and the absence of malarial shores make it a natural sanatorium. Radiating from it in nearly all directions, railroad and steamboat lines lead to the various surrounding resorts, fishing and bathing grounds.

The Harbor Springs branch of the Grand Rapids and Indiana Railway, built near the shore and in some places on the beach of Little Traverse Bay, puts Petoskey in close touch and pleasant communication with all the points of the bay. During the summer season a suburban train service is maintained between Petoskey and Bay View, Roaring Brook, Wequetonsing, Harbor Springs, Harbor Point, Oden Oden, and Bear Lake, and commutation tickets at cheap rates are sold, enabling visitors to reach these points with great convenience and at slight expense. There are many good hotels and pleasant boarding-houses, and visitors are certain of accommodations suitable to their taste and purse. The principal hotels are the Arlington, Imperial, Cushman, Occidental, Clifton, and National.

Mackinac Island, situated in the Mackinaw Straits, is reputed to be the coolest and, since its great improvement and supervision as a State park, one of the cleanest and most healthful summer resorts in the country. Unlike that common to the seaside, the atmosphere of Mackinac Island is said to be crisp—though we have no record to this effect—and invigorating. It is, above all, commendable to the victims of *hay fever* and all such ills as are more or less due to dust in the air, of which the atmosphere here is almost wholly devoid. The island is covered with a dense growth of beech, birch, maple, and arbor vitæ; and the hard, smooth roads, winding gracefully about the different points of interest, make driving and wheeling a great pleasure. The many points of interest round about are Arch Rock, a natural bridge of rocks on the northern cliffs; Fort Holmes, the remains of the old British fort; Sugar Loaf, a huge rock, the shape suggesting the name; and the panorama of the commerce continually passing through the straits. Among the other hotels offering excellent accommodations are the Astor, Island, New Mackinac, Mission, New Murray, Palmer, and New Chicago.

Les Chêneaux Islands, about one hundred in number, fourteen miles distant from Mackinac Island, near the shore of Lake Huron, are noted for the excellent fishing they afford. The islands, being close together, form a good shelter from heavy winds, and permit all kinds of boating with safety. All necessaries for fishing can be procured at the hotels—Elliot, Les Chêneaux, Bethel, and Islington. The Les Chêneaux Club has a commodious, homelike clubhouse on Marquette, the largest of this group of islands. The islands are accessible by a double daily line of boats from Mackinac Island.

To *Cheboygan* is one of the most restful and beautiful day's rides to be found anywhere: and one of the most delightful excursion trips in Northern Michigan is that from Petoskey to Cheboygan *via* the Island Route Company's steamers, which make daily trips during the summer season. One may take the Grand Rapids and Indiana Railway to Oden Oden, and go thence by one of the little steamers through Crooked Lake, Burt Lake, Indian River, Mullet Lake, and Cheboygan River, to Point aux Pins—a beautiful cottage resort on the south side of Bois Blanc Island opposite Cheboygan. "The Pines Hotel" furnishes good accommodations to guests at moderate terms.

Charlevoix, a town of two thousand inhabitants, eighteen miles southwest of Petoskey, on the sandy shore of Lake Michigan, is a favorite resort for Chicagoans. Pine Lake, with three miles of sandy beach, at the eastern boundary of the city, has for its outlet into Lake Michigan Pine River, which broadens into Round Lake about midway between the two large lakes. Here on the terraced shores of the river and lakes are located many beautiful villas and excellent hotels.

These resorts have all the attractions which a pure, cool summer air, good hotels, and pleasant surroundings can give them. Adequate railway and steamer service is provided between Petoskey and Charlevoix.

Mount Clemens, situated twenty miles northwest of Detroit, on the line of the Grand Trunk Railway, has become a popular summer resort during recent years, on account of the *mineral wells* there. It has also been placed in easy communication with Detroit by means of a splendidly equipped electric railway.

The Clinton River runs through the heart of the town and winds itself over seven miles of length before it empties into Lake St. Clair. The air-line distance from the town to the lake is two and one-half miles, over which a local electric line furnishes a frequent service to a terminal on the beach known as Lakeside. Here a hotel and casino have been erected, where refreshments, music, and other entertainments and amusements are liberally dispensed. Lakeside is in sight of the famous St. Clair Flats, the Mecca of sportsmen and fishermen. Little steamers make the run from Lakeside to the Flats in an hour, passing through the United States ship canal and Little Venice, where hundreds of summer cottages and clubhouses line the deep-water channels running through the Flats.

The town has six bathhouses adapted to the requirements of patrons, twenty-two hotels, and many boarding-houses. Each bathing-establishment is under a separate ownership and management, and draws its water from an independent well. The wells vary in depth from twelve to fifteen hundred feet. The analyses of the different "springs," while showing in each instance a varying quality of saline and calcareous elements, are yet so nearly alike as to admit of no particular choice.

The hotels are in many instances connected with the bathhouses by covered passageways, and in two cases hotel and bathhouse are under one roof. The excellence of the hotels is a particular merit of the town. There are a half-dozen of them and they are unsurpassed in Michigan.

The following recent analysis of one of the wells gives:

	Grains Per Gallon.
Sodium chloride	5957.350
Magnesium chloride	1656.200
Calcium chloride	4128.530
Calcium sulphate	143.430
Magnesium carbonate	0.070
Calcium carbonate	0.910
Ferrous carbonate	8.540
Magnesium iodide	0.070
Magnesium bromide	8.540
Silica	28.090
Alumina	42.070
Total	11,973.800
Sulphuretted hydrogen gas	40 cubic inches.

In the construction of these wells, which are entirely artificial, sometimes a considerable difficulty is encountered, as they have to be piped to their full depth; first through the silex, which is about one hundred feet deep; then the bedrock, which is composed of limestone and sandstone. At three hundred and fifty to five hundred feet usually are found pockets in the rock containing illuminating gas; this has to be double piped away for heating purposes and to prevent its mixing with the true mineral water. At a depth of from one thousand to fifteen hundred feet water is reached that is almost buoyant enough to float the body. It is chiefly useful in the treatment of rheumatic and gouty affections and chronic cutaneous diseases; and is also commendable in cases of lead and mercurial poisoning that occur among metal workers and other artisans. The baths are used at any temperature deemed to be the most efficacious for the elimination of the poison.

Wisconsin, too, has many attractions for the summer health tourist, but this sketch has its limitations; and to these—for this season at least—a mere introduction must suffice.

Green Lake is a beautiful sheet of water about four hours distant from Chicago and two from Milwaukee. The railway ride, along the shores of Lake Michigan and Lake Winnebago and through picturesque hills and valleys, has many attractions. The lake is ten miles long, with an average breadth of about two and one-half miles, with shores of rare beauty, in a delightful summer atmosphere of about 68 F., eight hundred feet above sea level. Dartford, a flourishing town on its banks, a station on the Sheboygan and Fond du Lac Railway, supplies excellent and abundant hotel accommodations, boats, and other facilities for enjoyment. Oakwood, Sherwood Forest, Pleasant Point, Maplewood, and Lake View are all well-appointed hotels on the shores.

The River Scenery of Wisconsin has long been noted for its remarkable beauty and for the extensive river dalles or rapids. In the St. Louis River are dalles which have a descent of three hundred and fifty feet. The dalles of the St. Croix are almost as great and all are alike picturesque.

Wisconsin River presents many grand views. Beginning in Richmond County, its banks rise from two hundred to two hundred and fifty feet; and in Sauk County, where the river passes through a narrow gorge, the banks reach an altitude of six hundred feet. Grandfather Bull Falls are a series of turbulent rapids, succeeded by a series of wild cascades dashing through a gorge a mile and a half long and with walls one hundred and fifty feet in height—an almost bewildering scene, than which it is difficult to conceive anything more likely to stimulate healthy emotions. But we must here forego further reference to the summer health resorts westward.

New England still maintains her pre-eminence in the superior improvements of her natural conditions.

Newport, R. I., everybody knows—that is, everybody who has been there knows—is unique. The charms of the natural scenery round about; magnificent ocean views, shores of alternating rock masses, ledges, and sandy beaches; historic remains, memorials, and ancient institutions; and, through the excellence of the hotel accommodations and liveries, the facilities for enjoying these attractions are different in their excellence, for the most part, from those of other watering-places. But a carriage tour of the city and its outskirts reveals an additional and wholly unique feature—that the summer sojourners here, instead of occupying the hotels, have built summer homes for themselves suited to the most elaborate conditions of all that that word and wealth combined implies; and that they here live for half the year, dispensing lavish hospitality among themselves, entirely free from the elbow jostling of hotel life common to other summer resorts. An attempt to describe the sumptuous homes, the elegance and splendor of their surroundings, equipages and outings, recreations and assemblies, would be futile. They are rarely if anywhere else equalled, and nowhere excelled. This unique condition is doubtless due to

the just appreciation of the delightful summer climate and exquisite cleanness of the soil of Newport's particularly favored situation, on the southern extremity of Rhode Island (the kernel of the State so named is here referred to), a bit of territory fifteen miles long by four miles wide, in the waters of Narragansett Bay, by which its shores are continuously washed and purified.

Newport is distant from New York *via* the New York, New Haven, and Hartford Railroad, one hundred and sixty-five miles; from Boston, seventy-one miles; from Providence, thirty miles. Hotels: Ocean House, Aquidneck, Central, Perry, Kay Street, Cliff Avenue, and United States. There are numerous excellent boarding-houses and a dozen or more restaurants.

Narragansett Pier is in sight of Newport; rather, Newport is in sight of it, for some of the habitués of Newport rarely refer to Narragansett Pier without speaking of this view as its chief charm. But Narragansett Pier has other advantages, and some of which Newport is devoid.

It is situated on the west shore and near the mouth of Narragansett Bay; it has a clean and beautiful beach, safe and good bathing. And here bathing is the fashion—it is what tourists stop here for. There is a long string of bathhouses, and everybody goes to the beach at noon, when the scene becomes very lively and picturesque, for the ladies' bathing-suits are pretty. But there are enough of all sorts to amuse the hundreds of spectators who occupy chairs on the platform in front of the bathhouses or sit under tents erected on the sand.

The hotel accommodations are abundant and excellent, affording carriages for pleasant drives round about, and boats for sailing, rowing, and fishing.

The Green Mountain Range, that extends through Vermont, across Massachusetts and Western Connecticut, nearly to Long Island Sound, constitutes the *Berkshire Hills*—a region proverbial for its healthfulness and a justly popular summer health resort. All along the valley of the Housatonic River, where it winds through the hills, from Pittsfield, near its source, through Lenox, Stockbridge, Lee, Great Barrington, and Sheffield, into Connecticut, the scenery is attractive; and the towns mentioned are so beautifully situated, and excellent hotels and boarding-houses so numerous, as to render them eminently commendable. The altitude is about twelve hundred feet above sea level; the temperature is cool, about 68° F.; and the air relatively dry. The local sanitary conditions generally are exceptionally good; the soil is well drained and clean, and the water supplies are well protected and pure. The roads are excellent and the drives beautiful.

Pittsfield, Lenox, and Stockbridge are classic ground, through association with Longfellow, Holmes, Miss Sedgwick, Hawthorne, and others, of whom lively recollections and good stories add to the attractions of visitors. A story is told of Fanny Kemble, whose favorite summer resort was Lenox, that on her first season there she employed a self-respecting villager, who had a comfortable turnout, to drive her about. He, feeling it to be his duty to make the drive as entertaining as possible, began to call her attention to the beauty of the scenery—which she wished to enjoy undisturbed—and to tell her who lived in certain houses as they passed along; until finally Mrs. Kemble, being unable to stand it any longer, said, in the high-tragedy manner somewhat peculiar to her: "I have engaged you to drive for me, sir, and not to talk." The driver ceased talking, pursed up his lips, and in all their subsequent drives his only remarks were such as he found necessary to address to his horses. At the end of the season he handed in his bill for the summer services. Running her eye down its awkward columns, she paused at an item that she didn't understand. "What is this, sir; I cannot comprehend it." With equal gravity, he replied: "Sass, $5. I don't often take it, but when I do I charge." She paid the bill without comment, and continued to employ the same driver during many summers she spent there.

The Shore Resorts begin in the environs of Boston, and thenceforward are almost coequal with the Massachusetts coast line. *Nantasket Beach*, at the mouth of the harbor under the lee of Nantasket promontory, is one of the most picturesque on the whole Atlantic coast; nor is it surpassed in facilities for enjoyment—bathing, boating, and fishing, and all sorts of entertainment. It is reached by both steamboat and railroad lines throughout the season, and patronized by immense throngs of people. *South Shore*, a reach of coast between Nantasket and Duxbury, is dotted with summer dwellers from end to end, while the beaches are enjoyed by thousands of transients. *Plymouth* is so generally regarded as the Mecca of the descendants of the Pilgrims that other summer tourists rarely think of going there. Yet Plymouth is a delightfully situated town, and the wonder is that it is not a favorite summer health resort. It excels in both land and water attractions. Its shore and ocean attributes are supplemented by delightful inland drives and excursions passing through extensive forest groves. The summer climate is delightfully cool and healthful. Hotel accommodations are adequate and economical.

Nantucket is a realm by itself, a nest on the bosom of the ocean, thirty miles from the mainland, and consequently affording a veritable ocean atmosphere to the sojourners there, devoid of dust, germs, and soil emanations. Summer rest, recreation, and entertainment are here obtainable under such circumstances as are well calculated to promote health of both body and mind.

Martha's Vineyard is a little nearer to the mainland than Nantucket, but possesses the same advantages, and is alike commendable to persons who would enjoy the benefit of the ocean atmosphere with all the adjuncts of a thoroughly equipped summer health resort.

Buzzard's Bay fittingly supplements the attractions of the islands just above designated and other salient points in the waters and along the shores, from New Bedford on the one side and Woods Holl on the other, comprehending the sporting-ground *par excellence* of the summer tourist who would combine fishing, sailing, and cruising with delightful conditions of scenery and climate. At Woods Holl, the headquarters of the United States Fish Commission, Falmouth, Cataumet, Pocasset, Wenaumet, Monument Beach; and, on the opposite shore from New Bedford, Fairhaven, Mattapoisett, Marion, Tremont, Wareham, Onset Junction—there is no lack of accommodation suited to the taste and purse of tourists, accessible by the New York, New Haven, and Hartford Railroad and its branches.

From the seashore resorts of Massachusetts the summer tourist may well pursue his course, *via* the same lines of travel, farther northward to those of *Maine*, and feel quite sure that he will fare no worse; or he may skip those of Massachusetts and go direct from New York to Portland, Me., by one of the stanch steamships of the Maine Steamship Company, touching at Cottage City (Martha's Vineyard) *en route*.

Portland is a healthfully situated city on the central peninsula of *Casco Bay*, gently sloping on both sides to the water's edge, thus affording excellent drainage for the city, flanked on each side with a score or more of islands with promontories, cliffs, wild rocks, bluffs, hills, valleys, forests, soft verdure, and green fields—health inspiring in its every aspect.

Cape Elizabeth is at the southern side of the bay with good bathing and fishing facilities. Scarborough

Beach, Old Orchard Beach, Saco Pool, near Biddeford, Kennebunkport, Wells Beach, York Beach—all offer seaside enjoyments with commodious accommodations under the most healthful conditions.

Bar Harbor, taken altogether, is the most delightfully situated summer health resort on the Atlantic coast. It is a nook of Mount Desert Island, the largest of the group of islands in Frenchman's Bay. There is here a singular grouping of ocean, lake, and mountain scenery in a delightfully salubrious summer climate, with a temperature of about 66° F. There are adequate and excellent facilities for every healthful enjoyment. The area of the island is about one hundred square miles. Its highest peak reaches an altitude of over fifteen hundred feet, and leading to it are many winding paths, delightfully tempting to healthful exercise. On the other hand, for those who are not able to take such exercise, it would be difficult to find a seashore summer climate more restful and recuperative to the overwearied or invalid inlander than this is, or one with superior facilities for securing the best results.

Besides, Maine has hundreds of beautiful lakes and rivers amid delightful scenery, famous fields for summer sportsmen.

The Rangeley Lakes consist of a chain of lakes linked together by narrows and streams, altogether forming one continuous lake-locked watercourse, forty miles in length, and varying in breadth from a mere streamlet to three or four miles, but boatable for the whole length, amid wild and romantic scenery. They have long been famous as prolific trout waters. All along there are hotels, boarding-houses, and camps, with accommodations and supplies suited to the requirements of tourists or sojourners. The region is accessible by the Bangor and Aroostook Railroad and connections; or by the Maine Central to Farmington, and thence by stages.

Moosehead Lake nestles in the wildest and most secluded part of Maine's forest region, hemmed in by rugged mountains and lofty hills and covered with dense vegetation. The grandest of the mountain peaks is Mount Kineo, a bold, rugged bluff, at the base of which is the Kineo House, a commodious and well-equipped hotel of two hundred and fifty rooms, conducted in first-class style. The lake is forty miles long, from two to fifteen miles in width, and studded with many beautiful islets. It is accessible by the Bangor and Aroostook Railroad. And here is landlocked apparently an inexhaustible fishermen's harvest of salmon, trout, togue, and other fish—always abundant, but capricious, affording the usual variety in fishermen's luck—on some days, or at some chosen spot, not a bite; but on other days and at the same place, a surfeit.

Besides the Kineo House, at $3 to $4 a day, comfortable accommodations are supplied at a less price by the Winnegarnock, Moosehead Lake, Monticello, and several other hotels and many boarding-houses. Other fishing and hunting grounds in the vicinity are accessible by special routes at command.

The White Mountains, comprehending an area of about fifty miles in length by thirty miles in width, have long been among the most famous of summer health resorts. There are about twenty peaks with altitudes ranging from 3,000 to 6,285 feet above sea level, with corresponding degrees of mean summer temperature, 62° to 45° F., and a relatively dry atmosphere. The summer tourist to this region, who would see the most by the way, setting out from Boston, *via* the Boston and Maine Railroad, travels through the busy cities of Lowell, Nashua, Manchester, and Concord, to Laconia and Weirs. At the last-named place, on the beautiful Lake Winnepesaukee, he may make an agreeable halt, where connection is made with the lake steamers to Plymouth, and thence north through the Pemigewasset Valley to North Woodstock and through the Franconia Notch to the Flume. Waterfalls, lakes, and beetling cliffs are visible on every side, and the wonderful masterpiece of nature's sculpture, "The Old Man of the Mountain," appears on the dizzy height bordering Profile Lake, and near by the beautiful scenery of Echo Lake. The western branch runs *via* Woodsville and Bethlehem Junction to Bethlehem, a delightful summer resting-place; thence to Sugar Hill, Littleton, Fabyans, and the Mt. Pleasant Plateau—from which the finest of all views of Mt. Washington may be had. From this point the traveller proceeds by way of the wonderful Crawford Notch pass, sometimes called the gateway to the White Mountains. And here is one of the oldest, most commodious, and best-appointed hotels of the region.

Another and with many travellers a favorite route from New York to the White Mountains is over the New York, New Haven, and Hartford Railroad as far as Springfield, Mass., and thence by way of the Boston and Maine Railroad through Greenfield, Brattleboro, and Windsor, to Wells River, where there are commodious hotels; and from this place communication is easy with the Jackson Falls House, situated in the heart of the mountains, and hence with all points of interest throughout the region, and with hotels and boarding-houses suitable to the taste, time, and purse of the tourist, at almost every turn.

Colorado Resorts are more particularly noted for consumptives than for other invalids, and for all seasons than as exclusively summer health resorts; but they are here referred to with special reference to the opportunity for personal observation by the members of the American Medical Association, in relation with the forthcoming meeting of the association at Denver. Collectively they are chiefly esteemed on account of the altitude above sea level, and the rarity and relative dryness of the atmosphere on that account. In this regard the superiority of the climate of Colorado is urged on the same false basis as was that of Minnesota forty years ago, insomuch so that the health officers in localities where boards of health have been organized are careful to distinguish the deaths from consumption of recent settlers from those of older residents or natives; moreover, it shows a mortality from other causes quite as great as, or even in excess of, that of other localities under wholly different climatic conditions.

Denver, situated on the South Platte River, fifty-three hundred feet above sea level, fifteen miles distant from the base of the Rocky Mountains, is a typical Colorado—indeed Rocky Mountain—health resort; not perhaps wholly in the lay of the land, for there are doubtless some Rocky Mountain health resorts more favorably situated, with reference to a pure-water supply and soil drainage, than is Denver. And *this it is:* the local condition with relation to a pure water supply and its protection, and the disposal of waste of every kind, from which the health seeker nor health preserver, as the case may be, should never allow his attention to be diverted by the praises of the climate or anything else. Denver has been unfortunate in this respect, and it as well behooves the members of the American Medical Association as of other persons who would enjoy the delightful climate of Denver to beware of impure water.

Colorado Springs, seventy-five miles south of Denver and at seven hundred feet greater altitude, is rather more favorably situated with regard to a clean soil and pure water supply, but the authorities there, like those of Denver, have concerned themselves as little with regard to the purity of the soil and the purity of the water supply as they have with the purity of the atmosphere, and with the usual result—the prevalence of

typhoid fever and other intestinal diseases. Recently, however, there has been considerable improvement in these respects. The water supply has been protected, the sewerage extended, and more attention given to surface cleanliness. The mean summer temperature of Colorado Springs is 63° F., and the relative humidity fifty-one per cent.

The attractiveness of the city altogether has been much improved. There is abundant and excellent hotel accommodation, and there are many boarding-houses.

Manitou, five miles distant from Colorado Springs, is situated in a sheltered valley at the foot of the mountains, at an altitude three hundred feet higher than Colorado Springs. Here are situated the *Manitou Springs,* recently improved and an increasingly popular resort. There are eight acidulated soda-and-iron springs, varying in temperature from 44° to 59° F. The water of one of these, the Navajo, is in taste and composition similar to Apollinaris. The chemical constituents of the four springs chiefly used, according to a recent analysis, are as follows:

Grains Per Pint.	Shoshone.	Ute Iron.	Navajo.	Manitou.
Carb. of sodium.....	6.20	4.13	8.75	3.35
Carb. of lithium.....	Trace.	1.25	0.02	0.02
Carb. of calcium	7.60	3.20	9.06	7.75
Carb. of magnesium .	.....	1.20	2.20	1.08
Carb. of iron	.....	3.70	Trace.	....
Sulphate of potassium	0.35	1.10	1.15	1.00
Sulphate of sodium..	2.60	2.20	1.25	1.65
Chloride of sodium ..	3.00	3.10	2.75	2.35
Silica	Trace.	1.00	0.20	0.15

Manitou is a town of about three thousand inhabitants and has several good hotels; the most commodious, the Manitou, is in relation with the springs. The climate here differs somewhat from that of Colorado Springs, notwithstanding its proximity. The valley is more sheltered from the winds, but damper, on account of more frequent mountain showers and the brooks that flow through the streets. Only about a mile distant, and but four miles from Colorado Springs, is the *Garden of the Gods*—a famous fantastic rock formation, of imagined resemblance to all sorts of animals and objects.

West of Manitou, as the railroad steadily climbs around Pike's Peak, rising higher and higher, there are several attractive summer health resorts for tourists in the midst of the grandest of mountain scenery.

Manitou Park, a green *valley* seventy-eight hundred feet above sea level, surrounded by mountains covered with evergreen forest trees, is but a few miles distant from Manitou, by stage trips daily. Here there are well laid out and very fine drives overlooking the magnificent scenery, a commodious hotel with many cottages, tennis courts, golf-links, and other amusements for the accommodation of summer tourists; and views of mountain scenery limited only by the power of vision.

Indications for Resection of the Urethra.—1. In impermeable strictures. 2. In cases in which the stricture is elastic and immediately recurs after an attempt at dilatation, and above all in cases in which at the same time an ulcer or a suppurative urethritis exists back of the stricture. 3. When the stricture is of a peculiar character, diaphragmatic with an excentric opening, valve-like, or something similar, whereby we are enabled to enter one day and not the following. 4. When severe pain or hemorrhage from granulation masses renders a systematic bougie treatment impossible. 5. When a fistula remains permanently back of a stricture, as the remains of a peri-urethral abscess or an external urethrotomy.—Roosing, *Klinisch-therapeutische Wochenschrift,* No. 7, 1898.

Original Articles.

ON CUTANEOUS BURNS.

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Burns and scalds are among the commonest of the surgical cases which the general practitioner has to treat; the great majority of his cases being of that class, perhaps extensive but not deep, which do not endanger the life of his patient, but which cause immense primary discomfort with the promise of considerable secondary deformity.

The standard text-books on surgery reserve most of their space for the management of those severe cases necessitating actual surgical interference, and say very little about the treatment of these more moderate lesions, and still less about their pathological anatomy.

The scientific study of cutaneous burns dates from the time when Rayer brought forward his classification, which was afterward modified and popularized by the elder Hebra. It divides all burns into three classes or degrees, according to the depth of tissue destruction. In the first class are included those characterized by simple reddening of the skin; in the second those in which vesicles and bullæ form; and in the third all those in which destruction of tissue is enough to cause the formation of scars.

This classification is a happy one, for, while all burns have certain common characteristics, those of each degree have special features in addition, both clinically and microscopically, which form a basis for modifications in treatment.

Burns of the first degree are often trifling affairs, but when extensive may be productive of great discomfort and even some constitutional disturbance. The skin becomes decidedly hyperæmic and somewhat swollen, presenting an appearance not unlike that of erysipelas, but not so sharply defined. A decided sensation of burning is experienced by the subject, which may be unbearable. Pressure momentarily drives the blood away, leaving a dirty yellowish stain, and when the pressure is removed the blood courses slowly back. After the lapse of a few hours or days the redness is gradually obscured by thickening of the corneous layers of the skin, the swelling gradually disappears, and at the same time that the epidermis becomes thickened it begins to be exfoliated, a process that becomes more and more rapid until a normal skin is revealed. By comparison with the unburned skin, an increased amount of pigmentation can usually be demonstrated.

In burns of the second degree the skin is from the first considerably reddened, and, within a time varying from a few minutes to a number of hours or days, vesicles or bullæ appear, either flaccid or tense. In regions covered by thin skin, many of these bullæ soon rupture and discharge their serum, and only tags and shreds remain. The size of the vesicles varies greatly, and also depends largely upon the thickness of the skin—those in thinner regions appearing very rapidly and becoming very large, while those in thicker portions are much later in occurrence and smaller in size, because the damage has been chiefly confined to the horny layer and the exudation is therefore smaller, while the resistance to bullous formation is correspondingly greater. Eventually the blebs rupture and suppurate if left alone, or dry down in the form of crusts and scales, which finally drop off. Very naturally burns of the second degree, if extensive, may be productive of very great agony and shock from the first, and may be later accompanied by complications which will be referred to again. The secondary burn, involving as it does no essential part of the skin, does

not of itself cause the formation of scar tissue; but when a secondary pyogenic infection of the burned surface ensues extensive scars may be produced.

Burns of the third degree vary very much in their appearance, particularly in color, in different cases. Sometimes the skin is an ivory white, is swollen, and with the course of the vessels is plainy marked in reddish-brown lines. Again, it may be brown or even black. The skin is dry, hard, and devoid of sensation, unless some portion has been less severely burned. It is absolutely impossible to predict the exact extent of the injury, but in the course of a few days the dead tissues begin to separate from the living, and after the usual process of suppuration the slough is cast off and scars form. When an extensive burn of this sort becomes infected and suppurates freely, the stench is simply frightful. In a good many cases after granulation has begun certain deeper portions of the skin, such as the hair follicles and glandular appendages, are found to be still alive, forming centres of epithelial cell proliferation and lessening the amount of cicatricial tissue. Naturally burns of the third degree heal much more slowly than those of the first two and produce extensive scars, the after-contraction of which can sometimes be obviated by early care, but which often produces deformity requiring surgical interference. The pain in these cases is not a marked feature at first, for the whole skin with its nerve terminals is dead, but after the dead tissue has sloughed away the fresh granulations are exquisitely sensitive.

Pathology.—Clinically burns of the first degree, whether produced by dry or moist heat or by action of the sun, present about the same appearance, but pathologically there is a decided difference. A sunburn is not necessarily a burn at all, being frequently entirely independent of the action of heat, and being especially marked in certain skins exposed to the action of light reflected from snow and ice, even though the temperature be many degrees below zero. A burn of this variety is probably due to the action of the violet rays of the spectrum on skins predisposed to the process, and is most plausibly explained by the theory of chemotactic action of the actinic rays, which is capable not only of causing the development of cutaneous pigment, but when long continued of causing true inflammation and exudation. The pigment must be regarded as being produced from the disintegrated red blood cells. Burns of the first degree which proceed from the direct application of heat are much better understood. The first effect of heat on the skin is the marked stretching of the horny layer, which when the heat is dry remains stretched and loses its elasticity; when the heat is moist the elasticity is regained. (This is easily demonstrated by the effect of a curling-iron on the horny layers of the hair.) This stretching and swelling cause a distinct separation between the horny and prickle-cell layers, and in this process the prickle cells are stretched till they assume a spindle shape, but without necessarily losing their vitality. The papillæ are also thickened and swollen, though their vitality is not affected. These are all primary changes, due to action of heat alone, for they can be demonstrated on the cadaver.

Secondary inflammatory changes begin at once in the living subject. In the neighborhood of the burn the whole cutis swells, the blood-vessels dilate and the leucocytes assume a marginate appearance, the connective-tissue cells become larger and more numerous, and the epithelial cells begin to show karyokinetic figures. Later on the young epithelial cells begin gradually to push off the dead cells which they are to replace. Throughout there is no impairment of any vital portion of the skin, and of course no scar results.

The pathological process in burns of the second degree is at first very similar in character. The primary effect is again the stretching of the horny layer, which, if the heat has been dry, remains somewhat raised and inelastic. At the same time the heat, being greater than that necessary to cause a burn of the first degree, has caused the death of the prickle-cell layer, whose individual cells are found stretched or broken as before. At the same time, if the heat has been intense (a hot iron, for instance), there is not infrequently developed from the moisture in the tissues enough steam to cause the immediate appearance of vesicles. But the formation of true burn vesicles is a later and different manifestation, and must be considered as the result of chemotaxis or of colliquative degeneration following the injury of more or less tissue. Here we can trace a clear distinction between the action of dry and moist heat. In the dry burn the horny layer remains stretched and inelastic, and between it and the next layer is quite a cavity. As a result, the exudation even if slight is spread pretty evenly between the two. Therefore we may find a good many flaccid bullæ, because the epidermis was stretched over comparatively large areas, while the exudation was not great enough to make the bullæ tense. Unless very full the bullæ of a dry burn tend to be flat topped.

In the scald, the horny layer is stretched, but retains its elasticity and at once spring back into place. As a result, when exudation occurs the size and shape of the bullæ depend entirely on the amount of fluid first appearing in the centre, where the skin pressure is least, and gradually extending toward the margin, where pressure is greater. From the fact that the elastic horny layer keeps a constant pressure on the fluid, these bullæ are, unless ruptured, always tense and dome shaped.

In all burns of the second degree there is a marked dilatation of the blood-vessels and lymphatics beneath and about the lesion, and the papillæ are swollen and œdematous.

In burns of the third degree the marked variation in color in different cases, or even in different parts of the same subject, has already been referred to and is perhaps susceptible of this explanation. When the skin is subjected to moist heat of a high degree for a time, whether in the living subject or in the cadaver, it is converted into a gelatinous mass, white in color and almost transparent, while the blood in the vessels is coagulated and becomes a dirty brown. This is the clinical picture of a severe scald. In the same way, when the skin is subjected for a short time to a high degree of dry heat, a good deal of steam is evolved, as is evidenced by the occurrence of bubbles in the tissues. Practically it is scalded in its own juices, and the appearance is the same. When this dry heat is longer continued, this moisture evaporates; the skin dries and becomes brown, with the course of the vessels no longer distinguishable; and finally, when carbonization has taken place, the color is even black.

The microscopic changes are said to be characteristic, and even in them the same distinction between the action of moist and dry heat prevails.

A word must be said here as to electrical burns, though there is as yet no thorough understanding of their nature and pathology. Clinically they may present symptoms of either of the three degrees, but microscopically they will probably differ from ordinary burns, because of the action of the current itself on individual cells, aside from its heat effects. These are almost entirely confined to the skin and adjacent structures, for electricity develops heat only in the presence of resistance, and it is a well-known fact that the skin offers this in a far higher degree than does any other body tissue. Conversely, the other effects of electricity are more likely to show themselves in the

subcutaneous tissues, which offer almost no resistance and are therefore the favorite paths of the current.

The amount of moisture and salty excretion from the surface glands should theoretically lessen the resistance and with it the severity of the burn, but practically, where so many factors are involved, it cuts but a small figure. Owing to the interference with cell life and the possible blood coagulation in tissues which are not actually burned, it is impossible to forecast the result, but it is almost certain to be worse than in any other variety of burn. Even if deep tissues do not slough away, their vitality is impaired and repair is sure to be very slow.

The prognosis of burns depends largely upon the condition of the patient and the extent of surface involved, rather than upon its depth. As a general rule, burns involving one-third to one-half the cutaneous surface prove fatal. Such a patient, after the relief of the first pain, becomes quiet and easy for a few hours. His urine is scanty, albuminous, and bloody. In five or six hours perhaps he begins to vomit, and a stage of depression ensues, followed by one of restlessness and delirium with spasmodic muscular contractions. Respiration is shallow and the pulse bad. Death occurs in from eighteen to forty-eight hours. The cause of such results from extensive superficial burns has been much debated, and is not by any means settled. According to Von Loeser, death results from the great destruction of blood cells, with a consequent failure of oxygenation and nutrition. Hoppe-Seyler ascribed it to the retention in the body of products of tissue change, especially ammonium carbonate; others to the destruction of so many sweat glands producing a condition akin to that of the physiologist's varnished frog. According to Silbermann, many thrombi form in both veins and arteries, especially in the branches of the pulmonary artery, and eventually cause a venous stasis combined with arterial anæmia. This would account for the congestion of internal organs and for the dyspnœa, anuria, cyanosis, and coma which are so often the results of severe burns. Portions of these thrombi become detached and lodge in various organs. The perforating ulcer of the duodenum, occurring as late as the tenth day, often shows a clean-cut margin strongly suggestive of previous embolism. Lustgarten ascribed death to ptomain poisoning, while Erichsen, perhaps conveying as much definite information as the rest, endeavored to prove shock the cause of death.

Clinically it is rare to find a burn the lesions of which are entirely confined to any one degree, very frequently all three being found in contiguous locations. The treatment of them all must therefore be considered at the same time. In the milder and less extensive cases the pain present is the principal thing to be combated, and this indication is best met by the exclusion of air by oils or very fine powders. In an emergency common flour, thickly dusted over the surface, is temporarily effective. The well-known Carron oil, equal parts of linseed oil and limewater, is perhaps the most popular dressing we have; but it is a nasty, greasy, ill-smelling mixture, and I much prefer other dressings—as, for instance, a ten-per-cent. aqueous solution of ichthyol, with the addition of a little starch and egg albumen. In the more extensive burns the indications for treatment are three: first, to relieve the pain, which is almost always intense; second, to prevent infection, which is certain to produce cosmetic defects and may cause grave constitutional disturbance; and third, to hasten the process of repair by accelerating cornification. For the relief of pain immersion in water is one of the oldest and most effective methods, but must be in most cases merely a temporary expedient, for the simple wet dressing does not by any means answer the same purpose and has the disadvantage of hindering repair. However, in those very extensive cases in which life itself is in danger, there is no treatment for a moment to be compared to Hebra's continuous bath. In all cases of severe burning antisepsis should be carefully maintained, but it should be remembered that absorption occurs very readily from burned surfaces, and such antiseptics as carbolic acid and bichloride should be used with very great caution, if at all. Creolin is a very serviceable antiseptic, and has some analgesic effect. Formalin, even in very weak solutions, is so irritating at times as to be absolutely unbearable. I have gradually come to consider picric acid the best all-around dressing for burns, for several reasons.

It is a yellowish, crystalline powder, produced by the action of nitric acid on phenol, and is readily soluble in water in almost any proportion. It is a fair antiseptic, a good oxidizing agent, and has to a very high degree the power of coagulating albumin. It has recently been reintroduced by the French school of dermatologists, who advise its use in burns and many erythematous skin diseases, in solution of from two per cent. up to saturation. It has the disadvantage of staining the skin a bright yellow, which would militate against its use in slight burns of the face or hands. I have used it in a good many forms, but have found the combination with citric acid, as devised by Esbach for the detection of albumin in the urine, by far the most satisfactory:

℞ Acidi picrici	10
Acidi citrici	20
Aquæ	ad 100

Without any elaborate attempt to cleanse the skin of any except the worst of the extraneous matters, any bullæ should be opened with an antiseptic needle, freely but without any special attempt to express their contents. The fluid should be sopped on freely, care being taken that it reaches the interior of every vesicle. Picric acid alone is a rather weak acid, and coagulates albumin but poorly in an alkaline medium. The citric acid acidulates the alkaline exudate, which the picric acid promptly converts into an antiseptic coagulum, capable of excluding the air and resisting infection. The combination, after a momentary smarting, relieves the pain more quickly and completely than anything I have ever tried. After the excess of fluid has drained off, the part may be covered with soft gauze and not disturbed for several days. It makes a clean, comfortable dressing, and I have never observed any toxic effects. After the first dressing it should be reapplied every two or three days, only to those areas where exudative fluid has formed.

Picric acid is a good cornifying agent, and therefore hastens granulation, while its antiseptic action renders it especially valuable in those cases in which large granulating surfaces are suppurating. Here we must often stimulate granulation by use of nitrate of silver or balsam of Peru, while not infrequently we must avail ourselves of the resources of the surgeon and have skin grafting done. Large granulating surfaces should be dressed a part at a time, and dry powders will be found much preferable to ointments, which tend to confine irritating discharges near the surface.

117 East Twenty-Sixth Street.

Measles versus Scarlet Fever.—The facial eruption is important when the previous history is obscure and doubt may exist between measles and scarlet fever. The region of the nose is almost always occupied by the eruption of measles, and left free in scarlatina, which frequently, indeed, affects the face, but very little or only with a flush of indifferent appearance.—H. Bryan Donkin, "Diseases of Childhood," p. 184.

WERLHOF'S DISEASE (PURPURA HÆMORRHAGICA).

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VISITING PHYSICIAN TO COLUMBUS HOSPITAL.

This disease, first systematically described by Werlhof in 1775, is usually classed under the purpuras and known as purpura hæmorrhagica. All purpuras being hemorrhagic to a greater or lesser degree, the latter name carries no special distinctiveness, except what it inherits by common usage. The dominant features are those of a highly infectious disease, with hemorrhages from the mucous surfaces. Since the first recognition of the disease by Werlhof, up to a comparatively recent period the literature on the subject has been sparse, and mainly confined to citing cases and theorizing as to their etiology, with incidental remarks on treatment.

Lockwood,[1] in an excellent *résumé* of the subject, recommends the usual grouping of Werlhof's disease with the purpuras, and would further broaden the class so as to include scorbutus.

Simplification in medical nomenclature is a "consummation devoutly to be wished," but the three following cases present a clinical picture which does not resemble the simple purpuras or the purpuras attending rheumatism, in any respect except in the eruption. Furthermore, although these cases impress one as being types of a most virulent disease, the skin ecchymoses, in two cases at least, were neither numerous nor large. Indeed, it seems difficult to trace a closer relation between the ordinary skin purpuras—whether due to mechanical, neurotic, toxic, or cachectic causes—and these cases than exists between the ordinary pustule and the pustule of small-pox.

Cases of true purpura hæmorrhagica are rare. During the past year, three cases only were noted out of some twenty thousand general medical cases occurring in nineteen hospitals in this city. The infrequency of true Werlhof's disease and the present unsettled state of our knowledge of its nature would seem to warrant the report of the following cases:

Case I. occurred in the practice of Dr. Frederick Spring, of Naugatuck, Conn. The patient, J. W——, a woman, aged thirty-seven years, of healthy family antecedents, enjoyed good health up to a year prior to her present illness, during which time she suffered from some gastric and hepatic disorders, with occasional attacks of jaundice. There was no rheumatism, but she had some general muscular tenderness. No hæmophilic tendency was ever noted by the patient or by the physician, whose observation extended over some eight years, and included attendance on one stillborn child, four years prior to the present illness. The patient was supplied with every comfort of life, and the hygienic and sanitary surroundings seemed perfect. In August, 1893, when I saw the patient in consultation, she presented no purpuric spots, and no mucous hemorrhages had appeared. The temperature was slightly elevated and the pulse weak. No material information was elicited on physical examination. The surface of the body had a dark icteric hue, somewhat mottled, but was entirely free from cutaneous and mucous extravasations. She seemed greatly debilitated, however, and impressed one as suffering from some grave disorder, the character of which at the time was not recognized. On the following day, I am informed by Dr. Spring, purpuric spots appeared in abundance over the surface of the body, and free hemorrhages set in from bowels, mouth, nose, bladder, and uterus. The profuseness of these hemorrhages, despite all treatment, was appalling, and ushered in the beginning of the end, which occurred two or three days later. The intellect was clear to the last. No great elevation of temperature was noted, and the patient apparently died from cardiac failure due to loss of blood.

This case is instructive as illustrating the late appearance of the purpuric spots, and the sudden onset and extensive source and amount of the bleeding.

Case II.—H. D——, a man of Italian birth and of the same residence up to six months prior to his admission to Columbus Hospital, October 11, 1896. He was a mason and lived in the upper part of the city. Family history negative. The patient stated that he had had two illnesses somewhat similar to the present. There was no rheumatic, malarial, or specific history. His diet has been ample and varied. The present illness dated from six days before his admission to hospital, and consisted of pains throughout the body, some vomiting, and a feeling of general malaise. On the admission the temperature was 104 F.; pulse, 114. Physical examination revealed nothing of importance, except a few ecchymotic spots varying in size from mere points to that of a split pea, and located on the anterior surface of the arms and chest. The gums were slightly swollen, but there was no ulceration or retraction from the teeth. No mucous ecchymoses were noted. The urine was blood colored, contained fifty per cent. in volume of albumin, a few hyaline casts, and was filled with red corpuscles. During the following days the temperature gradually fell, until it reached the normal point one week after the man's admission. At this time the patient developed a stupor, from which he was roused with great difficulty. Coincidently the left pupil became largely dilated, with no reaction to light, and left ptosis appeared, with traces of left facial paralysis. He now passed blood from the bowels as well as from the urethra. When roused he complained of general muscular pains and headache. Two days later a few ecchymoses appeared on the legs; at the same time the temperature began to rise and assume a remittent type, reaching 103° F. on October 28th. The urine continued bloody, and occasional and moderate hemorrhages from the bowels persisted. From this time on all symptoms gradually improved except the skin ecchymoses, which were well marked on November 15th. The patient left the hospital November 22d, quite well except for the fading ecchymoses.

The points of interest in this case are, subjectively, the muscular pains and headache; objectively, the presumable occurrence of a hemorrhage involving the nuclei of the third nerve, and occurring when the temperature was normal. At this time coma seemed imminent and death certain.

Case III.—F. P——, a man, aged twenty-nine years, laborer. He was born in Italy and lived there up to four years ago, when he came to this country, and was admitted to Columbus Hospital from his residence, Rock Hill, N. J., June 14, 1897. The family history was immaterial. Prior to his present illness, the patient had always been well. He acknowledged no fault of diet or habit, except excessive smoking. Two weeks before his admission he experienced pain in the throat and about the right tonsil. Two days later bleeding from the nose and mouth set in, which continued with more or less severity. With the advent of the hemorrhages the patient noticed a few bright purple spots on the anterior surface of the right arm, followed a few days later by similar ones scattered over the legs and trunk. Except for the sore throat, no pain or tenderness of any description was experienced. The bowels were regular and the stools natural; the appetite was good; temperature, 102.2° F.; pulse, 88. Except for the sore throat, the patient said he "felt quite well." Physical examina-

[1] MEDICAL RECORD, February 7, 1891.

tion of internal organs revealed nothing significant, except an increased splenic dulness. The surface of the body exhibited a moderate number of purple spots, of somewhat irregular outline, ecchymotic in character, more abundant on the chest and about the wrists and ankles. The ecchymoses were of varying size, the largest on the arm being about two centimetres in diameter. It had a purple centre, with a yellowish-green margin. The tongue and throat presented small submucous extravasations. The right tonsil was enlarged, and had black hemorrhagic spots on the anterior surface, with some surface clots. The breath was very fetid. The gums were rather spongy, but not ulcerated. The intellect was unimpaired. The urine, red in color, was filled with blood corpuscles, and had about forty per cent. of albumin in volume. Hæmoglobin, thirty-eight per cent.; red corpuscles, 2,852,000 in a cubic millimetre.

January 18th, general condition failing. No pain, no hemorrhage except in urine. Temperature ranged between 101° and 103° F. Anæmic; corpuscles, 1,372,000.

On June 20th the patient died, apparently from exhaustion.

The treatment was iron and mineral acids for the hemorrhages, a hydrozone mouth wash, and the ordinary stimulants for the heart. The absence of muscular pain and the uninterrupted clear intellect up to the last contrast sharply with the history of Case II.

Autopsy by Dr. Farquhar Ferguson twenty hours after death. Rigor mortis well marked. Body well nourished. Surface of body and extremities presented a number of hemorrhagic areas, one millimetre to one centimetre in diameter. Numerous punctate hemorrhages over visceral pericardium.

The heart muscle was seared and the left ventricular cavity opened with a sterilized scalpel. A nutrient agar tube was inoculated from the blood in the ventricle. The heart muscle was intensely anæmic; the ventricle was moderately dilated, with a few hemorrhages in the subendocardial tissue. The valves were normal.

There were two areas of hemorrhage beneath the pleura of the right lung over the lower lobe, in diameter three millimetres and two millimetres respectively. There was no hemorrhage of the left lung or pleura, but considerable œdema.

The spleen was dark colored in spots, and double the normal size.

Kidneys: Capsule not adherent; intensely anæmic, with extensive hemorrhages around the pelves.

Stomach: Extensive hemorrhages in mucous membrane.

Mucous membrane of upper duodenum pigmented.

Suprarenal capsule fatty.

Numerous hemorrhages were scattered over the anterior peritoneum, and a large retroperitoneal hemorrhage covered the entire posterior surface of body.

Liver and pancreas intensely anæmic.

Aorta normal.

Intestines: mucous membrane blood stained, otherwise normal.

The inoculated agar tube after a few days presented a white surface growth, which when microscopically examined was found to be a pure culture of staphylococci. A gelatin tube inoculated from this growth after three days showed a rapidly growing germ which liquefied the culture medium. This microscopically appeared identical with the agar growth. The cocci were then injected into the abdomen of a rabbit, but with negative results. Injected into the ear, they produced abscesses, from the pus of which the organism was demonstrated by microscopical examination, and later by culture methods.

By these experiments the organism was identified as the staphylococcus pyogenes albus.

In the above procedure two sources of error are recognized: 1st, accidental infection in transferring the blood from the heart to the culture tube; 2d, the possibility of blood infection after death—involving a period in this case of about twenty hours. As regards the first, I can only say that the same care was observed as is practised in reinoculating tubes in the laboratory. As to the second, so far as I am aware no data are on record. The purity of the culture, however, and the protection afforded it from outside contamination by a healthy heart, would warrant the inference that the micro-organism was present during life. At the same time it is regretted that the living blood was not also bacteriologically examined.

Germs of various kinds have been found in the blood in Werlhof's disease; notably, streptococci, staphylococci, pneumococci, and bacilli of different dimensions.

Letzerich[1] isolated a bacillus closely resembling in shape the anthrax bacillus, which he considered peculiar to purpura hæmorrhagica, and which, inoculated in rabbits, produced mucous hemorrhages.

Watson Cheyne[2] described a short bacillus which he found present in the blood of two cases. A microscopical examination of the hemorrhagic areas showed the capillaries completely blocked by this germ.

Lebreton,[3] in a case which ended in recovery, demonstrated the staphylococcus albus in cultures from the blood sown on agar and bouillon. He also found the same organism in the urine.

Angel Money[4] reports negative bacteriological studies in two cases.

Whether any specific germ can be assigned as the *sine qua non* of true Werlhof's disease is at present extremely doubtful. That there is some change in the composition of the blood—a fluid normally sterile and germicidal—which renders it tolerant to micro-organisms in large numbers, seems equally certain. Whether this change is effected by the germs or by their toxins, or they themselves are the result of transformed conditions due to unknown causes, must be settled by further investigation.

The immediate cause of rupture in the vessel walls is also undetermined. Hyaline and amyloid degeneration of the arterial coats has been demonstrated; also endarteritis, and emboli formed from the germs themselves. In the latter case the mechanical action of the emboli seems sufficient to account for the rupture.

Unfortunately in the first two cases there is no record of the blood examination. In the third case the hæmoglobin was thirty-eight per cent., and the red corpuscles numbered 2,852,000 per cubic millimetre, falling two days later to half the number. In a fatal case reported by Billings,[5] the corpuscles fell to 696,000 per cubic millimetre; the hæmoglobin to seventeen per cent.

Carrières'[6] case registered 3,325,000.

As to treatment, the best results seem to be attained with the iron preparations.

Quite recently M. Pigot[7] reported a case which presented immediate and rapid improvement after the subcutaneous injection of blood serum. This treatment was instituted after two days' use of the ordinary remedies without effect. An injection of two

[1] Zeitschrift für klinische Medicin, No. 18, 1891.
[2] Lancet, p. 344, 1884.
[3] La Médecine Moderne, p. 126, 1894.
[4] Lancet, 1884, p. 345.
[5] Bulletin of the Johns Hopkins University Hospital, vol. v., 1894.
[6] Gazette Hebdomadaire des Sciences Médicales, vol. xviii., 1896.
[7] Gazette Hebdomadaire de Médecine et de Chirurgie, October 17, 1897.

hundred and fifty cubic centimetres on three consecutive days effected a cure.

Contemporaneously Jaunin,[1] following Alexin, in one case reports somewhat less brilliant results with fresh calf's marrow.

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PROGRESS IN THE TREATMENT OF DISEASES OF THE EAR.

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So slow has been the advance from year to year of improvement in the treatment of diseases of the ear that it has been almost imperceptible: yet the final result is startling in its revolutionary radicalness.

The recognition of the great value of excision of the drum and ossicles in chronic suppuration of the middle ear, and the practical restriction of the use of that operation to that disease, were only finally attained after much uncertainty.

It was long believed that the tympanic membrane and chain of ossicles were essential portions of the ear; that their destruction meant also the destruction of the sense of hearing. This having been disproved, the reaction was to the other extreme, and excision was done in many widely different affections, particularly in that most common cause of deafness, chronic catarrhal otitis.

The applicability of the operation having been eventually defined, the resources of the aurist were very materially increased.

It was only after prolonged and painful groping in the dim realms of the unknown that suppuration, with accumulation of pus in the mastoid process, could be conceived and looked at in the same light as abscess formation in the soft tissues, and the logical treatment, incision and drainage, resorted to, without much timorous reluctance—such was the dread inspired by the interposition of an ossified stratum of tissue, requiring the use of drills or gouges before the pent-up matter could be reached and evacuated.

But the greatest change was yet to come with the wonderful advance of therapeutics in the neighboring organs, the nose and throat. The causative influence, in suppuration of the ear, of enlarged tonsils and adenoid vegetations was then only fully appreciated; as was the bearing of obstructive lesions of the nose, as represented by hypertrophic rhinitis, deformities of the septum, polypi, and other growths, in that dread disease—chronic catarrhal otitis.

To-day an examination of the ear involves a thorough exploration of the adjacent cavities of the nose and throat, and appropriate treatment should any abnormality be discovered which might interfere with the natural patency of those passages. Thus if hypertrophic catarrh or enlarged turbinates be present, the judicious use of the caustic point (chromic acid) is indicated.

Should adenoids, enlarged tonsils, polypi, or other tumors be found, they should be removed. Spurs and ridges on the septum yield readily to the septal saw, as do the obstructing portions of a deflected septum —the object of these manœuvres being to restore the normal lumen of the passages, for any unnatural alteration in atmospheric pressure during inspiration and expiration reacts detrimentally upon the structures of the middle ears and Eustachian tubes.

The old-time specialty, "the ear," would hardly be recognized now in the modern progressive one, "the ear, nose, and throat."

[1] Presse Médicale, October 16, 1897.

Progress of Medical Science.

Contribution to the Study of Enteritis with Streptococci in Nursing Children.—Drs. J. L. Hirsch and E. Libman (*Centralblatt für Bakteriologie*, October 2, 1897, No. 14, pages 369 and 376) report the clinical history of a little girl of eight months, fed on ordinary cow's milk, who was affected with green diarrhœa, vomiting, fever, and abundant diaphoresis, and who succumbed at the end of three weeks. The stools showed epithelial cells, pus corpuscles, and streptococci associated with other bacteria. Streptococci were also found in the contents of the stomach and in the blood, and at the autopsy they were encountered in association with the bacterium coli commune in the heart, lungs, kidney, and spleen. In the intestinal tissue, on cutting, they were found but rarely; a few chains were found in the submucous coat and at one point in the subperitoneal lymphatics. On the contrary, the stools, examined several times in the course of the disease, contained streptococci of almost pure culture, forming long chains of from three to twenty elements. On artificial media the chains are shorter and do not exceed ten elements. One or several elements of the chain often show a tendency to transverse division, and this gives to the preparation the appearance of a checker board. Morphologically this micro-organism is very much like the streptococcus involutus of Kurth, but is distinguished by the characteristics of the culture and by its slight action on mice. On mushroom in plates it does not give colonies visible to the naked eye; but under the microscope, after twenty-four hours' incubation, small, light brown, coarsely granular colonies are found. On agar in puncture it develops very slowly. The most favorable medium seems to be sweetened bouillon, which is somewhat disturbed after twenty-four hours and a sediment is thrown down. Inoculated in white mice, this micro-organism produces a fatal diarrhœa; the streptococcus is found in the dejections and in the blood of the heart. This micro-organism differs from the streptococci described thus far and also from the streptococcus pyogenes. Tavel and Eguet published, in 1895, eight analogous cases, but they thought that the streptococcus of enteritis in nursing children was identical with the intestinal diplococcus that normally inhabits the intestines. Now the microbe of Hirsch cannot be compared to the species that Escherich has described as normal in the intestines of healthy nursing children; that is, the streptococcus coli gracilis and the streptococcus brevis. Boocker first described specific enteritis due to streptococcus infection, and separated it from other summer diarrhœas of nursing children. Libman has added to the communication of Hirsch two cases of enteritis with streptococci. He is able to report from the autopsy that the microbe, rare in the stomach and in the upper part of the small intestines, increases in abundance toward the cæcum and gives the appearance of a pure culture. In the upper part of the colon small follicular ulcerations are found, filled with specific microbes; these spread into the mucous, submucous, and muscular coats by way of the lymphatics. They develop but poorly on gelatin, either on the surface or in punctures. On potato a fine, bright, and moist coating is formed, composed of small white points. They develop admirably on mushroom, if the serum of human blood has been added.

Diabetic Albuminuria and its Treatment.—Dr L. Goudard (*La Presse Médicale*, December 15, 1897) distinguishes two great nosological varieties of diabetic albuminuria: a functional albuminuria and a lesional albuminuria; this division is, moreover, not absolute.

Functional albuminuria may be met with in four different conditions: it may be complicated with simple fatigue of the kidney, with phosphaturia, with organic disassimilation, or with hyperchlorhydric dyspepsia, so frequent in those affected with glycosuria. If neglected this functional albuminuria may be transformed into a lesional albuminuria. This latter corresponds with lesions of nephritis, which may exist at first and be accompanied by all the symptoms of Bright's disease; the history of the patient often shows arterial sclerosis, arthritis, alcoholism, etc. The kidneys of diabetics may present lesions which are not common to diabetes, such as fatty emboli, amyloid degeneration, abscesses, and tuberculosis of the kidney, and especially interstitial and parenchymatous nephritis; or the special lesions of this affection, such as hypertrophy of the kidney, the lesion of Ehrlich, and the cellular necrosis of Ebstein. Lesions of nephritis are usually albuminogenous, but there are reports of diabetic albuminuria without renal lesions. From a clinical point of view one may distinguish a slight albuminuria which would easily pass unperceived, and a grave albuminuria in which the quantity of albumin eliminated in twenty-four hours occasionally exceeds two or three grains; this grave albuminuria is frequently accompanied by symptoms of Bright's disease. Mild albuminurias are almost always functional, while grave ones are rarely so, and many functional albuminurias develop into nephritis. The quantity of albumin eliminated, the presence of cylindrical epithelium in the urine, alkalinity of the urine, and cardiac and vascular manifestations indicate lesional albuminuria. Chemical analysis of the urine will show phosphaturia and organic demineralization; gastric symptoms show hyperchlorhydria. The treatment of diabetic albuminuria is based on the nosological division established above. In functional albuminuria the antidiabetic diet should be rigorously enforced. At the outset medical treatment deals with the first stage, in which antipyrin and bicarbonate of sodium are administered. If glycosuria diminishes perceptibly or disappears at the end of three or four days, we pass from this treatment to the treatment of the albumin. On the other hand, we may begin with the second step and give sulphate of quinine and arseniate of sodium. The treatment of phosphatic albuminuria comprises, in addition to diet, an arsenial potion accompanied by pills of the extract of cinchona and sulphate of quinine. At the end of ten days these are replaced by the glycero-phosphates and later by the hypophosphites. In albuminuria complicated with organic demineralization, it is necessary to restore by appropriate diet the saline principles which are wanting in the organism; milk and bouillon will be found excellent for this purpose. Albuminuria of dyspeptic origin may be alleviated, independently of the medical treatment of hyperchlorhydria, by the division of nourishments into very small quantities taken at frequent intervals. In grave functional albuminurias we should treat alternately the diabetes and the albuminuria; during three days we should prescribe antipyrin, then put the patient upon a milk diet and give him antidiabetic treatment, and continue to repeat this order. The treatment of lesional albuminuria is the same as that of Bright's disease; we do not here take into account diabetes, but administer a milk diet exclusively unless there is some contraindication, such as an uncomfortable repugnance to milk, in the face of certain cachexias, gastric troubles, diminution of urea, too great an increase in sugar, or an insufficient diminution of the albumin.

The Treatment of Impetigo by Electricity.—Dr. J. Levezier (*Le Nord Médical*, December 15, 1897), although he does not pretend that this is the only treatment for impetigo, thinks that it has advantages which warrrant its being acknowledged as a therapeutical agent in this affection. The following effects are observed: 1. A diminution of the itching is noted; this relief is often obtained at the first and always at the second séance. It frequently happens that the pruritus ceases entirely after the first application of electricity, and the patients often express astonishment at the results. In children this improvement is witnessed by the fact that they become less restless and make no attempts to scratch. If this was the only effect produced, electricity would be worthy a place as one of the therapeutical agents used in combating this affection, but the desirable results by no means end here. 2. The secretion ceases after a short time; sometimes after the second or third application desquamation takes place rapidly, especially over smooth regions where the eruption is recent; the crust dries up and falls off and is not renewed; and if it does not fall off spontaneously, as when it is situated in the beard or hair, moistening it with an oil facilitates its removal. The aspect of the crusts is changed in a remarkable manner after the first or second séances. From moist, agglomerated, and large fragments, they become dry, friable, and the fragments resemble grains of sand, thick and dry; these signs make it evident that the secretion that produced them is drying up. 3. The erythema follows a like diminution; the areola which surrounds the impetiginous plaques becomes pale, without entirely disappearing in the beginning. After the cure is complete and the crusts have fallen off, the trace of the primitive lesion persists in the form of a roseate spot, which soon becomes pale. Here great variations are noted, not only between different patients but even in the same subject, between one plaque and another. Over fleshy regions a light erythema persists for two or three days after the crust has fallen off; in the face it does not. Very often as soon as the crust falls the adjacent skin assumes its normal color. 4. In impetigo the hair often becomes dry and discolored, and it has been noted that under this treatment it becomes darker and more oily. It seems to grow faster and to become thicker. This fact corresponds with that often observed in the treatment of alopecia in children, and in the course of certain general diseases such as rachitis and scrofula. 5. Impetigo has an influence on the lymphatic glands in the affected region. These ganglia become indurated, and it is not rare to find them like a string of beads, especially along the sterno-mastoid muscle. As the crust dries and the skin repairs itself, the ganglia diminish in volume and hardness, and if they persist they are perceptible only on minute palpation. 6. Electricity acts as a stimulus to the organism. It is evident that the short duration of treatment does not allow the production of definite results, but it is nevertheless true that there is a notable increase in the appetite, that there is greater regularity in sleep, and that a general sense of well-being renders the patient less irritable.

Diagnosis of German Measles (Rötheln). — Dr. Blaschko, of Berlin, as a result of years of practical experience, considers rötheln a weakened form of measles. He diagnoses rötheln when during the course of a measles epidemic the children have a slight fever and a reddish eruption with an elevation of the cutaneous papillæ, without any eye pains, coryza, or catarrh of the air passages; when the appetite and general condition do not suffer, the redness becomes of lighter color in a few days, and the skin desquamates very slightly or not at all; and when the child has had measles before.—*Deutsche Medizinal-Zeitung*, No. 14, 1898.

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THE INHUMANITIES OF WAR.

WHEN one pauses to consider that the warfare now engrossing the attention of this country was undertaken largely from humanitarian considerations, the suggestion that anything approaches inhumanity in our conduct of the struggle would scarcely be entertained.

Never before in the history of contention between nations have the conditions been such as to call for greater foresight in the care of those fighting, as well as of those for whom the fighting is being done. The great advances in the science of field surgery, the greater facilities for quick and competent relief, the wealth and oft-proven charitableness of our citizens, and, above all, the principles involved in the contest, make it imperative that no needless suffering be permitted.

Over two thousand competent physicians and surgeons have offered their services to the government; hundreds of able, willing, and patriotic nurses have enrolled themselves as anxious to go to the front. Money is being freely contributed for supplies, medicines, ambulances, and ambulance ships. Experience has taught the necessities of adequate hospital care, while the dangers of campaigning in tropical climes and of unsanitary camp arrangements have been made a matter of lifelong study by those in charge of the medical service of the army.

Despite all this, no one doubts that much hardship and suffering will be the lot of our soldiers by land and our sailors by sea. It is the unnecessary suffering which will be inexcusable, and the authorities cannot be held blameless if all available resources are not utilized to reduce the latter to a minimum. Let no such protest be entered against our medical department as that recently made by English journals against their own war office and military advisers for "sweating" the medical staff and sending out expeditions without provision for the sick and wounded. Among recent inhumanities of war we find record of the death of Captain Dunning, of the Royal Fusileers, several days after being wounded in an expedition sent out without any medical officer, and whose life it was thought might have been saved if surgical skill had been at hand. *The London Lancet* refers in eulogistic terms to the heroism in battle of Dr. Duran, of the Spanish army, who, despite a shattered knee-joint, quickly bound up by the aid of his orderlies, proceeded under the fire of insurgents to carry out no less than twenty major operations, including abdominal suturing and the care of compound fractures. Such heroism is indeed praiseworthy, but what can we say of the inhumanity of making it a necessity for a wounded surgeon to continue at his post, caring for others, instead of being cared for along with them?

The inhumanity of making war with explosive bullets and those resembling them in their bone-shattering and tissue-tearing powers cannot be too strongly condemned; but to send expeditions into foreign and unhealthy regions without surrounding them with all the precautions and means of relief which forethought and knowledge can supply, is to wage war in a manner at variance with present-day enlightenment and ill becoming our position and claims of high humanitarian sentiments.

PHYSICAL CONDITION OF VOLUNTEERS.

THE numerous discussions bearing on the physical degeneration of the average up-to-date American citizen have recently had a very practical demonstration of fact in the number of rejections for unfitness for military service, as the result of test examinations of recruits. Lieutenant-Colonel Mans, U. S. A., who has charge of the enlisting-bureau, found that it was necessary to examine seventeen thousand applicants in order to obtain twelve thousand who were fit for field duty. The results show in the main that the ordinary militiaman who represents the average metropolitan is by no means up to the requirements of a first-class soldier. In other words, it would appear that the best is done with the material at hand. The influences of city life in causing a lack of physical development and vital power are plainly manifested in contrasting the number of acceptances from country regiments as compared with those from the large cities.

It has long been admitted that the best blood comes to us from the rural districts, where healthful surroundings, outdoor life, and moderate living make the sum and substance of that vital resistance to degenerative influences which is capable of meeting all the ordinary strains of modern civilization. This is one reason why the country lad makes his mark and succeeds where the city-bred youngster fails. In a generation or two the enervating influences of city life tell in an unmistakable way upon the physical development of the sturdy yeoman, who then becomes narrow chested, weak kneed, short sighted, and is no longer in the fore in the race. This fact is strikingly exemplified in the alarming proportion of rejections in city regiments, to which reference has been made. From such a point of view, it is quite evident that the city man is losing his physical grip, for reasons obvious to all who study his habits and note the ultimately pernicious influences of his depressing environment.

The Study of Psychiatry.—The University of Jena has decided that students of medicine shall henceforth be required to pass a satisfactory examination in psychiatry before obtaining a degree.

ON ANTISTREPTOCOCCIC SERUM.

In *The Lancet* for April 9th is a well-written paper by Dr. Louis Cobbett, reviewing the experiments made with antistreptococcic serum, and asking whether from the result of these experiments it has been proved that it should be used in the treatment of streptococcal diseases in man. It is shown that the verdict of the different experimenters is unanimous that the antistreptococcic serum is incapable of protecting against every streptococcus which is pathogenic to man. Dr. Cobbett gives his conclusions on the matter as follows:

"The serum has already been somewhat extensively used by medical practitioners, in some cases with apparently good results, in others without obvious effect. I do not intend to discuss the reports of these cases, for I think that it is very difficult to deduce the value of this treatment from the results of its application to human disease, for cases of streptococcal disease do not run any definite course. Who can say when the course of erysipelas will be stayed or when in puerperal fever the temperature will suddenly fall? These things occur without regularity, and are apt to be put to the credit of any remedy which may have been used. Moreover, the rate of mortality of streptococcal diseases or of any group of streptococcal diseases is not known. The statistical method is therefore not applicable to the estimation of the worth of any remedy applied to them. We never know in any given case whether the disease is due to the streptococcus or to some other organism; and even if we could make sure of this it appears that it would still be necessary to decide what kind of streptococcus it was due to before the right serum could be applied. We can therefore hope to gain but little evidence of any value from the experimental use of the serum in cases of human disease. The value of the remedy must first be clearly determined by experiments on animals. Until it has been shown beyond the possibility of doubt that the serum will protect them from and cure them of artificial streptococcal infections, until the opinion of experimental observers is unanimous in its favor, it is not yet ready for the physician. . . . It has been shown that even when the serum is most active it will not protect against all streptococci; that its power of protecting even against the kind of streptococcus used in the immunization of the animal which provided it does not approximate to the power of the antidiphtheria serum against the toxin of the diphtheria bacillus. Much, therefore, remains to be done before the serum can be used in cases of human disease. The possibility of an antistreptococcic serum has been demonstrated, but the remedy is yet in its infancy. For its infancy the laboratory is its proper place." These are timely words, and in view of the present regrettable custom of using and advertising as remedies and cures various antitoxins whose worth has not been clearly proved are amply justified. Much harm, too, is done to the reputation of experimenters by their proneness to give to the world as authentic and reliable the results of their incomplete researches. Doubtless this is due to the fear that they may be forestalled, and thus miss the opportunity of immortalizing themselves as pioneers in scientific research. Nevertheless, the fact is undeniable that in the majority of cases it would be far better for themselves, the profession, and the general public if they would be content to bide their time. As Dr. Cobbett goes on to say: "Already the medical world does not sufficiently discriminate between a remedy of astounding value, such as the antidiphtheric serum, and the hosts of other antiserums for syphilis, tubercle, cancer, etc., with the result that many practitioners still hesitate to use the former, regarding it merely as a fad of the day, and many lives are thus lost. The antistreptococcic serum cannot then be recommended in cases of human disease. In the mean time the physician may reasonably hope to obtain some day a specific remedy for these diseases, justified by the measure of success which the serum has already attained in the laboratory."

News of the Week.

Shell Wounds in the Bombardment of San Juan de Porto Rica.—The casualties in the bombardment of San Juan amounted to one man killed and five wounded. The action lasted nearly three hours, the following vessels participating: the cruisers *New York*, *Detroit*, and *Montgomery;* the battleships *Iowa* and *Indiana*, the monitors *Terror* and *Amphitrite*, and the torpedo boat *Porter*. Only two shells from the enemy's batteries struck the ships, one shell striking the *New York* and one the *Iowa*. The shell which injured the *New York* was a cast-iron eight-inch one. It struck a stanchion and burst, the fragments flying in every direction. One fragment struck a man just behind one ear and emerged at the other side of his head. He died almost instantly. Another fragment struck another man in the lower third of the thigh. The missile entered posteriorly and emerged anteriorly. The femur was comminuted. The fragments were resected and the bone ends wired together by the surgeons on board the *New York*. The same man received a flesh wound in the calf of the other leg from another fragment of the same shell. The third man wounded by this shell received a flesh wound only. The shell which struck the *Iowa* entered the superstructure and burst. A piece of this shell wounded a marine in the right elbow from behind. The external condyle of the humerus, the head of the radius, and part of the ulna were shattered and carried away. Efforts are being made to save the arm. Another man was wounded by a splinter from one of the steel girders of the superstructure, which was detached by the shell. He received a lacerated and contused wound of the back, which laid bare the ribs, but did not injure them or the deeper structures. Another man was wounded in the foot, but with no bone involvement. All the wounds are doing well and are aseptic seven days after the receipt of the injuries. (From our special correspondent.)

Delicacies for Sick Sailors.—The Colonial Dames of America have raised an emergency fund for the

purpose of supplying fresh fruit, vegetables, and other delicacies to the sick and wounded on board the hospital ships. Should there be a speedy termination of the war, it is proposed to use the money for the relief of the distress caused by it, and for soldiers who may be left in Cuba. Five hundred dollars has been already sent to Surgeon-General Van Reypen, and a carbonating-plant will be placed in the new hospital ship recently purchased from the Maine Steamship Company. Contributions can be sent to the Knickerbocker Trust Company, No. 234 Fifth Avenue, "for credit of Mrs. Lewis Livingston Delafield, chairman, hospital-ship fund committee of the Colonial Dames of America."

Mt. Sinai Hospital, New York.—Drs. Henry W. Berg and David H. Davison have been appointed adjunct attending physicians to Mt. Sinai Hospital.

Heat Prostrations.—The first day of summer in 1898 in New York City was May 19th. On that day eight cases of heat stroke were reported to the police, and many others doubtless occurred which were not reported.

Another Hospital Ship.—The *John Englis* of the Maine Steamship Company has been purchased for use as a hospital ship for the army. It will take about three weeks to fit her up. She will have a refrigerating plant, a distilling apparatus, and machinery for carbonating water, the latter presented by the Colonial Dames. There will be accommodations for five hundred patients. It is the purpose of the war department to use the *Englis* not only as a hospital ship, but also as an ambulance ship to transport sick soldiers to Tampa. The *John Englis* was built in 1897, and is 300 feet long, 46 feet beam, and of 3,000 tons. She has a speed of 15 knots. Dr. George H. Torney will be surgeon-in-chief, and will have five assistants. There will be twelve nurses on the ship. Although it is contrary to army regulations to enlist women for nurses, it is said that six from the Johns Hopkins Hospital, Baltimore, have secured permission from the war department to join the corps of nurses to be assigned to the ship. The other six will be men taken from the hospital corps. The name of the ship will be changed to the *Relief*.

The University Medical College Trouble.—The Medical College Laboratory of the City of New York, constituting the former faculty of the University Medical College, has brought an action in the supreme court against the New York University, to which it recently conveyed all its property, to have that conveyance set aside for breach of trust, to compel reconveyance to the plaintiff, and to enjoin the defendant from disposing of the property or collecting the rents pending the suit. The property in dispute consists of the building in East Twenty-sixth Street, together with its apparatus and furnishings, the estimated value of which is $150,000.

Homœopathists and the Medical Services.—We read in the Philadelphia *Ledger* that a committee representing the Homœopathic Medical Society of Germantown recently visited President McKinley, to present the claims of homœopathic physicians to recognition in the medical service of the United States army and navy. The chairman of the delegation presented a statement to the effect that homœopathic physicians, though as patriotic a body of men as any, had been led to believe that they could not obtain positions in the army or navy. The President inquired whether any homœopathic physicians had ever gone up for examination for the position of assistant surgeon, but the committee was unable to say whether any had done so. It was then suggested by the committee that the questions in therapeutics in the examinations for surgeons be made applicable to physicians of the homœopathic school, as the two schools differed only in the question of the application of remedies to disease. The President asked whether these questions were really such as were inapplicable to applicants of that school. To this the delegation was forced to reply that it did not know, as no member of the committee had ever seen the questions.

Dispensaries Enough for the Present.—At a recent meeting of the New York state board of charities, held in this city, the incorporation of the following institutions was approved: Industry Colony Association, of this city; Pelham Summer Home for Children, at Pelham Manor; Bloomingdale Day Nursery, of this city; Friendly Aid, of this city; and Marien-Heim of Brooklyn. The board disapproved the incorporation of the West Side Clinic and Dispensary, on the ground that it is "an unnecessary extension of medical charity in the city of New York."

Mortality in War.—Since the outbreak of hostilities with Spain an effort has been made to learn accurately the mortality experienced during the civil war in this country. The *Evening Post* says that the commissioner of insurance of Wisconsin has contributed some interesting statistics on the subject, estimating the number of enlistments (reduced to a three-years' basis) at 2,320,272. The mortality is estimated to have been as follows:

Killed and died of wounds	110,070
Died of disease	224,580
Accident and all other causes	24,872
Total	359,522

These figures being reduced, the death rate for a three-years' term is as follows:

	Per 1,000
From battle	47
From disease	97
From other causes	11
Total, all causes	155
Average, per year	52

Medical College Consolidation.—At the graduating exercises of the Medical College of the New York University, one evening last week, the chancellor, the Rev. Dr. Henry M. MacCracken, announced that a consolidation of the medical department with the Bellevue Hospital Medical College had been effected, and that the resulting institution would be called "The University and the Bellevue Hospital Medical

College." Dr. Edward G. Janeway, it was stated, would be the dean of the faculty, and seven professors of the present University Medical College would have places in the new staff, while from Bellevue, as previously constituted, would come twenty-one full and adjunct professors, and thirty or more lecturers, instructors, and assistants. It is gratifying to learn that the number of medical schools is not to be increased by the quarrel in the university, but the infliction of such a name upon the community is little short of an outrage.

The Late Dr. I. N. Quimby.—At a special meeting of the committee on necrology of the Hudson District Medical Society, held at Jersey City, May 7, 1898, to take action on the death of Dr. Isaac Newton Quimby, the following resolutions were unanimously adopted:

"*Whereas*, We have learned with deep regret of the death of our beloved member, Dr. Isaac Newton Quimby, a man meriting the respect of his professional colleagues and the general public; be it therefore

"*Resolved*, That in the death of Dr. Isaac Newton Quimby the society has lost a most earnest worker and its members a congenial friend.

"*Resolved*, That the profession at large has cause to regret his death and the people of this city have lost a public-spirited citizen, one who continually guarded the public health and strove to advance the welfare of the community.

"*Resolved*, That these resolutions be spread in full upon the minutes of the society and a copy be sent to the family of our deceased brother, the city press, the medical journals of New York, Philadelphia, and Chicago.

"J. M. Rector, M.D., H. Spence, M.D., H. H. Brinkerhoff, Jr., M.D., J. A. Exton, M.D., *Committee*."

A New Constant-Current Ear Syringe or Injector.—The address of Dr. Henry W. Wandless, author of the article with this title in the Medical Record of May 21st, should have been given as 39 West Thirty-sixth Street, New York City.

New York State Board of Health.—At the annual meeting of the State board of health, held May 20th, Dr. Daniel Lewis, of New York, was re-elected president of the board, and Drs. F. W. Smith, of Syracuse, and S. Case Jones, of Rochester, were selected as tuberculosis commissioners.

Roentgen Rays in War.—A cable to *The Sun* announces that the first report of the use of the Roentgen rays in warfare was made on May 20th, at the United Service Institution, London, by Surgeon Beevor, who described the results of their use in the recent frontier campaign in India and gave lantern views. Many important cases consisted of bullet wounds received by officers and men, who were injured in the bones, joints, and internal organs. Their injuries but for the *x*-rays would have resulted in the amputation of limbs and probable loss of life. The pictures shown included wounds in the arm, leg, chest, back, finger, and other parts. The most remarkable results, perhaps, were obtained in locating a bullet embedded in the backbone, another in the hip, and in the case of an Indian soldier who was shot in the foot, pieces of the bullet lodged in the back of the heel; also in the case of General Woodhouse, who received bullet wounds in the leg and arm at Dargai. In all the instances enumerated the bullets were after the use of the *x*-rays successfully removed, the men subsequently rejoining their comrades at the front. The portable apparatus weighs eighty to one hundred pounds.

Health Department Appointments.—Dr. Henry W. Burnard has been appointed medical inspector, and Drs. Salvador Gomez and Edson S. Chick have been appointed school inspectors for Brooklyn by the board of health of this city.

Dr. Marietta Hatfield.—It is with much regret that we learn of the massacre of the doctor at Rotofunk, Sierra Leone, Africa. Dr. Hatfield was a graduate of the Cincinnati Women's Medical College. Dr. Archibald, another female physician, also suffered death in the same manner at the same place. They were missionaries of the United Brethren Church.—*Cincinnati Lancet-Clinic.*

Burning of a Hospital.—Fire destroyed the greater part of St. Hyacinthe's Hospital in La Providence, Quebec, on May 16th. The number of inmates who were known to have been burned to death was ten, of whom five were Sisters of Mercy. Twelve were seriously injured, and several others are missing.

A Bequest to the Presbyterian Hospital.—The will of the late William Whitewright, filed recently in the surrogate's office, contains a bequest of $50,000 to the Presbyterian Hospital. This money is to be used for the maintenance of free beds to be known as the "Whitewright beds," in memory of the father of the testator.

The Washington State Medical Society.—At the ninth annual meeting of this society, held in Seattle on May 10th and 11th, the following officers for the ensuing year were elected: Dr. Henry Wells Dewey, Tacoma, *President;* Dr. J. W. Hickman, Tacoma, *Vice-President;* and Dr. Chas. McCutcheon, *Secretary*. Tacoma was chosen as the place of meeting in 1899.

The Maine Medical Association.—The forty-sixth annual meeting of this society will be held at Portland on June 1, 2, and 3, 1898, under the presidency of Dr. W. K. Oakes, of Auburn. The annual oration will be delivered by Dr. Roswell Park, of Buffalo, N. Y.

The Ontario Medical Association.—The eighteenth annual meeting of this society will be held at Toronto on June 1 and 2, 1898, under the presidency of Dr. Wm. Britton, of Toronto.

The American Academy of Railway Surgeons.—The next meeting of the American Academy of Railway Surgeons will be held in Chicago, October 5, 6, and 7, 1898, under the presidency of Dr. R. Harvey Reed, of Rock Springs, Wyoming. The secretary is Dr. D. C. Bryant, of Omaha, Neb.

Clinical Department.

ALCOHOLIC AMAUROSIS RESULTING FROM WOOD-ALCOHOL POISONING.

By CECIL MacCOY, M.D.,

JUNIOR ASSISTANT PHYSICIAN, BINGHAMTON STATE HOSPITAL,

AND

F. M. MICHAEL, M.D.,

OPHTHALMOLOGIST TO THE BINGHAMTON STATE HOSPITAL.

D. T——, aged twenty-one, single, attendant; mother dead, father dead. He had had the diseases of childhood excepting measles, and occasionally suffered from what appeared to be a specific eruption, but denied ever having had syphilis. He was a young man of good habits, using liquor and tobacco sparingly. His eyesight was always good.

On July 1, 1897, about 5 P.M., when convalescing from measles, on being denied a visit from his sweetheart, he secretly drank about sixty cubic centimetres of Columbian spirits mixed with water and sugar. Two hours later, having experienced pleasurable effects, he again diluted sixty cubic centimetres of the spirits with water and sugar; this he imbibed. Soon after having taken this second drink the patient became highly exhilarated, and, avoiding the nurse, found his way to a stable not far distant, where he secreted himself — then well intoxicated—in the hay loft. Here he slept profoundly for ten hours, dreaming all the while that some one was very sick. On awaking he found himself the subject of his dreams and sought his bed, where he was at once seen by a physician, who, not being able to discern any definite cause for the patient's violent emesis and gastric pain, prescribed morphine sulphate, 0.02 gm. ($\frac{1}{3}$ gr.), and cocaine hydrochlorate, 0.012 gm. ($\frac{1}{5}$ gr.), in capsule, to be followed by olive oil, 200 c.c., in half an hour. The temperature at this time was normal; the pulse was 100 and wiry; the respiration was somewhat difficult, and the pupils were slightly dilated.

Twenty-four hours after having taken the Columbian spirits, he complained of loss of sight, and on examination of his eyes we found total mydriasis in both eyes—no reaction to light or accommodation; right vision, none; left vision, none. Ophthalmoscopic examination revealed double optic neuritis with congested retina.

During the next twenty-four hours the patient's urine was examined. The quantity was normal; traces of albumin and epithelium were present, with great excess of uric acid, urates, and calcium oxalate.

For seven days amaurosis remained complete, while the symptoms of gastro-enteritis, contracted arteries, etc., were combated symptomatically by emulsion of milk in olive oil, glonoin, potassium iodide, and leeches. On the eighth day the patient complained of hallucinations of vision; he said crowds of people were floating about the room, though there was no perception of light and the temperature was normal. Owing to the fact that this patient had in past years shown symptoms of specific disease, on the remission of the painful gastro-enteric symptoms the doses of potassium iodide were gradually increased. Ophthalmoscopic examinations were made daily, showing the discs becoming better outlined and the retinal congestion subsiding. By the fourteenth day faint perception of light was noticed, and then strychnine sulphate, 0.003 gm. ($\frac{1}{20}$ gr.), was given three times a day, in addition to the potassium iodide. On the eighteenth day perception of light of both eyes increased slightly, though with no marked change in the discs or retinæ.

Three weeks after poisoning himself the patient was able to see moving objects, count fingers six inches away, and recognize friends close by. The doses of strychnine sulphate were now gradually increased until 0.01 gm. ($\frac{1}{6}$ gr.) was administered daily. To control the persistent mydriasis 0.06 c.c. (℥i.) of a 1 to 500 eserine-sulphate solution was dropped in the eyes twice a day.

During the next six weeks the patient experienced varying periods of temporary improvement, when he was able to recognize friends ten feet away and distinguish the hills and trees on the horizon. His best vision was during the early evening and at night when in a moderately light room. Occasionally in the morning he would complain of flashes of light followed for hours by total blindness, though this condition gradually disappeared as the day advanced.

On September 20th, two and a half months after he had taken the wood alcohol, we found total mydriasis in both eyes—no reaction of pupils to light or to attempts at accommodation; media clear; anterior chamber of normal depth. Right vision, counted fingers at six inches; left vision, perception of light. Both visual fields were greatly contracted; in the left the field was entirely peripheral. He could not distinguish colors with either or both eyes. Ophthalmoscopic examination showed atrophy of both optic nerves with atrophic excavations of both optic discs. The right optic disc had an abrupt and deep excavation similar to that of glaucoma. The lower part of the cup was strongly and thickly pigmented with black. This shaded off upward to about the horizontal diameter of the disc, above which the discal surface was of a whitish or very pale gray. The excavation of the left optic disc was more shallow and saucer-like, the whole surface being of a pale gray color—none of the black pigment having been deposited there as in the right. In both eyes the retinal veins, especially the principal ones, were either of normal size or slightly enlarged, while the retinal arteries were greatly diminished in size.

Here we have a young man of average good health who, when suffering from a disease in which the eyes are particularly sensitive, poisons himself with one hundred and twenty cubic centimetres of wood alcohol. Within twenty-four hours he becomes totally blind. This amaurosis continues for two weeks, at the end of which time is born perception of light. Three weeks from the date of poisoning, the patient has his vision increased to a condition in which he can distinguish light and shadow, and count fingers held close to his eyes. From this time to the present date, February 15, 1898, both eyes have remained in essentially the same pathological condition as described in our last examination noted above.

UNUSUAL SYMPTOMS PRODUCED BY PILOCARPINE.[1]

By MATTHIAS LANCKTON FOSTER, M.D.,

ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL.

IT is difficult to find in the materia medica a drug of which the physiological action is supposed to be known with a greater degree of certainty than that of pilocarpine. Depression and profuse perspiration are the characteristic symptoms it produces, and in the few cases in which contrary symptoms have asserted themselves they have been ascribed to the presence of jaborine, another alkaloid of jaborandi, isomeric with pilocarpine, but productive of symptoms which resemble those produced by atropine. The following case is, therefore, of the greater interest, because of the peculiar toxic symptoms which were exhibited and the

[1] Read before the section on medicine, Academy of Medicine, February 15, 1898.

improbability that they can properly be referred to the presence and effect of jaborine.

A man, fifty-one years of age, in good general condition, was admitted to Dr. Pomeroy's service in the Manhattan Eye and Ear Hospital, August 24, 1896, and placed under my care. The right eye was hopelessly blind: the sight of the other had very recently been lost on account of a detachment of the retina. At the time of his admission direct vision of the left eye was reduced to perception of light, and excentric vision was $\frac{3}{200}$. The patient was placed in bed, his eyes were bandaged, and twelve minims of a four-grain-to-the-ounce solution of pilocarpine hydrochlorate, equivalent to one-tenth of a grain of the drug, was injected subcutaneously, but no diaphoresis was obtained. On the following day, August 25th, fifteen minims ($\frac{1}{8}$ gr.), on the 26th eighteen minims ($\frac{1}{7}$ gr.), and on the 27th twenty minims ($\frac{1}{6}$ gr.) were injected beneath the skin, but no perspiration or other physiological symptom characteristic of the action of pilocarpine was produced. On the 28th the injection of twenty-three minims (a little less than $\frac{1}{5}$ gr.) caused some perspiration. On the 29th twenty-five minims ($\frac{5}{24}$ gr.) induced a slightly increased amount of perspiration, but no noticeable depression or other untoward symptom. On the 30th twenty-six minims ($\frac{5}{23}$ gr.) was injected at 6:45 P.M. At 7:30 the patient was unconscious, with a pulse of 120 and some twitching of the muscles, but with no trace of perspiration. An ounce of whiskey was given and heat applied to the limbs. At 8 o'clock the pulse was 126 and the respiration 29. At this time $\frac{1}{8}$ gr. of morphine with $\frac{1}{100}$ gr. of atropine was given subcutaneously. An hour later the patient vomited, but there was still no perspiration. At 11 P.M. the temperature was 102.6° F.; respiration, 34; pulse, 128. Twenty minutes later, when I saw him, the patient could not be roused from his unconscious condition, was breathing very rapidly, and had a rapid, strong pulse. The skin was very dry and hot; the mouth and tongue were very dry wherever the mucous membrane was exposed to the rapid current of air, but elsewhere were moist; the face was very slightly flushed, and the pupils were not affected. Examination failed to reveal any œdema or other trouble in the lungs.

The symptoms bore so close a resemblance to those of atropine poisoning that I immediately made a close investigation to determine whether this drug had been given by mistake, and after I had become satisfied that such was not the case $\frac{1}{120}$ gr. of atropine was injected and a sponge bath was given. At midnight the temperature was 102.8° F.; pulse, 134; respiration, 40. At 1 A.M. the temperature was 102.6° F.; pulse, 116; respiration, 52; the skin showed signs of perspiration. At 2 A.M. the temperature was 103.5° F.; pulse, 112; respiration, 48; perspiration still slight. At 3 A.M. the temperature was 102° F.; pulse, 108; respiration, 44. The patient was now perspiring profusely, breathing quietly, and about this time regained his consciousness. The temperature then fell steadily until in four hours it was normal, while the respiration regained its normal rate with even greater rapidity. During this day the patient was much nauseated, vomited once, had diarrhœa, and suffered from very marked general depression. At noon there were a sudden rise of the temperature to 100.5° F., and about as sudden a fall after vomiting. Examination of the urine failed to reveal any renal trouble.

Medication was discontinued until the morning of September 2d, when one-seventh of a grain of pilocarpine caused perspiration for twenty minutes. From September 3d to 11th inclusive one-sixth of a grain was injected daily and caused prompt and free perspiration for from twenty to thirty minutes. On the 12th a fair perspiration for twenty minutes was noted, but on the four succeeding days little or no perspiration was induced by the same dose. On the 16th I found that the direct vision had improved to $\frac{1}{200}$. On this day I punctured the tunics of the eye, evacuated a considerable quantity of subretinal fluid, and replaced the patient in bed. The daily dose of pilocarpine was increased $\frac{1}{120}$ gr., again induced free perspiration, and was maintained three days longer, when all treatment was stopped. The final vision of the patient was $\frac{20}{200}$, which has been maintained to the present time.

The peculiar toxic symptoms exhibited by this patient are susceptible of at least three methods of explanation, viz.: first, that the solution used was made of jaborine, instead of pilocarpine; second, that the primary symptoms produced by the action of pilocarpine, which ordinarily, if they exist, are of exceedingly brief duration, were remarkably prolonged; and, third, that they were unique and dependent upon the individual idiosyncrasy of the patient.

In regard to the first explanation, it is highly improbable that the solution was one of jaborine, because the use of an ordinary dose of the same solution in the treatment of other patients in the hospital was productive of the symptoms usually ascribed to the physiological action of pilocarpine, with no observed trace of those which assumed such alarming proportions in this case; and also because the ultimate effect of the drug upon this patient was that of pilocarpine, although this effect was delayed and preceded by a series of very unusual symptoms.

It has been asserted by some observers and denied by others that the primary effect of pilocarpine is to determine a rise of temperature quickly followed by a fall, and it may be admitted as a possibility that the symptoms narrated were due to a prolongation of such a primary effect. But as it is a matter of doubt that such a primary effect exists, I am unable to consider this explanation satisfactory.

It seems more reasonable to ascribe this effect to the idiosyncrasy of the patient. A very large dose was required to induce any diaphoresis; the system stubbornly refused for several hours to yield to the influence of a larger dose, and afterward showed a noticeable tendency to become habituated and to make less response to the presence of the drug.

22 East Forty-First Street.

STRICTURE OF THE URETHRA IN A YOUNG BOY.

By C. E. IDE, M.D.,

CHICAGO, ILL.

The subject of urethral stricture in children has recently begun to receive the attention which it deserves, and I report this case in the endeavor to assist in making the records as complete as possible.

On February 10, 1896, Charles P——, aged ten, was brought to me by his mother, because the act of urination was painful. The history which I obtained was as follows: Some months before (about a year, the exact date not being remembered), a painful swelling had appeared near the end of the boy's penis. This was treated with "home remedies," until there was a profuse discharge of pus from the urethra. The latter finally ceased, although the act of micturition was painful for some time. Just before the boy came to me the pain and burning recurred. On examination I found a dense stricture, about an inch from the meatus, which would scarcely admit a No. 10 bougie. It might, of course, have been a case of congenital stenosis of the urethra; but there had not always been the dysuria; the trouble started up acutely not long before, and the obstruction was firm, as of scar tissue.

The condition was treated by gradual dilatation, and after three treatments the boy passed out of my sight. I saw him occasionally after that, and both he and his mother reported him as better of his trouble.

As I look back upon the case now I am led to believe that urethrotomy would have been the better procedure to follow, since the stricture was so firm and unyielding.

OPERATION FOR ABSCESS OF THE BRAIN.

By JAMES SPENCER BROWN, M.D.,

ATTENDING SURGEON TO MOUNTAINSIDE HOSPITAL, MONTCLAIR, N. J.

THERE is something exceedingly attractive about brain surgery, and the reason can possibly be expressed by a single word—pique. Defeat is not a pleasant subject for an evening's reverie, but it is a great stimulant for renewed and greater efforts. The brain has not escaped from that boldness which cleanliness has brought to all fields of surgery, and improved methods of technique have witnessed improved results. However, the review of a large number of brain operations brings the conviction that there is one fact thoroughly expressed: either the results are brilliant achievements or they are flat failures. The reason for there not being a middle line is exceedingly simple, when one considers that the tissues under the knife, destroyed cortical centres or disorganized motor tracts, are not replaced. The following case of brain abscess is reported, first, because it seems worth while to report those cases in which cerebral localization has succeeded in guiding the operator to the exact site of softening; and, second, because drainage which seemed perfect during life was demonstrated at the autopsy to be quite the contrary.

J. T——, aged fifty, a native of England, with no history of syphilis or other serious illness, intemperate, was admitted into my service at the Mountainside Hospital, August 16, 1897, at 8 P.M., with a history of having attempted to commit suicide by jumping head down from a bridge into a sluiceway, striking his head upon a rusty iron spike. There was a large compound depressed fracture over the right occipital region; the patient was rational, but excited and talkative. He had walked at least a mile to the station-house, and had been conveyed in an ambulance from there to the hospital. There was little if any shock. Chloroform was used for anæsthesia, and the head was shaved and cleaned in the usual way. The mud and sand from the brook had been ground into the wound, so that it was with some delay and difficulty made clean. Without much trouble, with the rongeur forceps and elevator the depressed fragments were elevated and removed; the dura was not injured, although the inner fragment was close to the superior longitudinal sinus. The wound was now cleaned with hydrogen dioxide and washed with several quarts of sterilized water, and the scalp was brought together with silkworm-gut and silk sutures. The recovery from anæsthesia and the history of the first three days of his stay in the hospital were quite uneventful. On removing the dressings for the first time on this day I was not much surprised to find slight wound infection, because of the nasty condition of the tissues at the time of operation. Drainage was at once instituted, and all went well until August 31st (the wound at this time being nearly healed), when he complained of intense frontal headache and of cold feet and legs, and said that he had no power in the leg and arm of the left side. For the last week there had been a rise each day in the temperature, which did not exceed 99.6° F. Ptosis of the left eye was manifest; sensation seemed normal; the reflexes were apparently alike and normal; there was certainly loss of muscular power on the left side. The chart showed a temperature of 99.4° F.; pulse, 100, strong and full; respiration, 16.

During the following forty-eight hours the patient's suffering from cephalalgia was intense; the paralysis had now become complete upon the left side, and there were added anæsthesia and hyperalgesia at different points.

On September 3d he was seen by Dr. Frederick Peterson, the consulting neurologist of the hospital, whose report was as follows: "There is complete paralysis of the left arm and leg. He cannot stir them voluntarily; there are considerable anæsthesia over the paralyzed limbs, slight analgesia in places, and hyperalgesia in others on the left side. The plantar and cremasteric reflexes are normal; the knee jerks are subtypical, slightly greater on the left side; the wrist jerks and elbow jerks cannot be elicited on either side. There is no aphasia, no involvement of the face or tongue, and the mind is clear. The pupils are of medium size and react normally. There is no evidence of great intracranial pressure in the pupils or pulse. There is no symptom of cortical irritation. The temporal half-field of vision of the left eye is lost; the right seems normal. He hears a watch at only one-half the distance with the left ear as compared with the right. The taste seems normal on both sides of the tongue. The fundus is slightly cloudy."

Diagnosis, abscess deep in the brain in the region of the posterior part of the internal capsule. I advised if the patient got worse to trephine in the parietal region considerably back of the motor region, and insert an exploring needle down into the supposed site of the abscess.

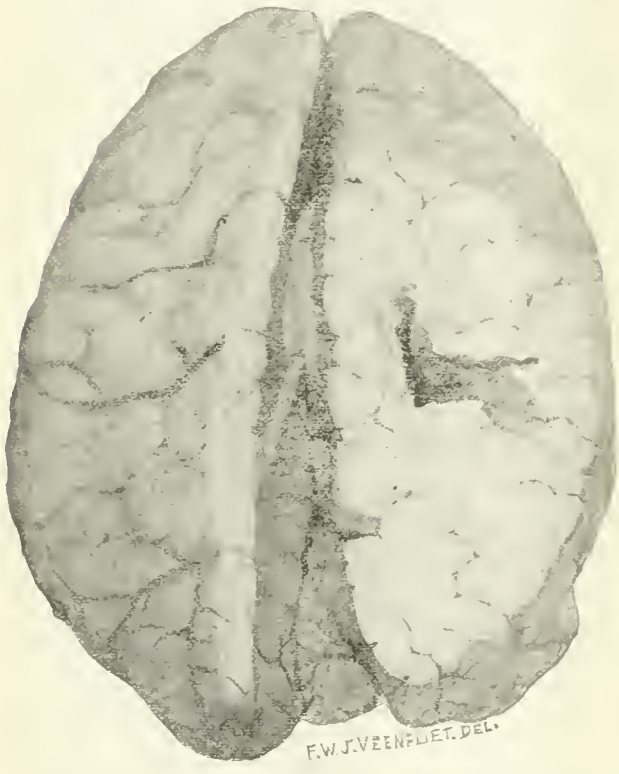
On the next day, there being no improvement, the patient was subjected to the following operation: The scalp having been reshaved and cleaned, it was thought best to endeavor to reach the abscess through a new route, so as to avoid the infected tissues, in the belief that the abscess was deep in the brain in the posterior part of the internal capsule. A flap of scalp was raised over the posterior temporal region and a button of bone removed from a point two and one-half inches behind the auditory canal and one and three-fourths inches above Reid's base line. The dura appeared quite normal. Upon incision of the dura the brain bulged into the opening, showing pressure from below. A director was gently pushed inward, downward, and forward, and when it was at a depth of one and one-half inches there was noticed a dark serous fluid running along the groove. A probe was now passed along the groove of the director and the two instruments were separated. It was estimated that the abscess contained about two drachms of pus and broken-down tissue. The cavity was washed out with sterile salt solution and the abscess drained with about a dozen strands of silkworm gut; plain sterile gauze was packed about the opening in the brain, and both gauze and strands of silkworm gut were brought out at the lower angle of the wound. The upper portion of the scalp wound was brought into apposition and a bountiful dressing of plain sterile gauze applied. The patient recovered from anæsthesia promptly with but little shock. The following morning he was able to flex the leg upon the thigh and move his fingers.

From this time on till the day of his death there was to all appearances a steady improvement. His temperature remained nearly normal, never rising above 99.4° F.; his pulse was always at 90 beats a minute, strong and full; his headache was relieved; he gained sufficient power in the arm and hand to use them quite freely; the leg could be moved from one position to another. The dressings were changed upon the second day; they were saturated, and there was every reason to believe then and at all subsequent

dressings that drainage was complete. At the second dressing, because of the displacement of the silkworm-gut drain, a tube made of folded rubber tissue was employed. On the morning of August 12th, eight days after the last operation, he complained of headache and a feeling of dizziness; his speech was noticed to be thick, and there was a lateral deviation of the tongue. The former good motion of the hand was lost and it could be moved only with the greatest effort. The wound was examined and the abscess seemed to be well drained. Within two hours from my leaving the hospital he had a severe chill, his temperature running up to 105.6° F.; his pulse became weak and rapid, and he gradually sank into a state of coma, and died at twelve o'clock that night.

Necropsy, eighteen hours after death, was made by Dr. R. C. Newton. The following notes were made upon the condition of the brain:

"Upon removal of the brain the pia and dura are



firmly adherent to the skull—first, about trephine opening; and, second, about seat of original injury. There is a general meningitis over the posterior part and base of the brain. The abscess, which before the autopsy was commenced seemed to be well drained, is found to contain an estimated amount of pus of not less than two ounces; there is a communication between the abscess and the surface of the brain of not less than one-half inch in diameter. Upon removal of the upper portion of the right hemisphere the abscess is cut into, but it does not communicate with the pia at the site of the original injury by at least one inch; it does not open into the lateral ventricle; the wall of the abscess is very necrotic."

From the foregoing report it is seen that up to the morning of this man's death he was apparently making a very satisfactory recovery from a very serious condition, when in reality he was storing up in his brain septic matter which sooner or later must cause intoxication, and by absorption and extension to neighboring important tissues surely destroy life. By referring to reported cases it will be seen that it is not uncommon for these injuries to terminate in exactly this way, and it is therefore pertinent to ask the question if there is not a better way to drain these deep abscesses of the brain than that which was employed in this case. Probably the question can be answered in the affirmative when the abscess cavity is so situated that it is not asked that pus shall drain up hill; in the absence of such a favorable location, would it not be better to employ capillary drainage through a rubber drainage tube filled with gauze, using a tube as large as possible without making serious brain pressure? The accompanying illustration, drawn from nature, shows exceedingly well the position of the abscess.

A CASE OF GRAVE GENERAL PERITONITIS, APPARENTLY DUE TO APPENDICITIS; RECOVERY WITHOUT OPERATION.

By SAMUEL KOHN, M.D.,

NEW YORK.

Twenty-five years ago, at a time when the opium treatment of peritonitis, thanks to the genius of Alonzo Clark, had established for itself a firm place in therapy, the publication of a clinical history such as is herewith presented might not have aroused much interest; but to-day, when the treatment of this dread disease has been relegated almost entirely to the domain of surgery, it being merely a question of diagnosis as to its origin—whether appendical, ovarian, uterine, intestinal, gastric, or what not—before laparotomy is promptly and definitely decided upon, the record of a grave case, whose successful outcome in recovery was evidently due to medical treatment alone, will command attention. The salient points in the history are as follows:

C. S——, aged nine years, was taken sick, September 7, 1897, with colicky pains radiating from the umbilicus all over the abdomen. The boy was living at Arverne-by-the-Sea, Long Island, with his parents, at the time. The physician from Rockaway Beach, who was summoned to attend him, administered a mild laxative, which was without result. The following day pain became more intense, the patient crying to be relieved: a high enema was given, with very slight result. The pain still continuing in the evening, the doctor gave a small dose of morphine hypodermically. The following day, September 9th, the pain having shown no signs of abatement, Dr. Welt-Kakels, the family physician, was summoned from New York; she diagnosed the case as one of septic general peritonitis due to appendicitis. On the following day, September 10th, she saw the patient in consultation with Dr. F. Lange, who confirmed her diagnosis, after making two exploratory punctures, one in the lumbar region, the other per rectum. The first yielded, I was told, a dark brown, ill-smelling, semifluid material, probably fæcal matter from the large intestine; the second yielded nothing. The outcome of the consultation was, as to diagnosis, general septic peritonitis due to appendicitis; as to prognosis, so grave as to make an operation unwarrantable, in view of the low vitality of the patient; as to treatment, ice and morphine.

At 4 o'clock, A.M., September 11th, the patient's sufferings became so severe that he cried aloud for relief. I was sent for and saw him then for the first time. He lay in the dorsal decubitus, his limbs flexed upon the abdomen, which was so distended as to appear globular and tense. He was constantly emitting shrieks, begging to be relieved of his pain or to be put out of existence. His face was anxious and sallow; the cheeks were sunken; the tongue was dry; the limbs were very much emaciated. Temperature, 101.5° F.; pulse, 130, small and thready; respiration, 36, shallow. "Green-paint" vomit had been occurring at frequent intervals during the past twenty-four

hours. From the boy's mother I ascertained the history, substantially as above written, up to the time of my visit, and it was confirmed by the physicians previously in attendance.

In view of the intense pain which the patient was suffering, I did not hesitate long as to the line of treatment to be followed. With Dr. Lange's disinclination to operate in mind, the decision to put the little patient under the influence of morphine as quickly as possible was reached. The enormous quantity of morphine required to keep the patient narcotized and the pain under control constitutes one of the most interesting and instructive features of the case. One-fourth of a grain of morphine was injected hypodermically (4 A.M., September 11th) and an ice bag was applied over the region of the appendix.

Before the history is proceeded with, several points deserve mention. The last fæcal stool which the patient had was on the 7th of September; on the 9th and 10th of September he received each day one-fourth of a grain of morphine hypodermically from Dr. Welt-Kakels; on both days high enemas were administered, without effect. From the 7th to the 21st of September the patient passed neither flatus nor any intestinal contents per rectum; on the latter date, owing to the repeated small enemata of olive oil which had been administered during the two weeks, several evacuations, consisting of liquid fæces and mucus, accompanied by flatus, took place. From the 21st of September to the 1st of October absolutely nothing passed per rectum. It seemed to me that, on the 21st of September, the contents of the bowel below the seat of obstruction were evacuated; for, if the bowel had been pervious throughout its entire length, the constipation would not have persisted from the 21st of September to the 1st of October, in spite of every effort to move the bowel; the conclusion was fully warranted, therefore, that the bowel, above the seat of obstruction, had not been evacuated in the twenty-four days from September 7th to October 1st, at which latter date the first copious fæcal movement during the boy's illness took place.

And now to continue with the record. At 3 P.M., September 11th, the pain again being severe, the signs and symptoms not varying much from those noted in the morning, one-fourth of a grain of morphine was again injected; one hour later pain was still agonizing. The respirations had diminished to 20; the pulse was 100, and the temperature 101° F. I ordered one-sixth of a grain of morphine per orem every two hours until the pain should be relieved. On the morning of September 12th, although 1½ gr. of morphine had been given per os during the night, no effect whatever was to be noted in the reduction of pain and tenderness in the abdomen. Respirations, 15; pulse, 100, small but regular; temperature, 101° F. The abdomen was intensely distended. September 13th and 14th, he received each day 1½ gr. of morphine hypodermically, representing six hypodermics of one-fourth grain each during each twenty-four hours; this resulting in a sleep of two or three hours' duration each day. On the 14th of September the respirations went down to 10; the temperature was 102° F.; pulse, 130, thready. Several attacks of vomiting, the material being of a dark brown color, ill-smelling, evidently fæcal in character, occurred. Pain, when the child was awake, seemed more intense. There were great restlessness and extreme tympanites. The patient seemed on the verge of collapse.

On September 15th. As an example of how frequently and in what doses morphine was administered at this period, I will present from the clinical notes the history of this day: "12:30 A.M. Temperature, 100° F.; pulse, 140; respiration, 12. Patient awoke, screaming with pain. Gave one-fourth grain of morphine hypodermically. 2 A.M., pain; ¼ gr. 3 A.M., pain; ¼ gr. 4 A.M., pain; ¼ gr. 5 A.M., pain; ¼ gr. Respirations, 10; pulse, 120; slept two hours. 9:30 A.M., pain; ¼ gr. 10:30 A.M., pain; ¼ gr. 11:30 A.M., pain; ¼ gr. 12:30 P.M., pain; ¼ gr. Patient very weak. Administered one-half pint decinormal salt solution per rectum. Patient slept two hours." In twelve hours the patient received two grains of morphine hypodermically, but, as will be seen later on, he was to receive larger doses still.

September 16th, condition and treatment practically unchanged. September 17th, the patient vomited fæcal matter several times. The vomited material was reddish-brown, intermixed with blood, and was intensely fetid, like long-retained fæces. Abdominal pain was very intense. In the course of the day he received seven injections of morphine, each of ½ gr., making 3½ gr. for the twenty-four hours.

"September 18th, 3½ gr. morphine in the twenty-four hours hypodermically; fæcal vomiting continues; pain under control; but as soon as the patient is allowed to come out of the morphine narcosis he cries with pain. Abdomen so distended that the cutaneous veins are put on the stretch; the apex beat is displaced upward to the region of the nipple; the integument of the thorax is markedly œdematous, from interference with the cutaneous circulation in the abdominal parietes. September 19th and 20th, fæcal vomiting ceased; otherwise the condition remains unchanged. A total of 3½ gr. of morphine given hypodermically each day; patient again on the verge of collapse. September 21st, patient passed some flatus from the bowel; had one slight and two fairly copious fæcal movements, at 1 A.M., 3 A.M., and 5:25 A.M."

As stated previously in this paper, these movements seemed due to evacuation of the bowel below the seat of obstruction; for, ten days previous to this, an enema of olive oil had been given three times daily (℥ i.). This small quantity of olive oil was retained for an hour or two nearly every time, but was rejected at once now and then; warm decinormal salt solution (about one-half pint) was injected into the rectum once daily, for about five days previous to the 21st of September, and usually was retained. To these frequent enemata I attributed the movements from the bowels which occurred September 21st; from then on, until the 1st of October, the bowel was perfectly occluded.

From September 14th to September 21st, fæcal vomiting occurred at frequent intervals, proving that above the occlusion the intestine was emptying itself per os.

September 21st, pain severe; three grains of morphine in the twenty-four hours. September 22d, pain so much increased that morphine was injected in one-grain doses, seven times in the twenty-four hours, making seven grains in all. September 23d, severe pain over the bladder; micturition attended by the most excruciating pain, showing extension of the peritoneal inflammation to the bladder. Examination of the urine negative. I ordered calomel, one-half grain every two hours; after twelve powders had been given without any visible effect, no more was administered. During the twenty-four hours seven grains of morphine was injected hypodermically.

From this date until the 1st of October the patient received his hypodermics of morphine regularly, but in gradually diminishing doses. On the latter date, October 1st, he received only two grains in the twenty-four hours. During this week abdominal pain was constantly present, the patient begging for relief as soon as the narcosis was on the wane. No other measure which was tried could replace the morphine in relieving the pain. The abdomen remained enormously distended by meteorism; the temperature fluctuated between 100° and 102° F.; the respirations at times

were as low as 8; the pulse varied between 90 and 120, but was, although weak, always regular. Warm saline enemata, each of one-half a pint, were given once daily during this last week (September 23d to October 1st), but without any evacuating effect. The vesical pain disappeared entirely September 26th.

On the 1st of October the patient had two large, black, tarry-looking movements from the bowels; the distention of the abdomen commenced to diminish. Thereafter the bowels moved daily, until convalescence was established. The abdominal pain did not cease entirely until October 15th. Up to this date morphine, in small doses, was daily given to relieve it. The abdomen became flatter from day to day, until it had so far sunken (October 15th) that it formed a veritable deep basin, and the emaciated little fellow looked like a child in the last stages of marasmus. His appetite improved, and he progressed gradually to health and strength, which can be said to have been restored about the middle of November. He is now stronger and heartier than he ever was before in his life.

The measures aside from injection of morphine resorted to were, as has already been mentioned, the ice-bag for the first two weeks; later hot fomentations and turpentine stupes; olive-oil enemata; warm saline enemata, used more for the purpose of giving water to the parched tissues than to move the bowels; in the third week, small doses of calomel frequently repeated.

The diet consisted, early in the disease, of half an ounce of boiled milk, with one drachm of lime water, every two hours; a drachm of brandy in half an ounce of iced water every two hours. The vomiting and retching made it exceedingly difficult to nourish the patient during the first two weeks. The enemata of sweet oil and decinormal salt solution undoubtedly aided us materially during this period in sustaining the patient.

This case seems remarkable in several respects. First and foremost, the enormous quantity of morphine which the little fellow consumed, and tolerated, amounting to ninety grains in the twenty-four days from September 7th to October 1st, or an average of nearly four grains a day, is extraordinary. This tolerance of morphine, in a boy of nine years, is explicable on two grounds: first, that the peritoneal inflammation, with its attendant intense pain, produced such an excitant effect on the nervous system as to make it tolerant of the drug; and, second, that the feeble circulation did not permit the absorption of the drug rapidly enough to produce a lethal effect. It seems to me that such tolerance of morphine as this boy exhibited is not frequently mentioned in the literature of the subject. In the administration of the drug I was guided by the degree of pain the patient suffered; the pulse and respiration were carefully watched, but at no time were these so depressed as to cause the least anxiety.

The long duration, twenty-four days, is explained by the wandering character of the inflammation. The pain was first complained of in the appendical region, then in the hepatic, then in the gastric, finally in the vesical. These changes in the site of the inflammation were accompanied by exacerbations in the temperature and pulse.

The brain was clear during the whole course of the disease, except when the boy was thoroughly narcotized, and even then, when roused, he could answer intelligently any question put to him, and with a clearness of cerebration which was painful to the questioner.

The second interesting question is in regard to diagnosis. Did we have to deal with a case of appendicitis? Inquiry into his previous history reveals the fact that since his fourth year the boy has been subject to severe attacks of intestinal colic; that in his sixth year he had an attack similar to the one through which he has just passed, but much milder. Pain, "green-paint" vomit, and fever characterized that attack, which confined him to his bed for one week; opium and ice constituted the treatment for this attack. This previous history, evidencing a recurrent tendency, strengthens the diagnosis of appendicitis as made by Dr. Lange. It was impossible for me to make an accurate diagnosis at my first visit, or, in fact, at any time, because of the immense distention of the abdomen and its exquisite tenderness to the gentlest palpation; deep palpation was out of the question because of the patient's agony. The apparently collapsed condition of the patient when I first saw him led me to believe that a small perforation of the appendix had already taken place; but the subsequent course negatived this idea.

To conclude. A case of grave general septic peritonitis, due to appendicitis, was here presented, distinctly unfavorable as to prognosis. The condition at the onset of the disease was such that one of our most brilliant surgeons advised against operation. That the heroic treatment by large doses of morphine to which the writer was emboldened at this juncture saved the patient's life, is beyond the question of a doubt. The history of this case can with a good and clear conscience be added to the volume of evidence in defence of the opium treatment of peritonitis.

805 Madison Avenue.

THE USE OF ERGOT TO OVERCOME INERTIA OF THE UTERUS DURING LABOR.

By S. S. CARTWRIGHT, M.D.,

Roxbury, N. Y.

After the careful use of ergot in the above cases for several years, I wish to give my experience to the profession. It is often the case when women have borne four or five children that in succeeding labors the pains are feeble and slow, but an examination reveals a dilatable os and no obstruction. In such cases my plan is to give from ten to fifteen drops of fluid extract of ergot. The ten-drop dose is generally sufficient, but this can be repeated in an hour if no effect is produced. I never exceed fifteen drops at a dose. The effect of this generally is that in less than an hour the pains become stronger and regular, and in from two to three hours the labor is completed. The pains in these cases never become continuous, like the pains from large doses of ergot, but there are always distinct intermissions. I regard this use of ergot as perfectly safe for mother and child, never having had a stillborn child in any of the cases in which I have administered it, and I have never had to give over two doses.

Acute Otitis Media.—I have seen the following simple device, always convenient, give grateful relief: A piece of cotton is placed lightly in the mouth of the canal. A pipe is filled with tobacco and lighted. Then a piece of clean cloth is placed over the mouth of the pipe bowl and gently blown through, while the lip piece of the warm stem rests against the cotton pledget. This filters the warm smoke through the cotton into the canal, and a grateful sedative effect is soon obtained. I do not remember having seen this remedy mentioned in the books, but I have witnessed its efficacy in the absence of other remedies. The practice indulged in by the laity of pouring oils, etc., into the ear is a vicious one, since these become rancid, irritate, and predispose to a subsequent inflammation. Poulticing is also bad, for it favors suppuration and perforation of the drumhead.—Dr. Seth Scott Bishop, "Diseases of the Ear, Nose, and Throat." p. 72.

Society Reports.

MARYLAND PUBLIC HEALTH ASSOCIATION.

Annual Meeting, Held at Baltimore, May 11 and 12, 1898.

Dr. William H. Welch, president, spoke of the work of the association, which was started only last year, saying that it already had quite a large membership.

The Sweat Shop in its Relation to Public Health.—Dr. Gichner said that a sweat shop was a place where a number of persons worked under pressure for a minimum wage and comforts were not considered. The work done was generally contract work. It was usually done in shops at home, and the dangers were from working at home. The condition of affairs in New York was very bad; in Baltimore it was not so bad, on account of the small houses and the cheap rents.. Some of the worst sweat-shop houses brought better rents than many larger houses, on account of the enormous number of persons which could be crowded into a small space. The speaker then described the sweat shops of Baltimore. They were in the congested district, but there were not much diphtheria and scarlet fever, and the child mortality was not very high. There was very little insanity and the general moral tone was not so low as one would expect. Consumption, however, was on the increase, but the disease was not carried away from these shops by the clothes, on account of disinfection accomplished with the hot heavy iron. While these people were a menace to the community in a certain way, still the bad effects reacted principally on themselves. It was extremely hard to do anything for them through the health department, because they were dependent on their work and resisted every attempt at inspection.

Dr. Rosenthal then spoke on the same subject, and said that those who worked in factories were usually fairly well provided for, while those who worked in their own shops and for wages were usually the worst off. They worked from twelve to fifteen hours a day, and in winter the rooms were almost air tight; men were smoking cigarettes and probably spitting all over the floor.

Need of a Hospital for Infectious Diseases.—Dr. John S. Fulton said that cases of infectious diseases were usually reported by physicians, but any attempt to quarantine the family was fruitless and the disease might be or was actually carried in numberless ways. The cost of an infectious-disease hospital would be necessarily great at first, but not so much as dealing now with individual cases. Such a hospital must be accessible, and almost every one objected to a hospital near them. Everything should be free in this hospital, and the city should bear all cost. Persons who desired special accommodations and private rooms would necessarily have to pay for them.

Dr. William Royal Stokes then pictured the ideal infectious hospital, in which a patient would be brought into an observation ward and kept there until the disease had declared, when the person would be sent to the proper ward.

Dr. C. Hampson Jones related some of the difficulties the health commissioner met with in carrying out his work.

Dr. William J. Todd said that infection was often carried by innocent persons to other innocent persons.

Dr. William H. Welch said that the absence of an alarming tone in the papers of Drs. Gichner and Rosenthal was very gratifying. The fact that the clothing was sterilized by the hot iron and the hot room before distribution was exceedingly interesting, and it had never occurred to him before. Nevertheless, danger from tuberculosis to those working in sweat shops was a real one and it was an important matter. He said that the dangers from the dried sputum in spreading tuberculosis were not so great as the dangers from coughing: in the action of coughing and sneezing and hawking one sprayed from the throat a fine moisture, which, emitted from the mouth, floated in the atmosphere for many hours. Indeed, this, according to Flügge, was more dangerous than dried sputum. Probably this might explain the great danger of contagion in small rooms like the sweat shops. In New York the board of health had power to close a room where a patient with tuberculosis had died; that was to say, in tenement houses or small lodging-houses. These premises were disinfected and cleaned by the health board, and kept vacant for a time at the expense of the owner. The need of a hospital for infectious diseases in Baltimore did not call for much discussion.

Dr. William B. Canfield thought that the subject of sweat shops should be considered from all sides, to be practical. He had not noticed that in any of the papers read any reference had been made to the origin of the sweat shop; there must have been some reason for calling it into being, and he thought it was partly because of late there had been a greater demand for cheaper clothing both for men and women, but especially for men, and this demand could be satisfied only by working the poor people in the shops. He thought that every man or woman who bought cheap clothing helped the sweat shops.

Vaccination and Revaccination.—Dr. William J. Todd, of Mt. Washington, said that vaccination and revaccination were not sufficiently regarded at the present time. Too often certificates were given when there had been no proper vaccination. He thought that revaccination should be done at least once in every twelve years, and oftener in many cases.

School Inspection.—Mr. Charles R. Hartshorne, school commissioner of Montgomery County, said that the results of school inspection in the short time this had been carried on showed many sanitary defects in the buildings.

Dr. Augustus Stabler, health officer of Brighton, spoke of the defects in the heating of public buildings. The floor was usually cold, except within a few feet around the red-hot stove. The air soon became impure, windows were opened, and cold draughts came in and often caused illness.

Mr. Hartshorne said that the necessity of revaccination was very important. He had been vaccinated himself many times, and had a number of beautiful scars. He had good reason to believe that revaccination was of use, but there should be some modification of the law. Some physicians gave a certificate as soon as vaccination was done, without seeing if it had taken or not. Physicians should revaccinate in every case in which the vaccine did not take. There ought to be a provision for revaccinating once in every five or ten years.

Periods of Incubation and Infectiousness.—Dr. Charles W. Mitchell, of Baltimore, then made some remarks on this subject. He defined the period of incubation as the time between the entrance of the poison into the body and the appearance of the disease. This varied in different diseases and in the same diseases under different circumstances. The period of infectiousness was that during which the patient retained the power of conveying the disease. Some of the discharges might contain the disease and might spread it long after persons believed it to have passed. The infectiousness was just as dangerous in mild cases as in severe ones, and mild cases were the most dangerous because people did not recognize them. He protested against the practice which was so prevalent.

of exposing children to contagious disease in order to let them get over it. In the outbreak of a disease some mothers would put other children in the same room and the same bed so that they could have all the trouble of nursing them at once. This had too often caused the death of one or more of the children.

The Sanitary Treatment of Water-Borne Wastes in Town and Country.—Col. George E. Waring then delivered an address on this subject. He said that while we often paid attention to sanitary matters in the house, we neglected them outside. Sewage was unpleasant to the sight and to the smell, and, still further, it furnished a growth of bacteria harmful to man. When foul liquid was thrown upon the ground it gradually lost its power of harm, but when discharge took place in a cesspool dangerous putrefaction soon set in. The cesspool was a source of danger in every place. The only proper disposal of sewage, as far as was known, was to bring all of its organic contents into close contact with atmospheric air under conditions suitable for bacterial oxidation. There could be no proper disposal that did not secure rapid resolution into elements. All decaying matter should be put in the way of being destroyed most quickly. If sewage be allowed to trickle over crushed stone so arranged that air would penetrate all crevices, it would soon pass away as pure as water, leaving deposited on the stones a layer of sludge which was soon oxidized. Colonel Waring then described a system of his own for disposing of sewage from country houses. This could be put up at a small cost.

The address was received with great applause.

Public Baths in European and American Cities.—This was the subject of a paper read by Mr. T. M. Beadenkopf. He spoke of the difficulty that boys had in Baltimore in securing an opportunity to swim, as they were always driven away by the police. By the aid of several gentlemen he had secured the erection of some bathhouses, which was the beginning of a system of public baths in Baltimore. Europe was far ahead of this country in the system of public baths. London was said to have expended $2,500,000 in this deserving charity; it also had washhouses where soiled clothing was laundered by the poor people, who paid a small sum for the privilege. This yielded a large revenue to the city. He thought that the showerbath was especially successful when introduced into the schools.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. George H. Rohé; *Vice-Presidents*, Dr. Edward M. Schaeffer, Mrs. Daniel Miller, Miss Eliza Ridgely, Mr. Charles R. Hartshorne, Dr. Augustus Stabler, Dr. Howard Bratton: *Secretary*, Dr. John S. Fulton; *Treasurer*, Dr. L. Gibbons Smart.

KENTUCKY STATE MEDICAL SOCIETY.

Forty-Third Annual Meeting, Held at Maysville, May 11, 12, and 13, 1898.

The society met in Knights Templar Hall, and was called to order by the president, Dr. Joseph M. Mathews, of Louisville.

Diagnosis and Treatment of Osteomyelitis.—This paper was read by Dr. James B. Bullitt, of Louisville. He said that there was nothing new to be gleaned relative to the diagnosis and treatment of this affection. To treat the disease effectively, it was necessary to possess a clear conception of the nature of the tissues involved, and of the cause and character of the affection. After giving the usual definition of osteomyelitis, the speaker proceeded to the consideration of its cause. The femur was most often the seat of the disease. The tendency to infection in the long bones was in direct ratio to the rapidity of the growth of such bones. Males were more frequently affected than females, in the proportion of 3.38 to 1. The disease showed a special predilection for certain areas, as the mountainous southern regions of Germany, the north coast of Germany and Switzerland, where regular epidemics of the affection occurred. While oftentimes a primary, it occurred also as a secondary disease, being prone to follow measles, scarlatina, small-pox, and typhoid fever. The treatment of osteomyelitis was essentially surgical. In the rapidly progressing, fulminating type of the disease, early surgical interference was not only requisite for the preservation of the limb or joint, but for saving life itself.

The Rational Therapeutics of Some of the Animal Extracts.—Dr. R. Alexander Bate, of Louisville, contributed a paper with this title. The author presented a *résumé* of the therapeutics of thyroid and suprarenal extracts. The thyroid extract had been observed by him to produce daily evacuation of the bowels, diuresis at first, cheerfulness and amiability, smoothness of the skin, restoration of the color of the hair in one case, restoration of normal temperature in a case of diabetes insipidus and obesity in which the usual temperature was 97° F., and a slight diminution in the weight of obese subjects. The drug was contraindicated in exophthalmic goitre and in all diseases of the heart other than those dependent upon faulty changes. He reported a case of Addison's disease in which amelioration of the symptoms followed the use of the suprarenal extract.

Dr. R. C. McCord, of Lebanon, made some remarks on the subject of the utility of blood clot in the treatment of wounds. He said that Schede had used moist blood clot for closing spaces in the soft parts, but particularly in bone, without inflammation and suppuration. He had used the same method of treatment in one case, with a very satisfactory result.

Syphilis.—Dr. Henry Plummer, of Harrodsburg, read a paper on the origin of this disease. The origin of syphilis, he said, was involved in impenetrable darkness. As to the present extent of syphilis, the speaker stated that there were 250,000 adulterous people within the city of New York alone, exclusive of the 40,000 prostitutes and their customers. According to statistics, there were between 2,500,000 and 3,500,000 syphilitic people in America alone. The total number of women in Japan who practise prostitution was over 1,400,000. The author emphatically asserted that if there was no syphilis there would never be any lupus, leprosy, cancer, scrofula, rickets, or curvature of the spine.

Dr. C. C. Lewis, of Stamping Ground, had often thought that syphilis was like almost any exanthematous eruption; that no matter in what quantities the iodides or any other remedies were given, the disease would run its course. He did not believe that the disease was curable.

Dr. T. B. Greenly, of Meadow Lawn, had treated several cases of the disease continuously for two years, at the end of which time there were no manifestations of it nor any signs of recurrence.

Dr. George E. Davis, of Lawrenceburg, could not agree with the reader of the paper that scrofula, tuberculosis, and other diathetic conditions were due to syphilis. Errors of nutrition were responsible for many of the chronic as well as acute troubles encountered by the physician.

Dr. John A. Lewis, of Georgetown, considered syphilis the gravest problem confronting the physician to-day, in that it concerned his neighbors, his friends, his household. Physicians were the ones to educate the people relative to the terrible ravages wrought by this disease.

Eye Strain as a Cause of Nervous Diseases.—Dr. A. G. Blincoe, of Bardstown, read a paper on this subject. The speaker said that two years ago he had given the results of treatment of sixty-one cases of headache by correcting refractive and muscle errors, about forty per cent. being cured and fifty per cent. benefited. For the past two years he had treated seventy-three cases of headache and various nervous troubles by the same methods, with fully as good results. Of these four were cases of neurasthenia; two patients were cured and two benefited. Two were cases of vertigo, and both of these terminated in recovery. There were one case of chronic chorea of two years' duration, and one case of cramping of the muscles bordering on the same; both patients were cured. In one case of cerebral hyperæmia with mental derangement and delusions, the patient was cured; this patient received the bromides and ergot in addition to the eye treatment. Two cases of epilepsy, both of which seemed to have been benefited, were also treated.

Ether Pneumonia.—Dr. James M. Anders, of Philadelphia, said that many cases of pneumonia followed the administration of the anæsthetic. Attention was directed to the importance of employing experienced and skilled anæsthetists for major surgical operations, at all times if possible. The prolonged and unnecessary use of the anæsthetic was condemned.

Dr. James B. Bullitt said surgeons were becoming more and more impressed with the importance of the idea that an experienced man should be selected to administer anæsthetics. During the administration of any anæsthetic for a major operation the body temperature was reduced materially, perhaps from three to five degrees, and consequently artificial means should be provided for keeping up bodily temperature during operations. One of the frequent sources of infection during anæsthesia was inspiration into the lung of infectious matter from the mouth and nasopharynx.

Dr. W. L. Rodman said the lesson to be drawn from the deductions of Professor Anders' contribution was that surgeons should not be lulled into a false security by the safety of ether and keep a patient under the influence of an anæsthetic an hour or two hours, when one-half of the time would suffice for the completion of the operation. Many cases of pneumonia undoubtedly followed the prolonged use of the anæsthetic.

The President's Address.—This was delivered by Dr. Joseph M. Mathews, in which he spoke of the splendid work accomplished by the State board of health in completely ridding Kentucky of quacks.

The Pathology and Diagnosis of Diphtheria.—Dr. C. W. Aitkens, of Flemingsburg, read a paper on this subject. The true diphtheria bacillus could be cultivated through numerous generations, and after an interval of some months it was still capable of producing the true disease—not merely its local symptoms, but the constitutional ones, and eventually paralysis. There were no pathognomonic signs to rely upon at the bedside in cases of diphtheria, yet there were sufficient diagnostic marks to make the physician apprehensive of this disease. It was not an easy matter to differentiate diphtheria from follicular tonsillitis at first, but when the two affections were compared in typical cases the difference was sufficient for the clinician to decide even at the bedside.

The Treatment of Diphtheria.—Dr. S. G. Dabney, of Louisville, read a paper, of which the following were the conclusions: 1. For prophylactic purposes, quarantining the patient and the use of cleansing and antiseptic applications to the nose and nasopharynx of healthy children in the household and the attendants were sufficient ordinarily in private practice. In public institutions, or whenever these measures could not be carried out, antitoxin should be used for immunization, the dose being from fifty units in a young infant to three hundred in a child between four and ten years of age. 2. In nasal and pharyngeal diphtheria the essentials of treatment were antitoxin and, when indicated, stimulation internally, with cleansing irrigations or mild antiseptics locally. As stimulants, strychnine and arsenic held first place. In septic cases the tincture of iron was of special value. 3. In laryngeal cases the administration of antitoxin should be prompt, and the dose should be fifteen hundred units. Calomel should be given at the outset and the patient kept in an atmosphere of steam. These measures would often avert the necessity of operation, but, whenever the breathing became labored and the patient restless and distressed, a tube should be inserted. It was best to leave the tube in five days. 4. In all cases reasonably certain of being diphtheria, antitoxin should be used promptly without waiting for the confirmation of the diagnosis. 5. There was absolutely no proof that antitoxin increased the danger of heart or kidney complications, but on the contrary there was strong evidence that it helped to avert them, if used early.

Membranous Croup and Intubation.—Dr. G. G. Thornton, of Gravel Switch, said that he had never seen a patient with membranous croup get well who was not intubated, although he was aware of the fact that there were some who did. He believed that by studying the anatomy of the pharynx and larynx, and mastering the technique of the operation, any physician with ordinary skill could do it. It was best for beginners to leave a thread in the tube and bring it out at the left corner of the mouth and fasten it by pasting it to the face by a piece of adhesive plaster. This facilitated removal of the tube, if necessary, by any one—by a member of the family in the absence of the physician, should occasion demand it. While not all patients intubated would get well, the operation could be so quickly and easily done and the dangers were so few that it was always justifiable when indicated.

Influence of Age, Sex, and Race in Surgical Diseases.—Dr. W. L. Rodman, of Louisville, read a paper with this title. The author said that negroes were practically immune from varicocele. An analysis of five hundred cases operated upon showed not a single instance of this condition in negroes, there being only one case encountered in a mulatto. Extensive correspondence by the author with eminent surgeons in large Southern cities had corroborated this statement. The colored race was far less frequently affected with gall stones than were the whites. Of one hundred and six cases of gall stones, not one was met with in the negro. Tetanus was more frequent in negroes than in whites. The causes for this were given. Enlargement of the prostate was comparatively common in the white person after fifty, but was rarely seen in the negro. The author had searched the records of the Louisville Hospital for ten years, but had been unable to find a single case of enlarged prostate in the negro. Congenital deformities, such as harelip, cleft palate, spina bifida, etc., were far less frequent in the negro, according to the experience of Southern practitioners, than in whites. Not a single case of harelip or of cleft palate in the negro had been operated on in the Louisville Hospital for the last ten years. The speaker had never encountered clubfoot or spina bifida in the negro in the last ten years. Other surgeons corroborated him as to the rarity of these affections in the negro race. Very few cases of erysipelas occurred in colored persons. Aneurism, on the other hand, was far more common, almost three to one, in the colored than in the white race. Three times as many cases occurred in men as in women. Stone in the bladder was much more frequent in the white than in the negro race.

Dr. S. G. Dabney, in the discussion, said that tra-

choma was almost unknown in the negro. Another point bearing on racial proclivities was that phlyctenular ophthalmia was far more frequent in the negro than in the white race.

Dr. J. H. Letcher's observations on the rarity of varicocele and of enlarged prostate in the negro were confirmatory of those related by the writer of the paper.

Dr. T. A. Reamy, of Cincinnati, had never seen a case of varicocele in the negro. He recalled a case of congenital clubfoot in a negro. He cited one case of harelip in a negro and one of double harelip with cleft palate. Rickets was very common in the negro, as compared with the white race.

Dr. J. N. McCormack, of Bowling Green, reported two cases of harelip in the negro.

Dr. Rodman, in closing, stated that Dr. Hunter McGuire, who had had an extensive experience in bladder surgery, had never seen a case of enlarged prostate in a full-blooded negro.

Deflection of the Nasal Septum.—Dr. Thomas C. Evans, of Louisville, described an operation that had given him great satisfaction in all cases of deflections of the nasal septum. The method he described was substantially that devised by Dr. Asch and presented in a paper before the American Laryngological Association in 1890.

Obstetrical Outfit.—Dr. Henry E. Tuley described an obstetrical outfit. He said an aseptic accouchement was the great desideratum. The obstetrical outfit had been designed with several ends in view, and its contents had been chosen with regard to the true and economical needs of the accoucheur, patient, and nurses. It was packed in a hermetically sealed box after thorough sterilization, and was not to be opened until needed by the physician or nurses. Each outfit contained half a dozen lochial pads, obstetrical bed pad, five yards of sterilized gauze, half a pound of absorbent cotton, one dozen large safety pins, one dozen small safety pins, fountain syringe, nail brush, nail file, antiseptic soap, antiseptic tablets (bichloride), tube with vaseline, one ounce of Squibb's chloroform, six ounces of saturated solution of boric acid, sterilized tape for cord, cord dressing, Credé eye solution, and a pipette.

Extra-Uterine Pregnancy.—This paper was read by Dr. F. F. Bryan, of Georgetown. From being a clinical curiosity, extra-uterine pregnancy was now a fairly frequent condition, in that it occurred once in five hundred pregnancies. Surgery was the true method with which to deal with ectopic gestation in any and all of its phases.

The Midwife and Midwifery.—Dr. L. C. Wadsworth, of Newport, read this paper. The author's object in discussing this subject was not to crowd the midwife out, but to have her better qualified for the important duty she performed, and by this means to place midwifery upon a par with the other branches of medicine.

Officers.—The following officers were elected for the ensuing year: *President*, David Barrow, of Lexington; *First Vice-President*, H. K. Adamson, of Maysville; *Second Vice-President*, James B. Bullitt, of Louisville; *Treasurer*, C. W. Aitken, of Flemingsburg; *Librarian*, B. W. Smock, of Louisville.

Place of meeting, Louisville, 1899.

To Prevent Poisoning.—A safety cork has been invented with an anchor attached, which, in preventing withdrawal to a distance from the bottle, gives warning, as does also the click of the anchor within the bottle. This device should prevent self-poisoning by those who take medicines in the dark and by those who are blind, but it will scarcely save the deaf, particularly if they happen to be dumb at the same time.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 16, 1898.

George Tucker Harrison, M.D., President.

Dislocation and Fracture of Humerus; Excision.—Dr. John F. Erdmann exhibited a sailor, forty-nine years of age, who, nearly six months ago, while at sea, had fallen and injured his shoulder. He had no medical attention on board ship, and after four months came to New York and was brought to the Gouverneur Hospital with the right arm stiff and semiflexed. On March 31st, when he was first seen by Dr. Erdmann, an attempt was made, under anæsthesia, to reduce what was supposed to be a subclavicular dislocation. Failing in this, he had cut down on the anterior border of the deltoid, and exposed the head of the humerus. This revealed a fracture of the humerus in addition to the subclavicular dislocation. He excised the head of the bone, at a point about one inch below the anatomical neck. Primary union occurred throughout, and at the end of the third week passive motions were begun. About a week later there was considerable induration about the shoulder, and a small quantity of pus was discharged for a few days. Since that time the motion of the arm had steadily improved. Dr. Erdmann said he had presented a similar case to the association some time ago, in which he had removed half of the glenoid fossa and all of the head of the humerus, down to the surgical neck.

Extra-Uterine Pregnancy and Ovarian Cyst; Differential Diagnosis.—Dr. J. J. E. Maher presented specimens from such a case. They were removed from a woman, twenty-four years of age, who came to the clinic complaining of pain on the right side and bleeding from the vagina. Examination showed the uterus to be slightly enlarged. She thought she was pregnant about two months. On the right side of the uterus was an elastic swelling. She stated that she had miscarried last January, and that since that time there had been a bloody discharge from the vagina. For the last two months she had had morning sickness. For five years past she had had more or less dragging pain in the pelvis. At the operation it was found that there were an ovarian cyst and also an extra-uterine gestation on the right side, which had ruptured into the folds of the broad ligament.

Apparatus for Urethral and Intravesical Irrigation.—Dr. C. H. Chetwood, in presenting an apparatus of this kind, stated that according to his experience the permanganate-of-potassium irrigation was a very desirable method of treatment, but was liable to lead to unpleasant results unless the details were carried out with great care. It was unwise to attempt to overcome the resistance of the cut-off muscle by the pressure of the fluid in cases of acute urethritis. The urethra should be irrigated in sections, from without inward. The ordinary blunt-nozzled syringe was objectionable because of the necessity for withdrawing the instrument each time to fill the syringe. The distinctive features of the new apparatus were the set of nozzles and the alternating cutoff. The nozzle, he said, was made of glass, and somewhat resembled the well-known Kiefer nozzle. The alternating cutoff, as its name implied, was designed to close alternately the inflow and outflow tubes. It was so constructed as to be readily taken apart and sterilized. A height of about four feet was sufficient to wash out the meatus and one or two inches of the canal, and a minimum of five to five feet and a half would answer for the deeper portions.

Dr. Ferd. C. Valentine said that Goldberg, after collecting the results of all writers, whether favorable or adverse to the irrigation method of treating gonor-

rhœa, had found that sixty per cent. of cases of gonorrhœa were cured within ten days, thirty per cent. in fifteen days, and five per cent. after a longer time, depending upon the unruliness of the patient chiefly. By this method only five per cent. were failures. The apparatus just presented was certainly very ingenious, but had the disadvantage of requiring the use of both hands. Dr. Valentine said that it was his practice to keep the irrigator always at the same height, depending upon the stopcock for the desired variations of pressure. He considered it desirable to have the patient seated in a chair rather than standing, not only because it was easier in this position to wash out the bladder, but because some patients showed a tendency to faint during the irrigation. He then demonstrated his method and improved apparatus.

Dr. Robert Newman exhibited and described an arrangement which he employed for irrigation. It consisted, he said, of a long rubber tube arranged as a siphon, with a rubber syringe bulb attached. Any form of nozzle or cutoff could be attached to this siphon. In a few patients great difficulty would be experienced in irrigating the bladder, because of spasmodic action of the muscles. Under such circumstances, by pressure on the rubber bulb in the middle of the tubing, the fluid could readily be made to enter the bladder—far more easily than with the gravity apparatus exhibited by the two preceding gentlemen.

Dr. Chetwood said that his apparatus was intended to emphasize the advantage of irrigating the urethra thoroughly without uncoupling it or removing the nozzle. Undoubtedly the bladder and urethra could be thoroughly irrigated with the simplest appliances.

Notes on the Therapeutic Uses of the Suprarenal Gland.—Dr. W. H. Bates said he had been using an aqueous extract of the suprarenal gland for the past four years in diseases of the eye, ear, nose, and throat, and with very satisfactory results, but as he did not have the opportunity of employing it in general diseases extensively he presented the subject to his fellow-practitioners. It was essential to remember that the active principle of the gland was incompatible with preservatives, and was destroyed by heat; consequently it must be prepared freshly each time. This could easily be done by mixing ten grains of the dried gland with two ounces of water, and filtering. It was the most powerful astringent known. When a drop of a one-per-cent. solution was instilled into the eye, the conjunctiva and lid were blanched in forty seconds. This observation had been first made by him. The extract had no anæsthetic or antiseptic properties. It would whiten the granulations found in many cases of chronic suppurative otitis. If the use of the suprarenal extract improved the hearing in a doubtful case of deafness, it was evident that the condition was of inflammatory origin. It lessened the congestion of an inflamed eye sufficiently to admit of cocaine anæsthesia. As the extract and cocaine were incompatible, they should be used alternately. In strictures of the nasal duct, it would sometimes be found that instillation of the extract into the punctum exerted such a marked astringent action as to lessen the swelling of the parts and open up the passage. Other observers had found the suprarenal extract a tonic of the heart muscle, and capable of increasing decidedly the number of red blood corpuscles. Its action on the heart was much more powerful than that of digitalis or ergot. It had also been used in the unusually severe and inveterate forms of trachoma met with in the City Hospital, and had acted admirably. The best method of administering this remedy was to place a few drops of the aqueous extract on the tongue.

Dr. Jacob S. Peterson said that he had found the suprarenal extract an excellent heart tonic. Great care should be exercised in using it hypodermically, as the injections were liable to give rise to abscesses. In cases of heart disease in which he had employed it subcutaneously, he had found that the flabby heart had been toned up and an attack of angina pectoris quickly dissipated.

Dr. Bates remarked that the hypodermic use of the remedy was quite painful, and, in spite of aseptic precautions, it seemed to be specially liable to set up abscesses.

Notes on Practical Pharmaceutico-Therapeutics and New Surgical Instruments.—Dr. S. F. Brothers, under this head, described a combination of water motor and storage battery which he had found exceedingly convenient and economical for physicians' use. The chief object of his paper, however, was to enter a plea for a more general use of such active principles of drugs as the alkaloids, instead of the crude drugs themselves, and also for greater uniformity and accuracy in pharmaceutical preparations generally. For instance, he advocated the use of a series of solutions and triturations, in the proportion of 1 to 100 of glycerinated water and sugar of milk respectively. He also urged the adoption as flavoring agents of a full line of glycerinated syrups.

After some general remarks by Drs. Manley, Zwisohn, and L. Fischer, the association went into executive session.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, April 28, 1898.

Edwin B. Cragin, M.D., Chairman.

Sarcoma of the Ovaries with Absence of Uterus and Vagina.—Dr. Louis J. Ladinski reported the following case. The patient, a woman of twenty-six, was of good muscular development and physique. Her sister had an infantile and retroverted uterus. The vulva of his patient was very poorly developed. The vestibule was covered with a white, glistening membrane. By recto-abdominal palpation a mass was found filling the pelvis. It was fairly movable and felt quite solid. On January 14th the woman was operated upon with the idea of making an artificial vagina. An exploration was made through an opening into the peritoneal cavity, and it was decided to operate by the abdominal route at another time, as the patient's condition was not good. Subsequently the tumor was removed by laparotomy. The larger mass measured six inches in its longest diameter, and was attached by a broad and thin pedicle to the right iliac fossa. On the left side there was a small, irregular mass attached to the upper border of the broad ligament. On exploration of the pelvis after the removal of the tumor, no trace of uterus or appendages could be found. An examination of the tumor was made by Dr. William Vissman. The larger mass was stated in his report to measure six by four by three inches. It was of yellowish-gray color, and the capsule could be easily removed. Microscopical examination showed one mass to be a sarcoma, and the other a carcinoma. Apparently the larger mass originated from the tissue of the undeveloped ovary. The speaker said that he looked upon the case as an undoubted one of complete absence of the vagina and uterus. Strangely enough, in spite of the absence of the vagina the husband of this woman stated that he had not been aware of anything unusual about the genital organs of his wife, and that sexual intercourse with her had been carried on. Dr. Ladinski said he had been unable to find any recorded case in which complete absence of the vagina, uterus, and tubes was associated with sarcoma and carcinoma of the ovary.

Dr. William Vissman exhibited under the microscope specimens from each of the tumors.

Dr. H. J. Boldt said that he had never met with carcinoma and sarcoma in the same individual. Undoubtedly one of the specimens under the microscope was a fibro-sarcoma, but the one presented as carcinoma strongly impressed him as a specimen of alveolar sarcoma.

Dr. Henry J. Garrigues expressed the same opinion regarding these growths. He said a diagnosis of complete absence of the uterus and appendages was useless if made only by palpation. In most of the supposed cases of this kind there was a very small rudimentary uterus. He had examined the patient from which these tumors under consideration had been removed, and had found that the artificial vagina had now a depth represented by the length of the two distal phalanges of the index finger. He had had one case in which, on digital examination, the finger had passed into the bladder. Inquiry showed that the urethra had been used for sexual intercourse in the absence of the vagina. In the case just presented, such a condition was not present.

Dr. Vissman said that fibro-sarcoma was one variety belonging to the spindle-cell group. In both of the tumors presented the stroma showed distinctly that they were made up of spindle cells. Sarcomata, he said, were not organized tumors; they contained tissues originating from the mesoblast. As to the diagnosis, it was more a matter of classification than of any radical difference of opinion regarding the nature of the growths.

Immersion Stand for Hands and Arms.—Dr. Philander A. Harris presented photographs of a convenient form of immersion stand for use in disinfecting the hands and arms in hospital practice. The glass jar being deep and narrow, very little fluid was needed, and the flange at the top prevented soiling of the floor and clothes. As the base of the stand was made of a heavy iron ring, there were no projecting legs; the stand was not easily overturned, and it could be readily moved from place to place by a touch of the foot.

New Operating-Table with Warming Device.—Dr. Harris also exhibited diagrams and photographs illustrating a new operating-table in use at the new Passaic Hospital. The body of the table he described as being a metallic chamber containing a coil of metal pipe, which might be connected by rubber tubing with the hot-water faucet and with the waste-pipe. A rubber diaphragm in the bottom of the chamber acted as a safety-valve. The table was supported on a triangular metal base, and the distance from the apex of this triangle to the point at which the foot piece was attached was only eighteen inches. As a result of this construction, the level of the pelvis was not materially changed in the different positions of the table. By means of a system of screws and gears the etherizer was enabled to raise or lower the table by simply turning a winch.

Dry Labor.—Dr. George L. Brodhead read this paper (see page 685)

Termination Usually Favorable.—Dr. Charles Jewett said that there could be no question regarding the theoretical dangers of dry labor, yet as a clinical fact the majority of these cases in his experience had terminated normally. He was sorry that more statistical evidence on this question had not been presented in the paper. The dangers seemed to him to depend a great deal upon the prolongation of the labor and the tetanic contractions of the uterus. He was not in favor of repeated douching. If used as a routine practice it must wash away the normal secretions, which could not be supplanted by anything better. If the normal secretions were deficient the condition would be relieved by the use of lysol, and immediate operative interference would be demanded. It seemed to him better to complete an operative delivery at one short sitting rather than to effect delivery by several stages or operations. He was not disposed to think that the child suffered as much from the pressure in dry labor as might be supposed from the statements made in the paper. Of course, it would suffer if the contractions of the uterus became tetanic. Cerebral hemorrhage had been, in his experience, a prominent cause of fœtal deaths, not only in this class of cases, but in others. The danger to the mother was chiefly that of sepsis, and yet, as the septic matter gained entrance only to the amniotic sac, there was no particular reason why infection should occur. The greater risk of sepsis was due rather to the damage that was likely to be done to the tissues in a severe and prolonged labor. These dangers could be largely obviated by the accoucheur standing ready to interfere as seemed to be demanded.

The Danger a Real One.—Dr. Ervin A. Tucker thought the question was one of very great importance, and that probably all present had lost children by not fully appreciating the gravity of dry labor. If only one child in one hundred or five hundred could be saved by due attention to certain points, it was still worthy of serious attention. Most general practitioners looked upon early rupture of the membranes as a trivial affair, and as rather fortunate, as it was apt to hasten the labor. In these cases, however, it might very properly be considered that the child was in the second stage during the whole labor—in other words, that the child was subjected to many hours of strong pressure.

A Common Cause of Dry Labor.—He felt sure that in many of the cases the cause of early rupture was to be found in chronic gonorrhœa or in the presence of some acrid discharge at the cervix. Under such circumstances the membranes became eroded and ruptured prematurely.

The Gauze Tampon.—Much could be done to save the cervix in dry labors by holding back the water so as to form a wedge. This could be accomplished by tightly tamponing the vagina. He had used this procedure in a number of cases during the past year, and with very pleasing results. The method was, after all, the familiar one so successfully used in abortions.

Enormous Doses of Strychnine Tolerated.—He had found strychnine extremely valuable to stimulate the contractions of the uterus in labor; he had given as much as one-thirtieth of a grain every half-hour for twenty or thirty doses without any symptoms of poisoning. After the second stage had been reached, he was in the habit of not waiting long in those cases in which meconium appeared and the fœtal heart changed its rate very decidedly. Even if the patient had only just entered the second stage, under such circumstances he would feel like slipping on the forceps and hastening labor.

Premature and Immature Rupture.—Dr. Albert H. Ely said there was a practical advantage in adopting Winckel's classification of these cases of early rupture of the membranes; *i.e.*, (1) premature, or those in which the rupture occurred before labor had really begun; and (2) immature, or those in which the rupture occurred before complete dilatation. In the first class the physician should be guided by the fœtal heart, the maternal pulse, and the maternal temperature in both the first and second stages. The textbooks had too often given a wrong impression by advising chloral and opium in dry labor. It seemed to him that stimulation was indicated, yet he did not favor the repeated douching recommended by the reader of the paper. If interference was indicated, it should be completed at one operation.

Caused by Deficient Cervical Dilatation. — Dr. Garrigues said he was rather surprised at the statement in the paper, that dry labor had been observed in fifteen per cent. of the cases at the Sloane Maternity Hospital. His own practice had led him to believe that it was much less frequent. In his opinion, the most common cause of dry labor was deficient dilatation of the cervix, and in nearly all cases in which the cervix did not dilate normally there was a disproportion between the fœtal and maternal parts.

Vaginal Douches.—Frequent warm douches of lysol or of creolin had the effect of making the tissues slippery; bichloride of mercury, on the other hand, had just the opposite effect, and was besides a dangerous drug for use in the vagina or uterus.

Chloral and Antipyrin Useful. — He had never made use of quinine or strychnine in obstetric practice, and did not feel inclined to try them, for the reason that when the cervix did not dilate properly he saw no reason for using remedies which stimulated uterine contraction. But he did employ such drugs as chloral and antipyrin, particularly the latter. The chloral should be given in doses of fifteen grains every half-hour; the antipyrin in doses of ten grains every hour. Not infrequently direct dilatation of the cervix by the Barnes bags or by the manual method would be required, and probably delivery by forceps or version.

Dry Labor often Indicates a Posterior Position. —Dr. Henry C. Coe said that he had found dry labor rather infrequent in private practice. Rupture of the membranes before the beginning of labor did not cause him any alarm, unless he recognized a disproportion between the maternal and fœtal parts, or an occipito-posterior position. Indeed, he had come to look upon it as an indication that such a position was probably present.

Morphine often Useful.—In many cases in which the cervix was quite rigid it seemed to him that the very best results were obtained by the hypodermic injection of morphine. He would not lay down any fixed rule, however, regarding the use of opium. If the progress was steady, though possibly very slow, and the mother and child continued in good condition, he would not feel called upon to interfere.

Another Etiological Factor.—Dr. J. Milton Mabbott said that many seemed to forget that the uterus underwent contraction at short intervals during the latter part of pregnancy. He looked upon this as a system of exercises of the muscular fibres to prepare the uterus for labor. He believed that these contractions sometimes became excessive during sleep, and by causing pressure in the region of the cervix produced rupture of the membranes, especially if the latter were thin or eroded. In his opinion, bichloride was a safe antiseptic for use after delivery.

Sceptical about the Gauze Tampons. — He was surprised to learn that the vagina could be tamponed sufficiently tightly to retain the liquor amnii and so favor dilatation of the cervix. He had always looked upon a gauze tampon as a drain, and he felt somewhat doubtful about the efficiency of such an expedient. It was somewhat different in the case of an abortion, for there the coagulation of the escaping blood tended to obstruct the flow.

Prefers the Hand or the Barnes Bags.—It seemed reasonable to suppose that much more effective dilatation could be secured by the manual method or by that almost forgotten instrument, the Barnes bag. The action of the latter was an excellent imitation of the action of the bag of waters, and it would retain the liquor amnii for a considerable time. It was also a useful device when the physician desired to leave the patient for a time.

Significance of the Umbilical Souffle.—Dr. Simon Marx thought all were agreed that premature rupture of the membranes was a pathological condition, and yet in the majority of cases the termination was favorable to both mother and child, if the accoucheur carefully watched them. Neither the rapidity nor the diminution of the number of the fœtal heart beats was so characteristic of danger as the presence of an umbilical souffle. He was surprised that the reader of the paper had made no mention of malposition of the occiput and relative or absolute pelvic contraction as etiological factors in premature rupture of the membranes. When there was an occipito-posterior position the treatment should be early version, preceded by manual dilatation of the os. So long as there were no symptoms indicative of danger to mother or child, he saw no reason for interference of any kind —even the administration of drugs and douches, as advised in the paper.

Action of Quinine and Strychnine on the Uterus. —He had used quinine a great deal, and had come to the conclusion that it did not affect the non-acting uterus. In large doses it would give a typical relaxation and contraction, in sharp contrast to the action of ergot, but it did not act on the quiescent uterus. At one time he had tried the experiment of administering quinine to a number of pregnant women in hospital for three weeks prior to confinement, and had found that their labors had been more difficult and prolonged than in the case of the other women who had received no such medication.

Favors Manual Dilatation.—If he had understood correctly, the gauze tampon was to be used as a cervical packing, which would materially soften and dilate the cervix, on the principle of the Barnes bag. Just as soon as there were symptoms of danger to either mother or child the interference should be prompt, and hence he favored manual dilatation.

Tartar Emetic Aids Cervical Dilatation.—Dr. P. A. Harris recommended tartar emetic in frequent and small doses up to the production of emesis, in cases in which the cervix did not readily dilate. This practice was based on a very large experience of a medical friend, and on a smaller but favorable personal experience.

Dr. Brodhead closed the discussion. He said that he had treated cases of dry labor both with and without douches, and had obtained better results in the cases in which he had used the douches. They must be given carefully by the physician himself. He had seen so many children born asphyxiated after a dry labor that he felt the danger to the child must be much greater than in normal labor. In his experience there had not been a preponderance of occipito-posterior positions. If the occiput was posterior, he would not interfere unless there was an indication for such action, as many such cases terminate satisfactorily without any assistance from the obstetrician, and if it was required a low forceps would usually be sufficient. When the labor had lasted for a considerable time, he would be very careful about using chloral and opium.

Detection of Spermatic Fluid.—Dr. Lecco (*Therapeutische Monatshefte*, October, 1897) claims that even after the lapse of several years spots of spermatic fluid are easily recognized. The following sensitive test is employed: Soak the spot in water, and introduce a drop of the solution between the microscopic slide and the cover glass; a drop of a saturated solution of iodine in iodide of potassium is now allowed to flow under the cover glass. A number of remarkably beautiful crystals, characteristic of spermatic fluid, will form; they are rhomboidal in form, often occurring in the form of crosses, and are of a brownish color. The same reaction was independently discovered by Florence at the same time.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ARMY SURGEONS—PROMISED REDRESS OF GRIEVANCES—A ROYAL MEDICAL CORPS—THE MIDWIVES BILL—THE COLLEGES—ALBUMOSE SPONTANEOUSLY PRECIPITATED IN URINE—COLLEGE OF SURGEONS TAXATION—PROSECUTION OF PRACTITIONERS—DEATHS OF SAMUEL GORDON, ETC.

London, May 6, 1898.

This has been an important week from a medico-political point of view. On Wednesday the lord mayor entertained a large number of medical men at a Mansion House banquet. Lord Lansdowne, secretary of state for war, was present, and explained the new scheme for meeting "the long-standing grievances," as he expressed it, of the army medical service. "We are determined," he said, "that there shall be no failure in theory or practice to treat them with the respect to which they are entitled. We propose to make a fresh start, and to form, out of the army medical staff and the medical-staff corps, a corps the officers of which will bear the same military titles as other officers of the army—always, of course, upon the understanding that those titles do not confer upon them any right to command outside it. We propose to give them those titles up to the rank of colonel." His lordship said he could not go beyond this, as the present policy is to restrict as much as possible the title of general, and to insist that no one shall rise to that rank unless he is required to fill one of a limited number of appointments, all of which involve general command in the army and fitness on occasion to command troops in the field. No departmental officers will under this system reach the rank of general officer. This will be a disappointment to many. Some of our colleges had protested against the limitation when it was rumored that the Horse Guards were endeavoring to impose it, and not a few will regret that Lord Lansdowne, who had insisted on the reform thus far, did not refuse to listen to the jealousy which has so long disgraced the military element. Lord Russell, in a previous speech, had significantly remarked that members of the medical profession held more Victoria crosses in proportion to their numbers than any other department. The dangers they incur and the devotion they exhibit are well known to the public, and the military officers who continue to dub them "non-combatants," or their V. C.'s "brave civilians," will soon experience the contempt of all reasonable men.

The war minister further stated that the title of surgeon-general is to be retained, with the rank and precedence of a general officer in the army, and perhaps this may be accepted for rank above that of colonel as satisfactory. At any rate, Sir William MacCormack, who spoke subsequently and who knows much of military matters, said the medical service owed a debt of gratitude to the minister, who, "in spite of strenuous opposition, was conceding all that the department desired."

The Queen has sanctioned the prefix royal to the new corps.

The Duke of Devonshire received a deputation on Monday of those who are so obstinately trying to force forward the "midwives registration bill." His Grace administered a cold douche, which it is to be hoped may awaken the deputants and nerve them to a better course. He told them there were no strong public feeling in favor of the bill and very little chance that it would be proceeded with; that their efforts should be directed to a future measure rather than to the present one. He flatly refused government support unless they accepted unreservedly the proposals of the General Medical Council. The council has certainly scored one in this matter.

Mrs. Garrett Anderson has definitely pronounced against the bill, in an effective letter in *The Times*. Her position as the leader of the medical women gives great importance to her views on this question, and it is refreshing to read her protest against enrolling the "Gamps" as qualified practitioners. She says the bill will not protect the poor, but will rather render it more difficult for them to obtain the services of capable midwives, while it would have a detrimental effect on the position of those women who have gone to the expense and trouble of qualifying as medical practitioners. If registered at all, Mrs. Anderson would compel midwives to act as monthly nurses. It is not easy to see how this is to be accomplished, but it would be no difficult matter to refuse all recognition to midwives and let the few there are die out, retaining the services of monthly nurses and restricting the practice of midwifery to fully qualified men and women.

The College of Physicians has appointed its usual annual dozen of fellows, and the usual amount of disappointment and vexation will be felt. I have no objection to offer to any of the new fellows as individuals, but the present system of election can never give satisfaction. Men who have done good work, taught in the schools, and maintained the honor of the profession, but refuse to cringe to the ruling clique or to canvass or dine the powerful few, are systematically passed over year after year, as if they were unworthy of the seniority they have attained.

The council of the College of Surgeons has replied to the memorial as to the franchise for the Medical Council, that it sees no reason to alter the mode of election which has lasted forty years. Some day the council will have to admit that usurpation for forty years is no justification for wrong.

Dr. Bradshaw, of Liverpool, read a paper before the Medico-Chirurgical Society, on a case in which albumose was spontaneously precipitated in the urine two or three times a week. The urine was clear in the intermediate periods, but even then contained a proteid which gave the reactions of an albumose and appeared to be the same body as that precipitated in the turbid specimens. Dr. Bradshaw suggested that the precipitation was perhaps caused by variations in the other constituents of the urine. He had found five cases recorded which resembled this in some respects, but he thought his own unique in that the albumose was precipitated in the urinary passages. In some cases disease of bones or bone marrow had been present, and in his own there were kyphosis and immobility of the lower vertebræ, but the nature of the bone affection was not evident.

The president, Mr. Bryant, thought the photographs suggested the possibility of osteitis deformans.

Dr. Sidney Martin had seen a somewhat similar case, and said he did not lay much stress on the variety of albumose found. In cases associated with new growth the rapid degeneration of the cells gave rise to the formation of proteids which could not be utilized and were therefore excreted. An albumose similar to that seen in such cases could be formed by boiling splenic extract with caustic potash.

Dr. H. D. Rolleston remarked that fifteen months ago Chataigne described cases in which the blood serum was lactescent and there was degeneration of the renal epithelium.

Dr. Bradshaw, in his reply, said there had been no sign of osteitis deformans, and it had been suggested to him that the spinal change might be senile. It was only of late years that it had been recognized that many cases of fragilitas ossium were in reality multi-

ple sarcoma of bones. To this category he would provisionally refer his case.

The College of Surgeons has been worsted in an attempt to escape from taxation on the ground that it is an institution for promoting education, literature, and science. The judge ruled that, though the college may have been at its origin principally for the promotion of science, at the present day it is granting diplomas for fees and its main object is not the promotion of science. On this part of its income, therefore, it must pay. Of course, the Hunterian Museum is exempt.

A "Dr." Leibster, who called himself M.D. of Philadelphia and medical officer of the National Medical Aid Society, but is not registered, was brought before a magistrate for holding himself out as qualified. The magistrate did not convict, and an appeal is to be made.

Much disapprobation is being expressed with the Medical Council for prosecuting a qualified and registered practitioner, holding the diploma of L.S.A., for calling himself "physician and surgeon." The L.S.A. is recognized as a full qualification in medicine, surgery, and midwifery, as the Apothecaries' Society, which grants the license, examines in all departments. The poor law and other services acknowledge it as such. The society will, of course, defend its licentiate. The council's advisers have not been successful in other actions, and in this every one I have talked with about it hopes they will again fail. With hosts of unregistered quacks preying on the profession, it is monstrous for the council to find the lawyers nothing to do except to prosecute registered men on flimsy pretences.

Dr. Samuel Gordon, of Dublin, died on Friday, aged eighty-two. He had an attack of influenza, and pneumonia ensued. No physician in Ireland was better known or more highly esteemed by his brethren. He took his M.B. Dub. in 1844, and was made M.D. *honoris causa* in 1877. He was three times president of the Royal College of Physicians of Ireland, and received numerous other honors from his compeers. He filled at various times most of the public offices open to a physician in Dublin, and in all secured the confidence and respect of every one with whom he came in contact—a great record of a career of sixty years of honorable work for the good of others.

Dr. Wall, a retired Indian officer, took his life by stabbing himself in the heart with a penknife during temporary insanity. He had a distinguished career in India, particularly working on cholera and snake bites. He was M.D. of the London University, and F.R.C.S. Eng. He had lately had hallucinations.

The death is announced of Surgeon-General James Irving, late of the Bengal army, aged seventy-five.

A LIVER WITH SIXTEEN LOBES.

To the Editor of the Medical Record.

Sir: I fail to see anything remarkable in the case described by Dr. Moses, in the Medical Record for May 7th. The cuts show an appearance more like a syphilitic liver with contractions than a liver with accessory lobes.

While it is true that in man the liver normally consists of five lobes, a typical mammalian liver has six lobes, a Spigelian and caudate as in man. In addition, the broad ligament divides the liver into two parts, right and left, each of which is subdivided into a central and lateral lobe. Some of the lower animals, *e.g.*, the camel and seal, have numerous lobes to their livers; so, even if Dr. Moser's case is one of genuine accessory lobes, it is merely an example of atavism, as in "supernumerary" spleens.

George W. Smith, M.D.

Chicago, Ill.

A CASE OF HALLUCINATION.

To the Editor of the Medical Record.

Sir: The case of hallucination related by Dr. T. J. Hutton, in the Medical Record of May 7th, is susceptible of a different explanation. The man said "that the moment he lay down in bed at night a woman dressed in black came in through his bedroom window, lay down on his bed, and kept up a conversation with him until he fell asleep, which did not occur until far into the night."

The images made on the sensory areas of the brain are permanent, and extraordinary stimulation of special sense centres, as the visual and auditory, for example, will sometimes revive the impressions of things once seen and heard, as distinctly as though the original causes were present in reality. The man saw and heard the woman, although she was absent, because his intense thoughts of her resuscitated the images of her looks and words to such a degree that they were equal to those made by her real presence. The mind can either create original images in the brain or revive those already made, with such vividness as to cause the individual affected to believe that there is an external object present exciting his senses.

Many pictures are laid away in the camera obscura of the brain, ready to be developed.

Hallucinations are the result of disordered or diseased brain centres rather than of pathological conditions of nerve fibres. The administration of potassium iodide is often a rational treatment.

G. W. Drake, M.D.

Hollins, Va.

Medical Items.

The Relation of Typhoid Mortality and Sewerage.—Typhoid fever is the sanitary index of a city. The mortality has everywhere declined with improvements in the sanitary conditions. Mr. J. W. Hill, an engineer, has recently tabulated the statistics of sixty-five cities with reference to the death rate from typhoid fever during the five years 1890–94 inclusive, and has grouped them into seven classes. I am sorry to say that Class I., comprising thirteen cities which have a death rate from typhoid fever under ten per one hundred thousand living, contains no American city. On the other hand, in Class VII., which comprises thirteen cities with a death rate from typhoid fever over sixty per one hundred thousand inhabitants, all are in this country, except Milan, Cairo, and Alexandria. The lesson of several of the European cities is worth reading. I can take time to refer only to Munich. The mortality per one hundred thousand of inhabitants in that city in 1857 was two hundred and ninety-one, and kept at a high rate until about 1865, when there was an improvement in the water supply, with a reduction of almost fifty per cent. in the number of cases of typhoid fever. After the introduction of the new system of drainage the mortality was still further reduced, and in 1887 it was only ten per one hundred thousand of the inhabitants.—William Osler, *Maryland Medical Journal*, January, 1898.

Position in Repose.—In the *London Illustrated News* a discussion has been going on as to the position of one's arms when in bed and as to the most healthy mode of lying when at rest. Dr. Andrew Wilson says that one correspondent advocates crossing the arms over the chest as an easy and natural posture; but such a position implies lying on one's back, and this is precisely the mode of repose which in the case of many persons is impossible, associated as it is with the discomforts of dreaming. The more one thinks of

it, the greater appears the probability that the arms have yet to be adjusted to the ordinary conditions of human repose—that is, if questions of comfort and adaptation have to be considered. Another person raises the question of "the proper side to sleep on." Dr. Wilson remarks: "I am afraid this latter point is strictly relative to the individual, but I fancy the majority of us incline to repose on the right side, possibly by reason of the general right-sided tendency which a human body illustrates in its ordinary working life. Our right-sidedness means the greater activity of the left brain hemisphere; in other words, we are left-brained and right-handed. It may be well if there does exist a tendency toward repose on the right side in preference to the left; the left brain half may exercise its functions here as in other matters determining the superiority of the right hand. One point mooted by a correspondent has reference to the effect which lying on the right side may be supposed to exert on the liver and digestive system at large. I am not aware that in sleep we have to take into account the affairs and interests of that apparatus, save perhaps when we indulge in late and heavy suppers and thereby produce disturbance of our hours of repose. But as the liver lies on the right side of the stomach, and as the intestine also proceeds from the stomach on the right, it is just possible such digestive action as may be carried on in sleep might be assisted by repose on that side. Animals sleep in all sorts of positions, of course, and the often apparently uncomfortable postures in which dogs and cats may be seen sleeping soundly must excite our surprise. The cat especially, by curling herself together, has learned to conserve heat in a very efficient fashion; and I have heard it suggested that feline sleep is almost a kind of asphyxia, because of the manner in which puss buries her nose and mouth in her fur and despises free ventilation and oxygen. I suspect in the case of such animals the question of heat is always foremost, and that of air becomes a secondary matter entirely."

Baldness in Women.—Women do not turn bald more frequently than men, in spite of certain modes of coiffure which more or less spoil the hair, and in spite of certain special physiological circumstances, such as pregnancy and childbirth, which tend to cause loss of hair. In female criminals baldness is less common than among the normal class.

Precautions against Malaria.—Mr. William T. Hornaday says: "After living in the most malarious jungles on earth, in the midst of miasmatic swamps, drinking swamp water, and often having to eat unaccustomed and badly cooked food, I never had but one touch of jungle fever, and that only laid me up for six or seven days. I owe my excellent health to two or three precautions. I never slept on the bare ground or in the rain, and always under shelter. I always wore light flannels next to the skin, and never slept in damp clothes. Whatever else I might have to do without, two changes of flannel underwear besides that I had on were always at hand. Take from five to six grains of quinine every morning in a cup of hot coffee, if you have it; if not, then in hot water. Have your shoes to fit you, even if you must buy them yourself, though the United States is furnishing its troops with an excellent marching-shoe. With these precautions and a dose of some light laxative once a week, there need be no more fear of fever in Cuba than there is in Missouri."

Roman Fever.—The superstition that Rome is an unhealthy place to live in is discussed by Mr. W. I. Stillman, in "Old Rome and New." Mr. Stillman has lived in Rome so many years that his judgment on this subject may be accepted as of great value. He states that the superstition as to the sanitary condition of Rome runs back into the dark ages, but is unjustified by any statistics. He says that in a residence of nearly a dozen years in the aggregate, and extending over a period of thirty years, he has never had a serious illness or a case of typhoid or malaria in his family, nor among his acquaintances has he ever known one-half dozen cases of intermittent or malarial fever, and not one of any gravity. He has repeatedly stayed in Rome during the entire summer, without any discomfort or inconvenience. He has never met with a case of so-called pernicious fever, and Dr. Drummond, who has practised in Rome for years, says he never saw a case. The statistics of the Italian sanitary department are drawn with the greatest care and exactitude, and the record of deaths from malarial fever for the commune of Rome, including the Campagna and all of the malarial districts, showed a total of only three hundred and eight out of a population of five hundred thousand, and this enumeration includes peasants who spend their lives in the marshy and fever-infected districts. Mr. Stillman says he has travelled in the worst parts of the Maremma, which are regarded as the most deadly and malarial in Italy, as late as the latter part of June, and he found the harvesters at work in gangs; and at Grosetto, the capital of Maremma, which the guidebooks tell is abandoned by the inhabitants on the 1st of May, he found the entire population on the ramparts listening to the band until late in the evening. Typhoid is common in all great cities, but in Rome less so than in most cities of its size. The water supply of Rome is probably the best as to its purity and the most abundant in quantity of any furnished to great cities. Typhoid very rarely occurs among the inhabitants of the better class, except from drinking water at some wayside spring. The sanitary laws are inflexible, and the tenant of a neglected house has always the remedy in his own hands. Mr. Stillman says: "I have no hesitation in saying a person in moderate circumstances, able to choose his quarters, can pass the months between September and July in Rome under as favorable conditions of health and comfort as in any city of Europe; and, with less precautions against the heat than in New York one must take against the cold, he may pass the entire year."

Health Reports.—The following statistics concerning smallpox, cholera, yellow fever, and plague, have been received in the office of the Supervising Surgeon-General of the Marine Hospital Service during the week ending May 21, 1898.

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Birmingham	May 1st to 13th	15	
Letohatchie	May 13th	50	
Mobile	May 6th to 13th	10	
Port Deposit	May [illegible]	1	
Dist. of Columbia, Washington	May 1st to 7th	1	
Illinois, Chicago	May 1st to 7th	1	
Louisiana, New Orleans	May 7th to 14th	1	
New Jersey, Orange	May 7th to 14th	1	
Wisconsin, Milwaukee	May 12th to 9th	1	

SMALL-POX—FOREIGN.

Bohemia, Prague	April 16th to 30th	10	
Brazil, Ceara	March 1st to April 30th	..	10
England, New Castle-on-Tyne	April 23d to 30th	2	
India, Bombay	April 6th to 19th	..	5
Calcutta	March 26th to April 9th	..	4
Madras	April 2d to 15th	..	15
Norway, Christiania	April 23d to 30th	1	
Russia, Moscow	April 6th to 23d	13	3
Odessa	April 16th to 23d	6	
St Petersburg	April 9th to 16th	28	3
Warsaw	April 16th to 23d	..	10

CHOLERA.

India, Bombay	April 6th to 19th	..	8
Calcutta	March 26th to April 9th	..	80
Osaka and Hiogo	April 2d to 16th	1	
Madras	April 2d to 15th	..	3
Singapore	March 1st to 31st	..	1

YELLOW FEVER.

Brazil, Rio de Janeiro	March 26th to April 8th	158	141

PLAGUE.

China, Canton	March 22d to April 5th	..	10
Hong Kong	March 22d to April 5th	78	50
India, Bombay	April 6th to 19th	..	1,103

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Original Articles.

A BELIEF THAT SO-CALLED DISPLACEMENTS OF THE UTERUS ARE NOT PATHOLOGICAL.[1]

By FREDERICK PORTER HAMMOND, M.D.,
NEW YORK.

In that branch of medical literature dealing with the female pelvic viscera no theme has occasioned wider discussion than that having to do with the normal position of the uterus. It is not the purpose of this paper to enter upon the general discussion of a subject which has been passed upon in such exhaustive review, but rather to consider in brief what is pathological when the uterus is removed from its most common position, with a view to demonstrate, as effectually as possible, what seem to me gross errors entertained by some regarding the oft-mistaken malady displacement. To those familiar with the early literature when displacement received its first authentic recognition as a pathological condition my views may seem somewhat retrogressive, but, regarded in the light of research and discussion of the last decade, I think it no exaggeration of fact to say that all authors effectually substantiate each and every conclusion at which I have arrived.

In general outline topographical anatomists concede as most proper that position of the uterus which finds it not far removed from the median axis of the pelvis, with its fundus immediately below or on a plane with the pelvic brim. It presumably lies in a position of slight anteversio-flexion, with its anterior surface slightly inclined to the right. That this is the position also which a majority of clinical observers will concede as most common I am sure few will deny; but, from its immediate bearing upon the points I now have in view, it becomes necessary to mention those judicious and painstaking observers, Braune, Lushka, Cruveilhier, Henle, and more recently Henke, who hold a contrary view, asserting that the normal position of the uterus is with its fundus lying in the hollow of the sacrum. More potent still is the observation of Fritsch,[2] that "since the womb is normally movable, we cannot speak of a definite normal position. The entire number of positions of the womb are normal in different physiological conditions of the neighboring organs." Granting that all these observations are correct, and I believe all are authentic, from my own moderate experience in the clinic room, I have no hesitancy in going upon record as an extremist in harmony with the view of Fritsch, in my assertion that any position within the pelvic cavity is correct which finds the uterus retained at its proper plane of support—is physiologically normal and not an impediment to the healthy discharge of woman's normal relations in life.

In connection with the wide discussion upon the proper position of the main generative organ has arisen an equally exhaustive and varied discussion upon direction, depth, and variability in length of the vaginal canal in its passage through the various components of the pelvic floor. That it varies widely in different cases, usually according to the inclination of the pelvic axis, is a point all will concede. The only one to which I wish to call attention and which is not so forcibly dwelt upon in the literature, is the wide variability in position of the vaginal orifice, relative to its anterior or posterior situation in different women. Our text-books usually give its position as slightly anterior or median; that cases are not infrequently seen in which it lies considerably posterior to the median line, is a fact to which attention is seldom called. This observation is important with regard to prolapsus uteri, which I shall later touch upon as justly entitled to be called the only true displacement of that organ, but it is within the observation of all to have met with many cases in which the vaginal introitus appeared so far posterior as to make the introduction and manipulations through an ordinary bivalve speculum exceedingly difficult with the patient in the dorsal decubitus.

To the chief components of the pelvic floor I must refer briefly, though their analysis in detail is unimportant for purposes of this demonstration. It is the generally accepted view now among gynæcologists that the levator ani and superficial muscles form the chief supports to sustain the pelvic floor at its proper plane. Such a view is in great degree substantiated by the evils arising from the rupture of these important structures, but likewise it follows, in view of the many other important structures constituting the pelvic floor, as illogical to disregard as less important each and every element—muscular, ligamentous, connective, or areolar and adipose tissue alike—as contributing an equal share toward abdominal support. The adipose tissue, though minimum in amount, has never received its due quota of importance as the cushion and lubricant to maintain the normal tone of this area. Perhaps a more concise and just manner to pass in brief upon the pelvic floor is to say its chief factors of support are muscular only.

Among recent writers upon uterine support proper is Mackenrodt,[1] who gives his observations after a careful study of the subject, illustrating his dissections by a series of diagrams, wherein he seems to establish the fact that the stout pelvic fascia forms the pelvic floor and keeps *in situ* the various components of the pelvic viscera. His observations seem valuable, but to my mind place too much stress upon that which other observers consider as only one of the factors of perineal support, and such a theory is lacking in that one essential feature of some necessary addendum to maintain the normal equilibrium of tone in this important area. From his deductions, however, I regard this as worthy of note: that instead of the genital outlets simply passing through slits in the fascia, there are deep ligamentous bands slipping into the upper margin of the vagina and cervix uteri, and it is these which retain the uterus and vagina in their respective positions. It seems to me this is a safe and logical deduction to explain how it is that the cervix uteri and

[1] Read at a meeting of the New York County Medical Association, April 18, 1898.

[2] "American System of Gynecology," vol. ii., p. 1,093.

[1] Archiv für Gynäkologie, vol. xlviii., part 3, 1895.

vagina are able to withstand the unequal strains put upon them in parturition without a rupture of their continuity. I am unable to concede much weight to the idea that the ligaments of the uterus contribute a great share as supporting agents to keep the organ at its normal plane. The ligaments are the great elastic guy ropes to sustain it in its common relations, and likewise effect reposition after a physiological transposition, but their function goes little beyond this. Their structure does not seem to warrant a contrary belief, they being little more than peritoneal folds with a few fibres of muscular and connective tissue in their meshes, with the exception of the round ligaments, and to any of us familiar with the Alexandrian operation the very length of cord which can be drawn through the ring would indicate that the purpose of these is chiefly physiological rather than anatomical. In fact, when we begin to study the anatomy of the uterus and its attachments it seems without the range of possibility to demonstrate that any of the attachments are purely of an anatomical nature, acting as agents to support it at its normal plane. Its most extensive attachment is between the bladder and uterine wall, but here even the bladder itself is a yielding organ, and the attachment involves the vagina and urethra in such a manner that it is manifestly improper to consider its relations here as of a supporting nature. The womb of necessity, from its purpose to the animal world, is a mobile organ, resting mainly upon the pelvic floor and limited only in its normal range of physiological transposition by the surrounding walls of the cavity in which it lies.

Displacements of the uterus have occupied a wide field of importance in all writings upon diseases of the female genital organs. In the historical introduction prefacing the article upon this subject in the "American System of Gynecology," we find these words: "There are passages to be found in the writings of Hippocrates, Moschion, and Ætius, which prove that inclinations of the uterus before and behind were not unknown to the ancients. It is, however, exceedingly probable that these old authors had knowledge only of the deviations which had occurred in impregnated uteri." It is a strange coincidence to my mind that in the early discussions at the beginning of this century, when displacement asserted its first authentic claim to recognition as a pathological condition, a great many of our best authors antagonized its reception with the argument that not a single symptom attributed thereto could not be logically explained by other and more definite lesions. Thus primarily in my argument am I led to believe the outgrowth of the present proportions of the evils of displacement are but the logical sequence of the large number of specialists now occupying the field of gynæcology. Does actual displacement of the uterus—and in this I include both flexion and version—ever really occur? I might exceed the judicious bounds of my better conscience and state that which later investigation might make me wish to retract did I answer this question unconditionally in the negative, but so far as an observation of several years of practical study can reveal, and this starting with an unbiassed judgment, I can only admit, with the single exception of prolapsus, that I do not believe there is truly such a pathological condition as uncomplicated displacement of the uterus throughout all medical nomenclature worthy of a moment's consideration.

In consideration of version it is only fair to admit that extremists upon the side of displacement are very liberal in granting a proper degree of variability to the angle at which vagina and cervix may be joined. They concede as proper anything between the acute or very obtuse angle. Conceiving the size of the cavity and organs with which we have to deal, anything beyond this seems approaching the impossible. I find very little said, however, upon uncomplicated version as a pathological condition, except that it often acts as an impediment to conception. It seems to me such an argument falls at once, if we consider the manner in which conception is believed physiologically to occur. There are presumably but two ways—one in which the semen is thrown directly within the uterine cavity (retroversion), the other in which the semen remains in the posterior cul-de-sac at the vaginal vault, leaving the cervix bathed in its contents, to be borne within the uterine cavity by the waving cilia of the cervix, or the inherent property which the spermatozoa possess to find their way throughout the uterus and tubes.

About flexions no end of discussion seems to have occurred. Wherever any train of symptoms seems to have appeared with a cause in the least obscure, flexion complicated or simple has proved the haven of ignorant deception. Hart and Barbour treat of anteflexion as simply "an exaggeration of the normal condition." Skene[1] especially states that flexions are not displacements, but pathological deformities of the organ itself. Yet to the clinician painful menstruation, pelvic hyperæmia, contracted os, constipation, painful and frequent micturition, all appear in the mind of the average gynæcologist as due to some degree of flexion or flexion complicated with version. Is a single one of these symptoms more common in women with apparent flexion than in those without? I answer unqualifiedly in the negative. Primarily it is said flexion is congenital and acquired; were it proved that flexions more often were present in infantile or non-developed uteri, the argument would better stand; but it is a fact too well known by all—and all have seen many cases—that infantile uteri are the most seldom displaced of all. And why? Because the influences acting upon the developed organ are absent in the immature. Were I now to accept the theory of flexion as a pathological condition, it would be necessary to find some pathological lesion present at the point where flexion is said to occur. I have carefully perused such literature as I could obtain, without finding one particle of authentic evidence to substantiate such a supposition. In some brief articles such a fact is taken for granted by some authors, but no case is verified in which disease is present at the point of flexion and some other part of the organ is not diseased as well.

It is a fact seldom sufficiently emphasized that apparent flexions are often only a deepening or shortening of the normal portio intermedia between cervix and body, so that the touch is one of firm rigidity at the junction of these two zones. This condition we may almost say is the common rule rather than the exception in women who have followed laborious occupations and married late in life. Nothing in clinical observation is more often demonstrated to our touch than the wide degree of variation in size, contour, and flexibility of the uterine neck at this point, and how often is it borne home to us upon the other extreme of cases with a long portio intermedia, in which upon the first introduction of the finger in the vagina we seem to feel the fundus lying in a marked condition of anteflexion, when the bimanual examination reveals only the normal or in some cases an apparent retroverted position. The explanation of our first erroneous impression would appear to be found in the peculiar juxtaposition of the two opposing surfaces of the bladder, the uterus being forced over upon it, and lying upon the pubic symphysis while the subject is in the erect posture, through intra-abdominal pressure; as the recumbent posture is assumed the intra-abdominal pressure recedes, but atmospheric influence

[1] Skene's "Text Book," third edition, 1898.

is sufficient to retain the uterus and bladder in their transposed position until the manipulation of the finger and hand rearranges and alters the parts.

Of the etiology adduced by various authors, whose observation is of such a practical nature as to permit them to admit that absorption or cirrhosis does not occur at the point of flexion, the most common is that in which it is accounted for by an unequal growth or arrest of development in the uterine walls. I have endeavored to find some practical verification of this supposition in such material as I have been able to obtain, and the large number of hysterectomies performed at the present day surely affords us abundant material; but to the honest investigator pursuing his research upon these lines the fact becomes the more palpable that it is almost a rule that the contour of the uterus, instead of being an oval convexity posteriorly with plane surface anteriorly, is widely variable in almost every case of a multiparous uterus. And if the theory of unequal growth or development is to hold, it seems of primary importance that its defenders should be able to prove that a majority of uteri with unequal walls are displaced. Again, arrest of development signifies at once impairment of nutrition upon the affected wall, which must act toward degenerative changes in the endometrium, and even this as a clinical symptom I cannot find either in practice or substantiated in literature by its most radical defenders.

Two symptoms above all others seem to occupy the field of literature as pathognomonic of anteflexion—dysmenorrhœa and sterility. Both are attributed to the one cause—obstruction or stenosis at the point of flexion. It is to be noted then that the flexion occurs in the immediate vicinity of the internal os, and it is precisely at this point where stenosis occurs in a majority of all other cases without anteflexion. It would again seem only logical that if the anteflexion were the cause of stenosis no relief could come except by straightening out the anteflexion. We all know how exhaustive have been the measures devised with this object in view, even to incising the cervix up to the angle of flexion, and still relief has not come. Relief more often depends upon divulsion of the os without any other measures. But then, if the theory of flexion as a cause of stenosis does not stand, another equally important element arises for sustainers of its merits, in the necessity of proof that even a majority of women with stenosis have anteflexion, and here again proof is wanting. Nor do the advocates who believe anteflexions to be a cause of dysmenorrhœa seem able to prove that even a majority of women who suffer from such a symptom have anteflexion. I cannot do better than quote from Hart and Barbour the interesting results of Vedeler: "In 37.3 per cent. (25 out of 67)"—considerably less than one-half—"of patients with dysmenorrhœa had a well-marked anteflexion, and that 33.3 per cent (46 out of 138)"—only a slightly greater difference—"of patients without dysmenorrhœa also had well-marked anteflexion;" but even with this how common Vedeler considers anteflexion and anteversion I quote from another place.[1] "Among 3,102 women examined by him he found 66 per cent. affected with anteversions and anteflexions, and only 15 per cent. in whom normal positions could be demonstrated." And yet he gives us these statistics to prove how commonly dysmenorrhœa depends upon anteflexion.

It would be interesting, did time permit, to pass in review upon the literature of observers who publish their statistics. I touch upon them merely as evidence of how deeply the errors regarding displacements of the uterus have become befogged in the errors of dissension among its defenders.

[1] "American System of Gynæcology," vol. ii., p. 1101.

It is just as erroneous to consider sterility a result of flexion as dysmenorrhœa or stenosis. Says Dr. A. Reeves Jackson in his article upon "Sterility" in the "American System of Gynæcology": "I have known many instances in which there existed a flexion so acute as to prevent the introduction of the sound and to occasion severe dysmenorrhœa, and yet conception took place shortly after marriage, without the subject having undergone any treatment whatever." "In 114 cases of sterility reported by Biegel" only "40—that is 35 per cent.—had displacement," and the further analysis shows that 26 (74 per cent.) of the displacements had simple version, and only 12 (30 per cent.) of the displacements, or 10.6 per cent. of the entire number, had flexion. And these statistics came, too, from a man who believes in displacement of the uterus as a cause of sterility, and is giving statistics as evidence of his assertion.

Retroflexion[1] presents a peculiarity in the marked degree to which the fundus sometimes falls backward in the cul-de-sac of Douglas. In some cases so marked does this appear that the examining finger seems to come in contact with the globular fundal body upon a plane even lower than that of the cervix. To assume that here we have not to deal with a pathological condition seems a radical departure from the usually accepted theory, and were it proved that any pathological change were constantly present in the uterine wall or function were impossible, I would admit a pathological condition. But what I have already said regarding anteflexion applies equally well to this condition, with the single addendum that complications are more frequent and the train of symptoms is dissimilar from that of the contiguous organs affected. It is not the general claim that either dysmenorrhœa or sterility is so frequent in retroflexion or retroversion as in the anterior inclinations. On the contrary, it is within my own experience, and verified by others, that women with retroversion are the most prolific of all, and how often is it within our observation to have patients presenting themselves with a profuse cervical catarrh, so that presumably pregnancy would be impossible, and yet within a brief time have them return to us well established in conception! The explanation is simple in view of what I have said regarding conception, and most effectually demonstrates that the apparent displacement does not in the least interfere with function. The mucous plug, so-called, being dislodged from the cervix previous to the menstrual flux, the semen is thrown directly within the uterine cavity in a coitus just preceding or following the flow. Among the most common symptoms attributed to retroversion or retroflexion, and likewise considered a prolific cause of the latter, are the mechanical obstruction they oppose to the passage of the contents of the rectum and the varied subjective sensations resulting therefrom. That the cause of retroflexion is to some extent explained by such a theory seems only a logical conclusion, if we concede that

[1] The author feels constrained, lest the reader fall into the same error of dissension as was developed in the discussion regarding whether displacement posteriorly is not at times a pathological condition, to remark here that such is by no means the case, and can arise only in the mind of any one who inconsiderately regards physiological transposition and anomalies of anatomy as interchangeable terms in this connection. To be more blunt, the uterus cannot be displaced pathologically, unless it be possibly from without its range of physiological transportation so as to destroy the function of its physiological repositions, as per paragraph 5: "the womb of necessity, from its purpose to the animal world, is a mobile organ . . . limited in its range of physiological transportation only by the surrounding walls of the cavity in which it lies." It is not claimed by the author that a retroflexion with the fundus low down in the posterior cul-de-sac is not to be looked upon as an anomaly of anatomy, but unless function is impaired or some complication present it cannot be regarded as physiologically abnormal, any more than would be a transposition of the viscera within the chest.

primarily the fundal body is retroverted and in contact with the rectal wall, so that the descending fæces are here lodged and their weight acts to bear it down into the posterior cul-de-sac. But if it be true that this is all the claim advanced in favor of its being a pathological condition, I pass upon it in such connection as irrelevant to uterine pathology. So far as my own conception of its etiology goes, the most probable cause of retroversion—the flexion arising secondarily—lies in a short posterior vaginal wall, acting in conjunction with the utero-sacral and vesical ligaments. In retroversion it is a well-noted fact that the usual patulous cul-de-sac apparent in other positions at the posterior vaginal vault is absent, and the vaginal attachment to cervix is immediate and direct. This theory, too, seems well borne out by the imperfect invagination of the cervix at the vaginal vault in cases of laceration, and the relief and reposition effected through the influence of the retroversion pessary. The inventors of this instrument of course conceived its *modus operandi* as one of mechanical leverage, but in practice, its inferior arm resting upon the pubic arch, the superior arm carries upward the posterior vaginal vault and with it the cervix, so that, gravity acting through the fundus, it falls forward in anteversion without any leverage whatever. I do not, however, wish to be understood as believing that no other influences are at work to make the womb assume its condition of retroversion. One competent observer[1] holds a view, contrariwise, that it is because of a short anterior vaginal wall, a distended bladder of necessity thus acting upon a fixed cervix to force it backward into a condition of retroversion. Due weight I also grant to the varied inclinations of the pelvis and the direction and situation of the vaginal canal, as mentioned in the first part of this paper. Many and varied are the influences at work to make the womb assume its backward inclinations—that all are physiological is my chief point of contention.

It would prove tedious were I to review at any length my own statistics. I give therefore only a few observations bearing directly upon the points in question: Of four hundred and twelve cases examined by me in which full private notes were kept, four only are recorded with displacement, and all these, needless to say, are prolapsus in varying degree. But in the physical examination where are recorded as accurately as possible the size, condition, and direction of the cervix, the relation and direction of the fundus to the cervix in each individual case, I find ten in which the angle of flexion or version is very marked and one in which the whole organ lies in a decidedly retroposed position. Of the ten, seven have anteversio-flexion and three retroversio-flexion; but in all these which even I have conceded as worthy of special note but one is recorded to have stenosis, and this as "stenosis with pinhole os," while throughout the entire four hundred and twelve cases thirty-two had a well-marked stenosis. Thus, in a review and comparison, while my statistics do not include so great a number of flexions and version as would those of believers in displacement, their general import of lesions from which symptoms might arise is in full harmony with those published by other observers.

From habit it has become the custom of gynæcologists, when a nulliparous woman presents herself giving a history of pain preceding the menstrual flow, passing away as the flow becomes established, to consider such as depending upon an anteflexion with blocking of the internal os, before even a digital examination is made, when the real condition is irrelevant to either the blocking of the os or the flexion. Whether this be true or not is most easy of demonstration in nearly all cases, by fixing or steadying the cervix before attempting to pass the probe. It is a fact seldom realized by the experienced clinician in his daily practice that many cases he passes upon as acute flexions, by reason of not permitting the passage of the probe, really have a moderately patulous os. How much dexterity is required to pass a probe within the uterine cavity with even the normal os was forcibly demonstrated to me during my early clinical experience, when I had the opportunity to observe a large number of undergraduate students in their first attempt to pass a sound. It was the exception with them that the instrument ever passed beyond the internal constriction except in the most patulous cervices, and since then in my clinic I have observed how often physicians and assistants commit the same error of passing the probe up to the internal os in such manner as to cause spasm and preclude its further introduction, and I have no doubt the same error is often committed by those of wide experience. In many cases, in my own hands at least, I have met with failure to pass the probe from the omission of that one essential rapid sweep just as the instrument was approaching the internal os, and thought I had to deal with a flexion so acute as not to permit a sweep around it, when a subsequent trial with proper procedure revealed the internal constriction moderately patulous and perforate. Another equally erroneous impression concerning flexion as a cause of stenosis is that too large an instrument is first tried, so that any definite idea of the actual calibre of the canal is precluded at once. Yet conceiving that all judicious efforts fail to pass the probe, none can deny that there is still a canal there of calibre sufficient to admit of the healthy discharge of woman's normal relations in life; else how so many who never suffer from an unpleasant symptom and bear large families of healthy, robust children? And just here comes a logical explanation of the cause of dysmenorrhœa so often misapplied to flexion. Schultze has forcibly dwelt upon it in its pathological relation to metritis, yet here evidently is a direct pathological lesion in which we have the uterine stroma as the underlying cause (other observers have explained its production from intra-uterine clots); but, physiologically considered, its most probable explanation is in an unduly intimate apposition and hyperæsthesia of the two opposing surfaces of the endometrium. That dysmenorrhœa has not the least to do with flexion is by no means an original idea advanced by myself, but is a subject discussed by all recent authors. I call attention to it as unavoidably associated with the subject under discussion. Says Dr. W. Gill Wylie:[1] "Years ago I abandoned the prevailing belief that anteflexion frequently causes dysmenorrhœa directly, by mechanically closing the canal." If we review in brief the general pelvic hyperæmia going on within the pelvic cavity for a few days preceding each monthly period, a more concise understanding of the irrelevance between flexion and dysmenorrhœa is obtained. If we conceive that the general hyperæmia has only a special predilection for the uterine mucosa and ovarian stroma, it becomes plain how two closely opposing surfaces, such as I have just mentioned, must act to increase the tension within the uterine cavity, thus producing pain as a natural result of the engorgement and swelling, in conjunction with muscular contraction, which occurs in every case. The pain subsides coincidently with the disintegration and discharge of the endometrium and by release of the transient engorgement of the utricular vessels. It is manifestly against the laws of rudimentary physics to hold that the pain is produced by a damming back of the blood within the uterine cavity until tension becomes so great as to

[1] Dr. George T. Harrison, "American System of Gynecology," vol. ii., p. 1112.

[1] "American System of Gynecology," vol. i., p. 423.

lift up the fundus uteri and the canal is sufficiently straightened to allow exit to the flow, for here is primarily an increase of weight from both the engorgement and the blood within the cavity, which, instead of tending to elevate the fundus, acts directly to the contrary and tends to lower it and thus increase the angle of flexion. It has further been pointed out in connection with the mechanical theory of an obstruction to the flow at the point of flexion[1] that fluid blood passes with ease through a capillary. Will any one hold that even stenosis or flexion so closes the os as not to make its lumen greater than that of a capillary?

It would be manifestly unjust before proceeding to the general summary did I not touch upon that one other form of displacement, so-called retroposition, to which I referred in my statistics; yet this to me seems most absurd of all. How it becomes possible to call an organ displaced which lies at the base of a truncated cone, such as the vagina is admitted to be, when the manifest mobility of that organ is limited only by the radius of the cavity in which it lies, is beyond my comprehension. We all know how yielding are the vaginal walls, so that every portion of the pelvic cavity can be palpated through its limited membranes, and yet we are told that it is displacement when the uterus lies a little posterior to the median line. To dwell further upon such a condition as pathological seems needless tautology.

Thus far not a reference have I made to pathological complications attending the uterus in its new positions or supposed displacements. This has been purposely, so that in the general summary I may consider them as a whole, for manifestly the complications attending a so-called displacement in any one position are common to all, and their discussion separately would involve needless repetition and confound the issue.

If apparent displacement of the uterus is a pathological condition, some pathological lesion should attend it in every transposed position. I am unable to find such a claim advanced by the most radical defenders of the doctrine. The diseases attending the uterus in its new position are only the same as those which occur in its most common position, nor is it within my experience to observe that they are here more violent. The chief and perhaps most common complications attributed to displacements are the perimetritic or parametritic processes going on in the surrounding cellular and connective tissues buried at the vaginal vault and cervix uteri. It is only just to admit, however, that in the recent literature the more careful observers indirectly concede that inclinations of the womb are not pathological except for the accompanying complications. For them anteversion is not a pathological condition unless the cervix be fixed. Schultze makes the observation that flexion is not pathological unless there is rigidity at the point of flexion. If this much be admitted, what more is left for the great majority of observers who would argue contrariwise regarding anteversion and anteflexion? I have previously said that in carefully perusing the literature I could not find one particle of authentic evidence in confirmation of the supposition that any particular pathological lesion is present at the point of flexion. In the literature, however, metritis seems to occupy the chief field, as presumably the cause of rigidity fixing the uterus in a condition of flexion. Now metritis is a very indefinite and vague term. A majority of observers class anything from venous stasis to the interstitial hyperplasia of Thomas as metritis, but in any stage of transition between these two extremes there is manifestly no more rigidity at the point of flexion than in any other part of the organ, and hence it is a needless confounding of the issue to consider such a condition as in any manner relevant to the displacement. Relief attends only upon a proper involution of the uterus, regardless of any attention whatever directed to the flexion. But yet an argument which might be advanced is that the metritis is the result primarily of the markedly anterior deviation of the uterus. Then must follow logically the reposition of the uterus to effect a cure of the metritis. By any one familiar with pelvic manipulation in dealing with such a condition, the procedure would be looked upon as little short of malpractice.

It is more to be deprecated than all else that our specialists of to-day, in dealing with their subjects, seem to have lost sight of the fact that the particular tissues which they treat are only a part of the general whole going to make up the animal economy; that the mucous membranes and cellular tissues of the nares, pharynx, intestines, vagina, and elsewhere partake in general of the same structure and are governed by the same general laws in one situation as in another. Particularly is dissension regarding tissue construction to be noted among gynæcologists in the wide discussion prevalent concerning the connective and cellular tissues of the pelvic cavity. As to the correctness of the terms perimetritis or parametritis, or whether we have to deal with a pelvic cellulitis or peritonitis, it concerns us little in the present discussion; it is only from deductions of the general results produced by pathological processes in other regions of the body when these tissues are affected that we are able to understand their proper relations and bearing upon lesions affecting the uterus. When they are viewed in such a light only, is it forcibly borne home to us that it is in every case the perimetritis and adhesions which produce the symptoms, and not the apparent displacement. It makes little or no difference what position the uterus is in: if it is bound by adhesions or surrounded by parametritic processes, the same train of symptoms is bound to follow, and to effect relief it is these complications which must be attacked and not the organ itself. It is true that when adhesions are present the uterus more often affords us a tangible body upon which to obtain a hold for exerting force *pro* and *con*, to break up the adhesions; but if the organ itself be the seat of metritis, endometritis, cervicitis, or endocervicitis, or if the adnexa suffer from the diseases to which they are liable, none will dare claim that these are cured by releasing the adhesions. Their treatment requires the same measures, and only the same, irrespective of whether adhesions are present or absent. It is a claim, however, advanced by most authors that displacements often result from contractions of the perimetritic connective tissues, thus compelling the uterus to assume an unnatural position. From what we know of connective-tissue contractions in other regions of the body we believe that they are largely influenced by atmospheric irritation. In the pelvis atmospheric irritation is excluded, and, so far as my own experience goes, the position of the uterus has not been in the least altered after the onset of adhesions from what it was in its original state. Let us take for example acute gonorrhœa. This is admittedly not a plastic disease—two surfaces affected with the gonorrhœal process cannot be made to adhere; and yet, as a subsequent symptom following within a longer or shorter period of time, a majority of gonorrhœal cases return to us with well-marked adhesions; but it is not within my experience, so far as I remember, to find a single case in which the position of the uterus was not the same as when the patient appeared with the initial lesion, though the adhesions were tedious and secondary in their formation. Now the explanation of the perimetritic process is simple and depends

[1] Hart and Barbour's "Manual."

upon two ways of production. The richly supplied lymphatic connective and cellular tissue buried about the vault of the vagina absorbs primarily the infectious products in which the vagina is bathed, and the disease, progressing upward and outward through the tubes, escapes into the peritoneal cavity and is precipitated into the posterior cul-de-sac; so that secondary absorption and inflammation also here occur, and the resulting perimetritic adhesions are due to the character of the tissue affected. These tissues possess an inherent property in themselves to carry on to the same end a plastic process, no matter what the exciting cause may be. It is pathologically improper to consider the process as a plastic one in its initial stages; rather it is one of an interstitial exudation between the meshes of the tissue structures. And thus in its onset, development, or maturity, there is lacking even one particle of evidence that contraction is an elementary part to which their structure would make them liable from their situation alone. In proctitis even, though the onset be more gradual and prolonged, the same result occurs, and, although here the utero-sacral ligaments with their connective and cellular structures are primarily involved, adhesion alone results, with no tendency to cause the womb to assume a backward displacement. But upon the other hand we can find an example of the very acute onset, in which the uterus is removed from its most common position, and it responds exactly with the influence of gravity and physiological cause in assuming its transposition. As a result of the craze for antiseptic irrigation following parturition, in the past few years, the gynæcologist of to-day reaps a rich harvest in the increased number of parametritic cases presenting themselves for treatment. To my mind the chief cause of this condition is the use of strong chemical irrigations immediately following delivery and during the puerperium, when the absorbents of the parturient canal are open receptacles for any infectious material which may come in contact with them; and it makes little difference regarding the onset of the perimetritic process whether we have as the exciting cause a chemical or aseptic infection, though the danger to life is much the greater in the latter. In the resulting fixation the uterus lies more posteriorly than in the other cases; in these, owing to the position of the patient upon the back it has fallen of its own weight, irrespective of any contraction of tissue, and become fixed even in the brief interim of the puerperium.

I need not review at length, after what has been said, my reasons for believing prolapsus to be a true displacement of the uterus. I am aware of the theory so beautifully dwelt upon in the manual of Hart and Barbour, where it is discussed as a condition of hernia of the pelvic floor, in which the uterus plays only a secondary part. This, it will be seen, accords with my own argument—that the uterus is not in pathological displacement unless removed from its proper plane of support; but that in prolapsus the hernia of the pelvic floor is always the primary factor seems at variance with both anatomical and physiological law. That only which is palpable in prolapsus as substantiating the theory of hernia is that descent of the organ is not possible without the complication of certain contiguous elements of the pelvic floor. But, considering what I have previously pointed out in connection with the positions of the uterus, the varying degree of inclinations of the pelvis, together with the position of the vagina and its introitus, the yielding condition of its walls, so that the uterus has not a fixed table upon which to rest—to believe that when the axis uteri is in line with the vaginal outlet it will not descend of its own weight, irrespective of influences from above or below, is beyond my better judgment. It is only from such a theory that I am able to account for those not exceptional cases in the virgin, in which distinct prolapse of varying degree is plainly present; and here evidently the pelvic floor plays not a primary but a secondary contributing part. Again, too, in my reference to uterine support proper, I could point out nothing in connection with uterine attachment which seemed to stand by itself as an anatomical factor of true support; to me the ligaments and attachments alone seemed to partake largely of physiological function, the uterus resting as a freely movable body upon the pelvic floor direct, with every attachment yielding and elastic. In prolapsus the elastic tone of the ligaments becomes impaired and the uterus falls off from its supporting plane, as it were, and descent is the logical result. That prolapsus is a pathological condition, also partaking of symptoms distinctly referable to and arising from its transposed position, and remedied only by its proper restoration, are points hardly open to denial.

In closing, I am aware that I leave unsaid anything regarding the lateral deviations or displacements of the uterus from the presence of tumors or the mechanical embarrassments arising from pregnancy when the uterus becomes lodged beneath the promontory of the sacrum. It seems to me the discussion of such conditions more properly belongs to the special subjects with which they have to deal. In one brief paper it is impossible to cover such an exhaustive field as displacements and dwell with the nicety of precision upon the anatomical and physiological data which the subject demands. I have endeavored to touch upon only the chief arguments advanced in the current literature upon displacements. That so-called displacements are not physiologically abnormal is my chief contention. While I concede that clinically we observe wide degrees of variation in flexions and versions in different cases, in all presumably some is present. We have no means of knowing precisely what are the influences producing what all concede to be a normal position, or what the exact purpose they serve the female in each individual case. That they are physiological none will contend. When they act to a degree of exaggeration they are physiological still.

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ELECTROLYSIS IN THE TREATMENT OF DISEASES OF THE SKIN.[1]

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When the history of electrolysis as a therapeutical agent in the treatment of some of the diseases of the skin comes to be written, the name of Dr. W. A. Hardaway will be at the head of the list of those who have taught the medical profession the value of this agent. To him we owe the practical application of electrolysis to the destruction of superfluous hair, its most important use. Not only this, but he has either originated a number of other operations or made practical suggestions in regard to them. It is not my intention to indulge in historical researches this evening, nor to quote authorities, but to give you some idea of what may be done by electrolysis, based for the most part on my own experience with it. Still I cannot let the opportunity pass without mentioning the name of Dr. Hardaway.

Electrolysis has been well-defined as electrical decomposition. We are interested in it only as applied to animal tissues. When two needles attached to the two poles of a galvanic battery are introduced

[1] Read before the Practitioners' Club of Newark, N. J., February 7, 1898.

into an animal tissue, around the negative pole (zinc element) alkalies are liberated, while at the positive pole (copper element) acids form. At the same time we notice bubbles of gas about the negative pole welling up alongside of the needle. These are bubbles of hydrogen caused by the potassium and sodium set free, uniting with the oxygen and decomposing the water in the tissues. The same chemical action produces caustic soda and potash, and these destroy the animal tissues just as they would if applied in the ordinary way.

At the positive pole oxygen and chlorine are produced. The tissues become oxidized and are more or less charred, just as after cauterization with a strong acid. At the same time the needle, if a steel one, is oxidized.

Thus are explained the phenomena met with in the use of electrolysis. The negative pole is most often used, as the scar from it is soft and pliable, just as the scar produced by a caustic alkali is softer and more pliable than is that caused by a strong acid. We notice in using a steel needle attached to the negative pole that it is readily withdrawn from the tissues, and is bright and clean. If the same needle is used attached to the positive pole, it sticks when we try to withdraw it, and we notice that it is oxidized. The skin at the point of entrance of the needle is liquefied, and a black point remains on healing. Therefore if it is considered to be advisable to use positive electrolysis, a platinum or gold needle should be employed.

Though electrolysis has been in use for more than twenty years, I meet educated physicians from time to time who know little about it and its uses. Some of them think that a faradic battery can be used, and some regard it as a species of galvano-cautery.

The battery to be used is a galvanic one: that is, one of constant current. It makes no difference whether dry or wet cells are used. I have always used wet cells — ordinary Leclanché cells. By means of proper apparatus the street current can be used.

The means of regulating the amount of current we are using are the switch board and the rheostat. My preference is for the switch board. At one time I used a rheostat, but it seemed to me that, though the current strength as expressed by milliampères was the same as by the use of the switch board, it gave more pain and caused a more lasting disturbance in the skin.

A milliampèremeter, though not absolutely essential, is a most desirable instrument. To be sure it is liable to get out of order, and may not register with absolute correctness; but without one, anything like accuracy cannot be attained. To speak of using so many cells is unscientific and inaccurate. Experience will convince you that on one patient you will get a current strength of, let us say, one and one-half milliampères from fifteen cells, while in the next patient you get the same current strength from five or six cells. The difference is dependent upon the individual, whether he is a good conductor or not, and this in its turn seems to depend largely upon the constitution of the skin. A moist, thin skin conducts the current much more readily than does a dry, thick skin. Atmospheric conditions affect the current also, but to nothing like the same extent as does the quality of the skin. In working, one must keep his eye upon the dial of the milliampèremeter, because the current sometimes lessens or increases after working a little time. Keeping the sponge electrode moistened with a soda solution will help to steady the current.

The instruments needed are, fortunately, few. They are a sponge electrode, a needle holder, needles, epilating forceps, and in my armamentarium a knife. I have found it of advantage to use a sponge electrode which is three and one-half inches in diameter. This insures a broad surface through which the current must pass, and is more comfortable for the patient and contributes to steadiness of current. If you use the small electrode furnished with the battery, some patients will rest only the tips of two fingers on the sponge, and thus reduce the amount of current. With the large electrode this is avoided. The size of the needle holder is a matter of taste. If your hand is large you should use a larger holder than if your hand is small. I use one about the diameter of an ordinary lead pencil, and about four inches long. The needles most used are what are called jewellers' broaches; Nos. 3, 5, and 7 are the most useful sizes. In some operations ordinary sewing-needles, fine cambric needles, are of use; and, as I have said already, if you wish to use positive electrolysis you have to use either a gold or platinum needle. A pair of light epilating forceps are necessary in working on superfluous hair. You should see that the blades coapt exactly and that the spring does not require much effort to manipulate it. Forceps with stiff spring tire the fingers. My knife is made by cutting off the handle of a tenotomy

Fig. 1.—Knife for use in electrolysis.

knife, such as is used in surgery of the eye, and fitting it into the needle holder. Its use will be described later in this paper.

Electrolysis is employed as a destructive agent. The advantages it has over other destructive agents, such as acids and caustic alkalies, are that its action is under the control of the operator; the amount of pain that it causes is moderate, and ceases as soon as the needle is withdrawn; and it is not liable to produce unsightly scars. The last is a very positive advantage when we wish to destroy new growths on the face. It is specially adapted to the treatment of hypertrichosis, nævi of all sorts, the dilated vessels in rosacea, fibromata and other small tumors, warts, xanthoma, lupus, milium, and molluscum. It is also one of the best means for removing powder stains.

By far its most important use is in the destruction of superfluous hair in *hypertrichosis*. So much has been written about this use of electrolysis that I feel some hesitancy in mentioning it at any length. However, as I am asked not infrequently by physicians if I think it possible to destroy hair permanently, I must presume that even in so intelligent a company as this there are some who are still doubtful whether hair can be permanently destroyed. After sixteen years of experience in this operation I am more convinced than ever that it is a most reliable one. It is tedious, and I should hail with delight any less tedious way of destroying hair. It is expensive for the patient, no matter how moderate fees may be charged; and it requires the greatest faith in the operator by the patient in some very bad cases, so that she may have the patience to endure to the end. The difficulties with which we have to contend are the impossibility of destroying every hair papilla at the first attempt, so that a certain number of hairs, varying with the skill of the operator, are bound to return; and the impracticability of destroying a non-existing hair, so that the patient must expect to have new hairs present themselves for destruction as long as the tendency to hair production continues. In young women this is our greatest trouble, as in them the beard will continue to thicken for a number of years, just as happens in the beard of a young man. If we tell our patients of these difficulties at the start, we will be able to hold them to the finish. I do not believe that the destruction of the old hairs tends to the stimulation of the lanugo hairs to any great extent. They will grow stronger after the old hairs are removed, but they would grow stronger had the old ones not been removed. Nor are scars a

necessary sequence to the operation. I have never yet heard one of my patients complain of scarring, because their faces are not scarred. That is to say, we cannot destroy a hair without destroying a minute area of skin about the hair follicle, but this is so minute that it is imperceptible in ordinary skins, while in fine skins it is only by putting the skin on the stretch in a strong cross light that the little points can be seen. On the upper lip it is extremely difficult to prevent a slight amount of scarring in some patients, but that is far less unsightly than is the hair. There are some skins that scar much more readily than others. It is good policy to tell any patient with a mustache that there is a liability of producing slight scars on the upper lip, and have it understood. This will prevent trouble in the future. The best subjects for the operation are women past middle life in whom the amount of hirsuties is usually slight, limited to a few coarse hairs on chin and lip. I always advise against operating on young women who present only lanugo hairs, because such hairs are more difficult to destroy than are coarser ones, and because they may not grow darker or coarser for years.

The *modus operandi* is doubtless familiar to all of you. The patient is seated in a chair with a head rest (I use a dentist's chair), and in a good light, but not directly in the sunlight. The hair to be removed is put slightly on the stretch by seizing it with the forceps; the needle in its needle-holder attached to the negative pole of the galvanic battery is passed down alongside the hair in its follicle and in the direction in which the hair grows, to a distance of about one-eighth of an inch; the current is completed by having the patient place her hand on the sponge electrode after the needle is in place; the gas bubbles up alongside of the needle, and in a half minute or less the hair slips out of the follicle with hardly any traction. The patient is then to take her hand off the sponge electrode, and the needle is to be removed. The current strength to be used is about one and one-half to two milliampères. If the needle is passed down alongside of the hair and the current is not completed until after the needle is in place, and broken when the hair is destroyed by having the patient take her hand off of the sponge, the operation will not prove very painful, most patients hardly seeming to mind it. If care is taken not to use high currents for a too long time, not to enter a follicle for the second time at any one sitting (and there is sometimes a temptation to do this when the needle has slipped out of the follicle before the hair has been destroyed), and not to remove the hairs in close proximity at the same sitting, there will be little danger of scarring. In working on an ordinary case it is my custom to remove every other hair over a certain part of the face, and afterward to take out the rest. When time permits, it is well to allow at least four days to pass between operations on the same side of the face. The after-effect of the operation on the skin varies with the patient. In some the redness caused by the current passes away very quickly, and the reaction is very slight. Most patients are not so fortunate, and the skin will show red spots looking not unlike acne and lasting for a week or more, while in some small pustules will form. If the operations are too near together in point of time, there will be generally considerable inflammatory reaction; and if at the same time with the frequent operations the hairs are removed too close to each other, superficial ulceration may result. In this way the deforming scars, seen as the outcome of some operator's work, are produced. If the surface to be worked on is thoroughly disinfected before we begin to work, the liability to the formation of pustules will be lessened. For the past year I have bathed the parts operated on with peroxide of hydrogen immediately after operation, and it has appeared to me that my results, as far as reaction is concerned, are better than before. Hot water and a zinc lotion, or cold cream used by the patient at home, will aid in combating the inflammatory reaction.

The destruction of *nævi* next claims our attention. We have vascular, pigmentary, and fibrous nævi to remove. Against all varieties electrolysis is a reliable agent. Should the nævus take the form of telangiectasis, that is broken veins, showing as a central dark red point with radiating vessels in all directions, it is readily destroyed by passing into the central point the end of a fine cambric needle, or of broach No. 3, attached to the negative pole of the battery, and allowing a current of one and one-half or two milliampères to pass for half a minute. The central point will be destroyed and the vessels radiating from it will disappear. In the other variety of telangiectasis, in which we have a patch composed of dilated blood-vessels, the vessels are to be destroyed in the same way as will be later described under rosacea. If we have what is commonly called a "birth mark" or a "port-wine mark" or "claret stain" to remove, it may be attacked in one of two ways. A No. 5 broach attached to the negative pole may be passed under the nævus just beneath the skin, and an endeavor made to destroy the vascular supply; or, which is the better way, the point of a fine cambric needle attached to the negative pole may be passed at a slight angle into the skin, making a series of punctures not too close to each other and in parallel lines across the patch. The current is to be made and broken in the same way as in the removal of hair, and the needle should go through into the subcutaneous tissues or lower part of the corium. Before beginning to work, it is well to make a series of dots with pen and ink at the places into which you propose to pass the needle. If this is not done, the field of vision is soon obscured by the reaction in the skin. By operating on the patch over and over in this way, you will gradually lessen the redness. Care must be taken not to substitute a prominent white scar for the red patch. What we strive for is the production of a pinkish patch. The only objection to this method of destroying nævi is that it is slow in working a cure. Deforming scars will not result, as will sometimes be the case when we use acids. If care is had to pass the needle down through the whole thickness of the skin and slightly on the slant, perseverance in repeating the operation will result in the removal of the nævus. If one has practised electrolytic destruction of hair, he will have acquired the requisite patience for this operation.

Cavernous nævus is another form of vascular nævus that can be cured by electrolysis. If the tumor is of very large size and rapidly growing larger, surgical procedures of another kind are demanded. I have cured several nævi of this variety, as large as three-quarters of an inch in diameter, and prominently raised above the surface of the skin. In this operation a No. 3 broach or a cambric needle is to be passed through and beneath the growth, and a current of two to five milliampères used. Several tracts are to be made parallel to each other; or the needle may be partially withdrawn and again passed through the nævus in several directions, radiating from the point of puncture. The latter method is perhaps the better. No hemorrhage will be caused. At the time of operation the tumor will appear blanched over the course of the needle. If you are successful in striking the blood-vessels of the growth at the first sitting, a rapid cure will result. In most cases several sittings will be necessary. After each sitting the tumor will become smaller and contraction will continue for some time, even without further operation. At last nothing will remain but a soft, pliable, and hardly noticeable

scar. By some it is recommended to use two needles, a gold or platinum one attached to the positive pole and a steel one attached to the negative pole, passing both needles into the growth at the same time. I have no experience with this method. If the patient is a baby, it can readily be held during the operation, that takes but a few minutes. In older children an anæsthetic must be given. Of course this will be unnecessary in an adult.

Pigmentary nævi may be destroyed in the same way as vascular nævi. As they are usually small, so-called moles, they may be destroyed by passing a No. 5 broach under them and through the upper layers of the skin, and using a current of one and one-half to two milliampères. In this way several tracks can be made. As the pigment is deposited in the lower part of the mucous layer of the skin, we should take care to wound the true skin as little as possible. It is quite possible to remove pigmentary moles without leaving a scar. The little knife, of which I have already spoken, has proved itself of value in my hands. Passing it flat under the upper layers of the epidermis and turning on the current, you can, by exercising very slight pressure on the needle holder, slice the nævus off. As electrolytic action is all the time taking place, when the slight wound is healed there will be no return of the pigmentation, nor will there be an easily perceptible scar. In cases in which we have not gone too deep there will be no scar.

In nævus pilosus it is necessary to destroy the hair before we try to destroy the pigmentary patch. The same method is employed in doing this as in destroying superfluous hair, only now, instead of using the fine broach and trying to produce as slight a mark as possible, I am in the habit of using a fine cambric sewing needle, with the purpose of destroying not only the hairs but also the skin about them. It is possible in this way to destroy not only the hair but the mole at the same time. If pigmentation is left after the hairs have been destroyed, it will be broken up in dots, so that all that is needful for us to do is to destroy these dots by passing into them perpendicularly the point of the cambric needle and letting the current run.

Fibrous nævi are readily removed by electrolysis, but as the method of doing so is the same as in fibromata, I will speak of them together later.

The dilated vessels of *rosacea* are best destroyed by passing a steel broach into the lumen of the vessels at an angle or perpendicularly to the vessel. When you strike the vessel right you will see coursing through the vessels in the neighborhood little bubbles of gas that bear a strong resemblance to the blood globules in the circulation of a frog's foot, as seen under the microscope. If the vessels are large and tortuous, it is advisable to puncture them several times in their course. In hypertrophic rosacea we can cause the lobulated masses, if not of too great size, to flatten out by making multiple punctures with the cambric-needle electrode. If the masses are large, they should be removed by the knife. A current strength of three to five milliampères should be used for the destruction of the lobules, while one and one-half to two milliampères are sufficient to destroy the vessels.

The electrolytic current is very efficient for the destruction of all sorts of *small tumors* about the face, where we desire to leave as little scar as possible. By it I have destroyed fibromata, warts, and fibrous nævi, and there is nothing better than it to destroy xanthomata. In *fibromata*, warts, and fibrous nævi, my little knife does the work beautifully. Attached to the negative pole of the battery, it is passed flat under the growth, and a current of two or three milliampères turned on. I usually pass under the middle of the growth. The tissues melt away, as it were, with much bubbling of gas. Gentle pressure on the knife will cause it slowly to work its way, not cut its way out, and one side of the growth is detached. Now the current is broken, to be again completed when the knife blade is turned in the opposite direction and the other half of the growth is detached. The advantages of electrolysis over the plain knife in the destruction of these growths are that the pain is slight, there is not the slightest drop of blood shed, and no subsequent dressings are needed, that are more or less unsightly; all that is necessary in the way of a dressing being carbolated vaseline or some such antiseptic for a few days. The result of this operation is usually good. A red disc is left that slowly becomes white and continues to contract, so that after a time it is hard to say where the growth had been. If unevenness of the skin should remain, it can be removed by electrolysis. Inasmuch as *warts* often can be made to disappear by more superficial caustics than electrolysis, the latter should be kept as a last resort.

It has chanced that since I have had my little knife I have not had a *xanthoma* to remove; but they are removable by means of electrolysis. To do this, a No. 5 or No. 7 broach must be used, passing it carefully under the growth, using a current of about two milliampères, breaking the current and removing the needle. Several passes are to be made at one sitting, depending upon the size of the growth.

Lupus, whether of the erythematous or the tuberculous variety, is always obstinate. We can scarcely hope to cure it without leaving scars; indeed, it of itself almost always leaves scars. In the treatment of *lupus erythematosus* I have never used electrolysis, but multiple puncture with it is well spoken of by Hardaway and others, and might be employed. In *lupus vulgaris* I have seen good results from its use. There are two ways of using it in this form of lupus. One is by a cambric needle. This is best adapted to those cases in which there are a number of the characteristic small brownish tubercles in and about the cicatrix. If a current of four to six milliampères is allowed to pass for a minute through each tubercle, the needle being entered perpendicularly, destruction of it will result. The same thing has been attempted by using a needle dipped in an acid or caustic alkali. It is usually the case that the acid or alkali, or at least a good part of it, is rubbed off at the surface of the skin, and that but a small portion of it is carried to a sufficient depth to do much good. On the contrary, in electrolysis the destructive action is most active at the point of the needle, so that we are able to destroy the tubercles through their entire depth. The other method of using electrolysis in lupus is by the button electrode, such as I now show you. You see that it is

Fig. 2.—Metal Button Electrode.

a round zinc plate, half an inch in diameter, set in a rubber bulb that is made to screw on to the usual handle of a sponge electrode. This can be used to destroy patches of lupus. It is to be placed over the patch and a current of five to seven milliampères passed through it for six or seven minutes. When the electrode is removed, it will be noticed that the patch is blanched, but soon little swellings and then drops of moisture appear at the sites of the tubercles. Crusts form over the places operated on, and fall in a week or so. The patch will then be seen to be flatter. After a few sittings the thickening will be so reduced that we will have only individual tubercles to deal with, and then it is best to use the needle. In extensive cases other methods are better than this, as

they act with more rapidity, and the patient is content to give up his time to the treatment. But in small patches it is a good method, as the patient is in no wise interfered with in his business, and has no operation to dread, and but little and passing pain to endure.

I have put down *milium* and *molluscum* as diseases that are amenable to electrolysis. And so they are, as either can be readily destroyed by it. But the usual methods of treating these diseases are so simple and leave so little to be desired that I do not specially recommend electrolysis in their treatment. *Keloids* of small size have been benefited by electrolysis, high currents being used. Small *epitheliomas* can be destroyed, but I prefer other means that are more radical.

For the removal of *powder stains* electrolysis is probably the best means we have. Of course if the patient is seen immediately after the accident has occurred that has driven into his face a lot of powder, we should try and pick out all the grains we can. Soon the powder disintegrates and the skin is stained just as it is stained by India ink in tattooing. If each black or blue dot is entered with the steel broach and the current passed just as in the destruction of superfluous hair, we will succeed in course of time in destroying all the powder marks, and substituting for them minute white cicatrices that are very much less noticeable than are the powder stains. If tattoo marks are also in dots, they can be destroyed in the same way. The absolute controllability of electrolytic action makes it pre-eminently more fit than any other destructive agent for the removal of these deforming stains.

14 East Thirty-First Street.

NEW AND ORIGINAL[1] METHOD OF OSTEOPLASTIC RESECTION OF THE SKULL.

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A satisfactory method of osteoplastic resection of the skull has long been desired. It is believed that the procedure here described will be found to have advantages over those hitherto employed. Among these may be named the following:

1. It causes very little injury to the bone.
2. It is not attended by jarring or other possible injury to the brain.
3. It is free from danger to the dura mater.
4. It is precise in its results and the flap is capable of any required variation of shape.
5. The bone flap, when returned to place, fits exactly and has no tendency whatever to displacement.
6. It is easy and comparatively rapid of execution, causing no fatigue to the operator.
7. The instruments are simple, inexpensive, not liable to break or get out of order, and are not dependent on a motor of any kind.

The elements of the method are: (1) The selection of a flap suitable to the requirements of the case, usually in the form of a quadrangle, pentagon, or hexagon; (2) incision to the bone on all sides except at the base of the flap; (3) perforation of the cranium at each angle of the incision with a small mastoid trephine; (4) separation of the dura mater from the cranium between the points of perforation; (5) sawing the bone between the perforations with a Gigli-Haertel wire saw, passed between the bone and dura mater from one perforation to the next; and (6) lifting the flap of scalp and bone from the dura mater.

The instruments required are:

1. Shapes most generally useful for outlining the flaps. These are pentagons or hexagons, usually with sides 5 cm. long. These shapes are of aluminium or double-faced rubber cloth, either material being capable of sterilization without injury.
2. A slightly conical trephine 6 mm. in diameter.
3. A dural separator 3 mm. wide, blunt extremity slightly wider and thicker, grooved upper surface, very slightly curved from end to end, turning rather abruptly upward at each extremity. The shape is important. The length between the curves at the extremities is 5 cm.
4. Gigli-Haertel wire saws, 30 cm. long. This is the instrument the use of which distinguishes this procedure from those hitherto proposed.
5. Small blunt hook to lift the loop of the saw from the trephine opening.
6. Two bone elevators.

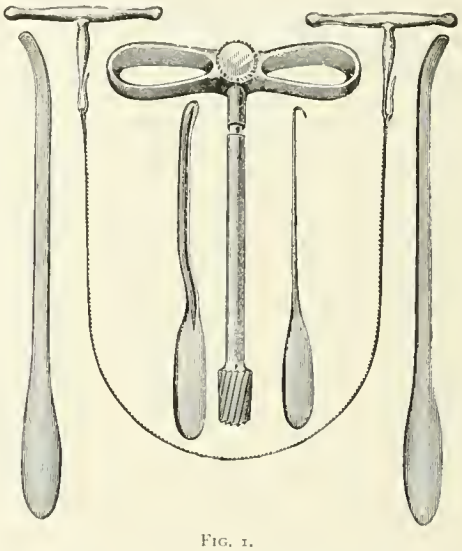

Fig. 1.

The Operation.—In selecting the shape and direction of the flap, regard should be had for the area it is desired to uncover and the location of the vessels of the scalp entering its base. A distance of 5 cm. between openings will usually be found most convenient, although longer intervals may be separated and sawn without trouble. Impromptu and atypical outlines may be used, but ordinarily a set figure, selected beforehand, will be most satisfactory. The pentagon shown in the figure may be made to form several different flaps by using different sides for the base and by reversing the figure.

An incision having been made to the bone along all the sides of the figure laid out except its base, trephine openings are made at each angle in the usual manner. The small size of the trephine renders this a very easy matter.

The dural separator is now passed into one of the openings and, by gentle lateral movements, made to separate the dura mater from the skull till its extremity can be seen at the bottom of the adjoining opening.

In case the skull is thick, it may be necessary to chip away, with a chisel, the perpendicular edge of the trephine hole into which the separator enters at that part of its circumference which is opposite the

[1] When this article was prepared, the writer had no knowledge of any previous work of the kind. It was in the hands of the editor of the Medical Record on December 12th, but its publication was delayed by misplacement of the cuts. In the *Philadelphia Medical Journal* of January 1, 1898, Professor Keen reported a case operated on by the method here set forth, and stated that he had read a description of it in the *Centralblatt für Chirurgie*, August 14, 1897, in an article by Professor Obalinski. The present belated paper, having lost its claim to priority, may serve to call attention to the value of the operative procedure.

opening toward which it is directed. This allows the separator to enter obliquely to the surface and easily follow the surface of the dura mater. In thin skulls this will be found unnecessary.

When the end of the separator appears at the bottom of the adjoining opening, a wire saw is passed

Fig. 2.

along its groove till the looped extremity of the saw appears at the bottom of the trephine opening, through which it is drawn with the blunt hook. The handles of the wire saw are then attached and the separator is held in place by an assistant, who at the same time steadies the head. The saw is then made to cut its way out, which it does with surprising ease. Any possible injury to the dura is obviated by retaining the separator in place during the sawing; but no injury has been observed even when the dura has been left unprotected. During the sawing the hands should be kept well apart, for the saw is apt to break if used at an acute angle.

This proceeding is to be repeated with all sides of the flap except the base, which can be sawed nearly through without injury to the overlying scalp.

The elevators are used to pry the flap up, and very

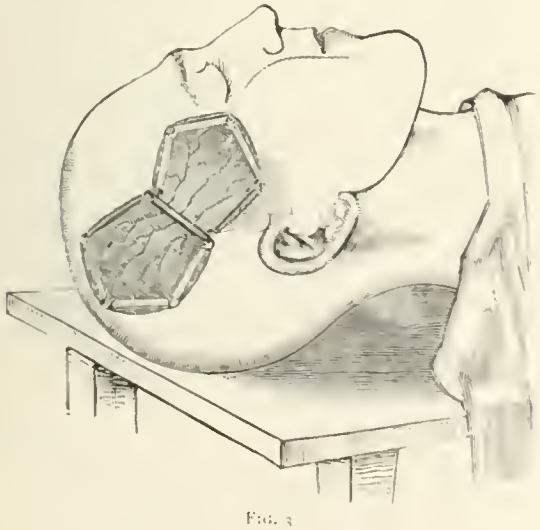

Fig. 3.

little force is required to break the unsawed portion at the base.

When the flap is returned, it fits precisely and cannot possibly be displaced. The only loss of bone is at the trephine openings, while between the sawed surfaces a sheet of paper cannot be passed.

It is hoped that an extended clinical trial may prove this method as satisfactory as it has been in numerous experiments on the cadaver.

The simple instruments required (with the exception of the saws) have been made in a satisfactory manner by Messrs. Feick Brothers, of this city.

VICARIOUS MENSTRUATION, WITH REPORT OF CASES.*

By ROBERT F. COUGHLIN, M.D.,

[illegible]

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A certain writer, in an article on "Vicarious Menstruation," began the same in the following manner: "It is quite generally stated, at the beginning of reports or papers on medical topics, that the subject is an unusually important one. In the present instance the beaten track must be left, for the subject is not of very great importance, though I trust it may be of sufficient interest to warrant brief consideration." In beginning my paper, I feel that I shall have to differ from this writer, and follow along the same old "beaten track." The subject appears to me to be of great importance, as well as interest, and before finishing I hope to be able to explain to you why the subject is so important. The number of cases to be reported is small, but sufficient, I believe, for the purpose. The definition of vicarious menstruation, as given by Billings in his dictionary, is: "A term applied to a bloody discharge from the rectum, nose, or other part of the body, or from an ulcer, occurring in the female at the menstrual period."

The majority of the profession have no doubt as to there being such a condition as vicarious menstruation. A number, however, believe that this condition never occurs.

Although the British Gynæcological Society gave this subject considerable attention, I have failed to find very much literature in regard to the same. Dr. Robert Barnes,[1] in 1886, published a review of the subject, in which he relates many of the explanations advanced to account for these phenomena, such as plethora, the surplus of blood being discharged at the point of least resistance; a weakened condition of the tissues, due to hereditary disease or other causes; abnormal structure of the vessels in the locality from which the blood is effused; a deprivation of the natural tegument of the organs from wounds, ulcers, etc.; the hemorrhagic diathesis; nervous influences; a supplementary relation of the various organs of the body, etc. In his treatment of vicarious menstruation, he directs attention to the removal of mechanical obstructions, the correction of constitutional derangements which give rise to the nervous influences bearing directly on the disorder, the treatment of diseased conditions at the seat of hemorrhage, and the application of such measures as bleeding from the foot and leeching of the vulva. Hot water and iodine should be used to stimulate the uterus, the useful drugs being hamamelis, gossypium, digitalis, ergot, iodine, mercury, and arsenic. Purgatives, diuretics, and faradization are often of use.

Although the condition is generally considered harmless, Holmes[2] reports one case in which the cause of death was intestinal hemorrhage.

Kobern,[3] in 1896, reported a case of acute tuberculosis concealed by vicarious bleeding taking place through the lungs. He therefore states that the prog-

* Read before the Norwegian Hospital Alumni Society, January [illegible], 1898.

nosis should be guarded when there is bleeding from the lungs. Personally I believe that tuberculosis should be looked for in all cases of vicarious menstruation, as out of five cases I have to report two patients (forty per cent.) who became victims of acute tuberculosis. One other patient is still under observation, with the probability that she too will later develop the disease. All the cases to be reported have come under my personal observation within the last four years.

Case I.—Freda E——; birthplace, Sweden; age, twenty-one years; condition, unmarried. Family history: Patient is one of seven children, all of whom are living and healthy. One sister suffered for a while with amenorrhœa, but finally recovered entirely. Patient's father is alive and enjoys very good health. Mother of patient did not menstruate until she was past seventeen years of age. In her case before menstruation began she was troubled a great deal with anæmia and nose-bleeding attacks. Patient does not know whether these nose-bleeding attacks occurred at regular intervals or not, nor does she know whether they continued after her mother menstruated. There is no family history of insanity or lung diseases. Patient claims that she is the only one in the family who is at all nervous or of a nervous temperament.

Previous history: Patient has always been a healthy person, though more or less nervous. She says that she never has menstruated normally. When fifteen years of age she first noticed that her nose would bleed at regular intervals, the attacks occurring regularly every twenty-eight days, and lasting three days. This peculiar condition continued until she came to this country (about one year ago), when the attacks of vicarious bleeding became somewhat irregular. During these vicarious hemorrhages patient says that she becomes very nervous, worries a great deal, and is depressed generally; trivial affairs, which would not trouble her at any other time, irritate her—in fact, the slightest thing causes her to become very angry, and, as she expresses it, "quite beside herself." Physicians in her own country have treated her for her trouble by the use of medicines, but she has never undergone an examination. During first visit to my office a vaginal examination was refused. I gave a mixture containing iron, aloes, myrrh, cantharides, and guaiac.

February 12, 1893, patient returned, reporting no improvement. Upon inquiry she expressed her willingness to undergo an examination for her trouble.

Examination: A healthy appearing, well-developed young woman. Heart and lungs normal. Breasts moderately large. External genitals well developed and normal in every particular. Hymen intact. By using care the speculum was introduced without much pain or discomfort, and it was then found that the internal genitals were infantile. Cervix pink in color and very small. Os externum about the size of a pinhead. Vaginal walls pink in color and normal. Uterus, ovaries, and tubes could not be made out, probably because of their small size.

Treatment: Dilated cervix slowly and passed sound to the depth of two inches. Used application of iodine to uterine walls by means of applicator. Continued with emmenagogue mixture and gave pills containing quinine and strychnine.

February 19, 1893, patient returned, reporting improvement. Says she feels strong and well in every respect. Has had one attack of epistaxis since last visit (one week ago). Dilated cervical canal again, and used iodine as before. Complained of constipation, for which she was given pills consisting of aloes and myrrh. Stopped emmenagogue mixture and gave a pill containing iron, nux vomica, quinine, and conium.

March 14, 1893, reports further improvement in general health, but has not as yet menstruated. Has had two attacks of epistaxis since last visit. Used iodine application to uterine walls and continued with internal treatment.

March 22, 1893, continued improvement in general health and spirits; still there is no sign of menstruation. One attack of epistaxis since last visit. Applied iodine to uterus as before. Continued with tonic pills, and aloes and myrrh as a laxative.

April 5th, patient is improved markedly. She says she has no more pains or aches, and no longer worries at all. Nervous symptoms have entirely disappeared. Appetite is good. Sleeps well. Is very well nourished. One slight nose-bleeding attack since last visit. Continued local and internal treatment.

April 19th, no attack of epistaxis since last visit. Patient in very good condition. Continued treatment as before, and directed her to return in a month's time.

May 17th, patient continues to be in very good health. One slight attack of nose-bleed since last visit, which was one month ago. There has been no normal menstruation. Health perfect. Did not use local treatment during this visit, but gave orders to keep up constitutional treatment. Requested patient to return one month from to-day. She failed to return and I saw her no more.

The subsequent history of the patient shows that two years after she remained away from my office she suddenly developed insanity, was removed to an asylum, where she later died of phthisis pulmonalis. The form of insanity was said to be melancholia.

There are several facts to be considered in reviewing this case:

1st. The possible hereditary history, the mother of the patient having failed to menstruate until she was seventeen years of age. She too was subject to nose-bleeding attacks.

2d. The regularity of the vicarious bleeding before she came to this country, viz., occurring every twenty-eight days and lasting three days.

3d. As her nervous symptoms began to clear up and her general condition improve, the attacks of epistaxis became less frequent and finally discontinued when her health became perfect.

4th. The fact that she was a well-developed young woman in every respect, with the exception of her genital organs.

5th. That notwithstanding the persistent local applications of iodine and the internal treatment, there was no sign of the catamenia.

6th. The fact that she developed pulmonary phthisis after becoming suddenly insane.

Case II.—Mrs. M——; birthplace, United States; age, forty-six years; occupation, housewife. Family history: Patient's father was a very strong, healthy man, and lived to be seventy-six years old. Her mother was always a very delicate, frail woman, and at the age of forty-five years developed consumption and died. A brother also died of the same disease at the age of forty. A sister still lives at the age of fifty years. She is healthy and well, but is inclined to be neurotic. The grandparents of patient lived to be very old. None of patient's family so far as she knows ever had any vicarious bleeding.

Previous history: Patient has given birth to nine children, three of which are living. Five years ago she was operated upon for laceration of the cervix. Since the time of operation she has been fairly well. Throughout her menstrual life she has had more or less trouble at the menstrual periods, this trouble consisting in slight attacks of raising of blood, which has always been of a bright red color. Her physicians have told her never to mind these affairs, as they were perfectly natural, and, in fact, did her more good than harm. At the time of menstruation she as a rule has a great deal of pain, is nervous, depressed, and given

to crying spells. The menstrual flow for a number of years was very free at these times, often lasting eight or nine days, but of late it has been quite scanty. On the contrary, the raising or spitting up of blood has been more frequent and the amount of blood larger. Of late the patient fears that there may be some disease of her lungs.

Present condition: A large-framed, fairly healthy appearing woman, of middle age. Complains of the coughing up of blood during the menstrual periods. Says this never occurs at any other time. On yesterday menstruation began, and this morning she was seized with a very severe attack of hæmoptysis. Claims the amount of blood she lost was fully a quart, but of course she exaggerated in this regard. A physical examination of the chest showed a few bubbling or moist râles at the apices. No dulness on percussion. Vocal fremitus normal.

Treatment: Ergot and hamamelis for hemorrhage, combined with rest in bed and a nourishing diet. Subsequently antituberculous treatment was instituted, but in spite of all means to combat the disease she gradually lost flesh and strength, night sweats set in, cough became distressing, and, to make a long story short, she took on all the signs and symptoms of acute tuberculosis, from which she is now dying.

In this case certainly the vicarious bleeding from the lungs was a predisposing cause of the tuberculous disease.

Case III.—K. M——; birthplace, Ireland; age, twenty-four; occupation, servant; condition, unmarried.

Family history: Parents, brothers, and sisters healthy. No hereditary taint.

Previous history: At thirteen patient began to menstruate, and soon after this time she noticed a slight "sore" on her lower lip. At times this sore would bleed, the bleeding generally occurring at the menstrual epoch. Patient claims that the sore never troubles her between the "periods," as healing takes place promptly after the bleeding attacks, only to break out again at a subsequent mentrual period.

Present condition: A strong, healthy appearing young woman. Appetite good. Bowels regular. Sleep normal. General health good.

Complaint is made of condition of lower lip. Examination shows the same to present a vesicular purpuric eruption, situated near the median line on the mucous membrane of the lower lip. At the present time patient is menstruating. During this menstruation there has been no bleeding from sore on lip, but this she says is exceptional. Anæmia is present to some extent. No signs of tuberculosis discovered in this case.

Treatment: Constitutional for anæmia. Glyceride of tannin for local use.

This case was seen but once.

Case IV.—Mrs. D——; birthplace, Ireland; age, forty-six; occupation, housewife.

Family history: No hereditary taint.

Present condition: Was called in to see this patient because of an obstinate attack of epistaxis. Inquiry reveals the fact that these nose-bleeding attacks are very apt to occur at the menstrual periods. The present attack appears to be worse than usual. The commencement of this trouble dates back a number of years.

Physical examination: Patient very anæmic and much debilitated. No signs of tuberculosis present, though her general appearance is tuberculous.

Treatment: Ergot and hamamelis were given for hemorrhage, and later constitutional treatment was instituted with some degree of success.

Case V.—Miss A——; age, twenty-four; birthplace, United States; condition, unmarried; occupation, bookkeeper. Patient began to menstruate at fourteen. When about twenty years old she noticed a small rose-colored spot just under the left eye. This spot remains all the time, but during the menstrual period it becomes very bright, with slight swelling and redness surrounding. Nothing was advised in regard to treatment. There never had been any vicarious hemorrhage in this case.

Case VI.—Miss S——; birthplace, Germany; condition, unmarried; age, twenty-two; occupation, seamstress. Hereditary taint absent.

Previous history: Patient began to menstruate at sixteen. Was well and healthy up to six months ago, when she began to have vomiting-spells, which finally resulted in attacks of hæmatemesis. These bleedings are always worse during the menstrual periods.

Present condition: Patient is a delicate appearing young woman. Skin very pale, membranes anæmic. Lungs and heart normal. Patient seems very nervous and trembles during this examination. No tumor found in the epigastric region. Slight tenderness over region of stomach. Pain is always present after eating and is relieved after vomiting or as soon as the stomach is empty.

Treatment: Milk diet, rest, pepsin, bismuth, opium, and ergot.

Subsequent history: This patient was seen by me only once. I was enabled, however, to learn later that she improved after the time I saw her, but subsequently developed all the symptoms of melancholia, on account of which she was removed to an institution for the treatment of mental diseases.

Conclusions.—1st. There can be no doubt as to the actuality of vicarious menstruation.

2d. It is not an uncommon condition.

3d. It should not be lightly regarded, especially when there is any bleeding from the lungs.

4th. There is a close relationship between vicarious menstruation and pulmonary tuberculosis.

5th. The association of vicarious menstruation and nervous conditions.

6th. While Case V. was not a case of vicarious menstruation, strictly speaking, it presented a phenomenon similar to it.

7th. In Case VI. there was a possibility of the same being gastric ulcer; but as the bleedings were generally worse during the menstrual epoch, and as a rule occurred most frequently at these times, it is fair to assume that the nature of the affection partook of vicarious hemorrhage.

8th. The possible relationship between vicarious menstruation and certain forms of insanity, particularly depressed conditions, as, for example, melancholia.

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A Mechanical Device for Separation of Urine in the Bladder.—An ingenious and simple device for separately catching the urine from the female ureters is one described by A. Neumann (*Deutsche medicinische Wochenschrift*, 1897, No. 43). It consists of a tube containing within it a distensible screen; after introduction of the tube into the bladder, this screen is pushed forward in such a manner as to divide the bladder sagittally into two parts, this artificial wall being held in place by its pressure on the anterior and posterior bladder walls. The finger in the vagina guides the screen so that it is central and between the openings of the two ureters. The author has diagnosed with this instrument a one-sided pyelo-nephritis. The method is simple, safe, and easy of execution.

REPORT OF A CASE OF REMOVAL OF THE APPENDIX; CŒLIOTOMY FOR SECONDARY PELVIC ABSCESS, FOLLOWED BY FÆCAL FISTULA; INTESTINAL RESECTION (WITH THE USE OF THE MURPHY BUTTON) IN THE SAME PATIENT.[1]

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In this eminently surgical age, when asepsis and skilful technique have made many operations, once most formidable and rare, matters of every-day occurrence, one hesitates to ask the attention of his professional brethren to the account of a single case, lest what seems most noteworthy and exceptional to him may to others be but another repetition of a tale too often told.

There are few who make any pretence to surgery who have not removed the appendix: secondary abscess, necessitating a second operation, has often been reported; and, since Murphy introduced his button in 1892, the ingenious and time-saving device has been used scores of times.

Yet, in spite of all this, it is believed that the following case has points of interest that are worthy of being placed on record. It certainly gives weighty proof of the necessity of immediate operation in certain kinds of appendicitis; it illustrates the fact that fæcal fistulæ should be kept under observation until closed; and, more than all, shows how a strong and healthy constitution, backed by that intangible, all-important factor, the *vis medicatrix naturæ*, will help the surgeon more than knowledge, skill, dexterity, and patience. The history of the case is as follows:

The patient, W. F——, was a boy, fourteen years old, who had always been in good health except for frequent attacks of indigestion. In the spring of 1897 one of these attacks kept him in the house for three or four days. At this time the possibility of there being some inflammatory action in or about the appendix was considered, but not seriously entertained. Since then he had been in apparently perfect health up to the time of his present illness.

On October 18, 1897, he was taken sick with general abdominal pain and nausea. When he was seen he next afternoon by the writer, there were pain and tenderness all over the lower half of the abdomen, more marked in both iliac fossæ; there were no dulness on percussion and no tumor; the temperature was 99° F. The next morning pain was rather more marked in the left iliac fossa, and the other signs were unchanged. In spite of the lack of grave symptoms, the patient's face had the appearance of one suffering from severe septic trouble. The diagnosis of perforative appendicitis with probable septic peritonitis was made, and was concurred in by Dr. T. W. Harvey, of Orange, who saw the patient in consultation about 11 A.M., and agreed that immediate operation was indicated.

Accordingly the patient was taken to the Mountainside Hospital, and at half-past three the operation was begun by the writer, assisted by Dr. Harvey. The appendix was found lying free, with the tip just over the brim of the pelvis. It was of the size of the little finger, red and angry looking, with two small spots of gangrene at the tip (after its removal it was found to contain an enterolith). There was general purulent pelvic peritonitis, but there were no adhesions. The appendix was removed, the abdominal cavity flushed with normal salt solution, and packed with sterile gauze. The operation lasted an hour, and there was very little shock. The next day there was a free discharge of clear serum from the wound, and everything was looking well. During the next week the general condition was good, except for a profuse mucous diarrhœa that was finally relieved by a dose of castor oil.

For the next three or four days there were nausea and pain across the abdomen, which became much distended and tympanitic; considerable flatus was passed without relief. The wound healed steadily and firmly by granulation. An examination made November 4th, two weeks after the operation, showed a distinct, symmetrical, rounded swelling, dull on percussion, to the left of the median line, three inches below the level of the umbilicus. Digital examination showed marked bulging of the anterior wall of the rectum. The diagnosis of secondary pelvic abscess was made, and, with the assistance of Dr. Harvey, the patient being under ether, an incision four inches long was made on the left side midway between the umbilicus and the anterior superior spine of the ilium. The small intestines presented at the wound and were found matted together, and on one coil two spots of gangrene, about two inches apart, were seen. With difficulty the adhesions were separated, until at a depth of some two inches the abscess was found, and from it was evacuated at least a pint of thin foul-smelling pus. The next day there was a free discharge of pus and fæcal matter from the wound.

A few days after this operation it was found that the gangrenous spots seen in the bowel at that time had broken down, and that there were two openings, each the size of a nickel, through which fæcal matter was discharged through the wound—the general abdominal cavity having been walled off by adhesions. Neither flatus nor fæces had passed by rectum, and though liquid nourishment was well taken and nutritive enemata were retained, the patient seemed to be losing flesh and strength, and it was feared that the openings were so high up in the bowel that he would starve to death if some radical measures were not taken. Meantime the abscess had been discharging freely.

Dr. McBurney, being called in consultation, advised against operation, thinking that, owing to the weak condition of the patient and in the presence of so large an amount of pus, it would be extra hazardous, and feeling convinced that sufficient nourishment could be assimilated. His advice was to keep the abscess well drained, and, for a while at least, allow the natural healing processes to take their course; if necessary, an operation for closing the fæcal fistula, or possibly a resection of the bowel, could be performed at a later date.

The subsequent progress proved the wisdom of this course. The next day there was an evacuation of fæcal matter through the rectum, the first for nearly two weeks, and the general condition began to improve forthwith. The abscess cavity contracted slowly, and finally ceased discharging.

From this time progress was uneventful and uninterrupted, except for a chill and rise of temperature to 104.5° F. on November 29th. No cause was found for this, and the next day and subsequently the temperature and pulse were normal.

The patient left the hospital December 17th. At this time the external wound had contracted to the size of the little finger; a probe could be readily passed into the two openings in the bowel; the sinus could be plugged with cotton, so that only three or four dressings were needed in the twenty-four hours; there were daily evacuations of the bowel through the rectum. In a week or ten days the patient could take short walks out of doors, and was in excellent general condition. The fistula contracted rapidly, and by January 1st was

[1] Presented at a meeting of the surgical section of the New York Academy of Medicine, held February 14, 1898, and at a meeting of the Orange Mountain Medical Society, held February 4, 1898.

of the size of a lead pencil. The hope was entertained that there was a good chance that no further operative interference would be needed.

On January 6th there was a sudden attack of vomiting, accompanied by moderate abdominal pain. Through the next day nausea and pain continued, necessitating an injection of morphine in the evening; an enema produced a large normal fæcal movement. The next day pain continued, and there was vomiting of abundant clear, odorless fluid, tinged with bile; there were two normal stools following enemata, and about noon a discharge from the rectum of nearly a pint of shreddy mucus. This was followed by relief of pain for two or three hours. During the next day, the fourth from the beginning of symptoms, vomiting continued and the paroxysms of pain were very severe and frequent. There had been no rise of temperature, and the pulse remained about 80. It should be noted that there had been no discharge through the fistula since the beginning of the attack. A probe could be passed for about an inch into the fistula and there stopped. It seemed probable that the lumen of the bowel had been obliterated, and that an operation was a matter of necessity.

Accordingly on the next day, January 10th, the patient was again taken to the Mountainside Hospital, and the operation was performed by the writer, assisted by Dr. Harvey. As there was some doubt about the site of the obstruction, a median incision was first made, and through this it was seen that the colon was collapsed and empty, while coils of the small bowel were much dilated and reddened. Exploration showed no cause for obstruction, other than what might be at the fistula. In order to make this exploration in a satisfactory manner, the incision was extended in both directions nearly from the umbilicus to the pubes. Attention was now turned to the fistula, which, at the beginning of the operation, had been packed with iodoform gauze. Two elliptical incisions, joining at either end so as to include the scar and fistula between them, were made. As was expected, the knuckle of bowel containing the two openings was adherent here, and, pressing upon it and constricting it, were three or four other knuckles of bowel, adherent to the abdominal wall and to each other. With much difficulty and the consumption of valuable time these adhesions were all separated, but, in spite of care, a rent an inch long was made through the bowel wall at one point. This was closed with a Lembert suture of fine silk.

It was now possible to lift from the abdominal cavity the knuckle of bowel that was adherent to the fistula. The two openings in it were about as large as when they were first seen months before, showing that the obstruction had not been due to cicatricial contraction. This piece of bowel, some three or four inches long, was excised, and an end-to-end anastomosis made by means of a Murphy button. In doing this a V-shaped piece was excised from the mesentery, which had been previously tied off with catgut. The joined bowel was then dropped back, the abdominal cavity was freely flushed with hot decinormal salt solution, and both wounds were closed with silkworm-gut sutures, without drainage.

Owing to several difficulties encountered—much bloody oozing, particularly near the scar, the separation of the intestinal adhesions, the repair of the rent in the bowel, etc.—the operation lasted nearly three hours. The patient had been freely stimulated with strychnine and whiskey, and by two or three enemata of hot salt solution (and also by the salt solution put in the abdominal cavity), but at the close of the operation he was in a state of profound shock. The pulse was 195 and barely perceptible at the wrist; the respirations were shallow and rapid; the skin was cold and clammy. Stimulants, external and internal, were freely used, and with their aid, but more with the aid of the extraordinary vitality and recuperative power which had been shown throughout the illness from its beginning in October, the patient rallied, and in twelve hours the pulse had dropped to 160 and the general condition correspondingly improved. For the next two days there was naturally much anxiety felt whether all probable complications had been safely avoided. Within four or five hours after the insertion of the button there was a large liquid fæcal movement *per vias naturales*—this showing that all obstruction had been removed and that the joint was tight, temporarily at least. From this time forward the functions of the bowel were performed naturally and without disturbance. There was some inflammatory action in and about the wounds, due undoubtedly to skin infection, which is not surprising when it is remembered that a fæcal fistula had been discharging for two months. The wound, however, healed practically by first intention.

Two days after the operation the temperature rose to 102° F., and for the remainder of the week was between 100° and 101° F.; after this it was normal. The pulse continued over 100 for a week. The diet consisted exclusively of liquids, not including milk, until the button was passed, after which it was gradually increased. On the eleventh day the button could be felt in the rectum with the tip of the finger; as it was not passed after a copious enema, it was readily removed by the finger the next day.

Three weeks from the day of the operation the patient was discharged from the hospital, well. Since then he has gained rapidly in flesh and strength, and now seems perfectly sound.

Progress of Medical Science.

Acute Partial Enterocele.—Dr. Frank A. Stahl, *Journal of the American Medical Association*, October 2, 1897, closes a long and quite exhaustive article on the subject of acute partial entrocele with the following: "1st. Acute partial entrocele does occur. 2d. The symptoms of an acute partial enterocele are of a milder type than those of a complete enterocele; if this enterocele is strangulated the vomiting is not stercoraceous, constipation is not absolute. Exceptionally, the reaction is so slight that the condition continues unrecognized. 3d. Because of the mildness of symptoms, smallness of size, and its tendency to disappear, it requires most careful differentiation. 4th. Acute partial enterocele is to be especially differentiated in its early form from enlarged inguinal gland; in its later or inflammatory form from an adenitis suppurativa. 5th. The acute form of partial enterocele, if not relieved, either induces the usual reactionary changes of an acute hernia or it is converted gradually into the chronic form of partial enterocele. 6th. Its treatment is reduction, by taxis or herniotomy."

Motor and Sensory Channels in the Cord.—The generally quoted conclusions from experiments are that motor channels cross at the bulb, sensory channels in the cord. Both statements must be qualified, and we may say at once that, whereas precision will be added to the first statement, reservations to the second must be made amounting almost to contradiction. With regard to motor channels, while their major part cross at the decussation of the pyramids, a minor part (in man) cross in the spinal cord, and we shall see that these parts are picked out by degeneration, as well as recognizable by their tardy development, as the crossed and direct pyramidal tracts. But with regard to sensory channels, the evidence is far more uncertain and unfinished. Clinical evidence shows that the sensory

tract crosses somewhere, but not where; until recently the statement was repeated unchallenged, and by mere force of repetition acquired perhaps undue credit, to the effect that sensory channels cross in the cord. Now, however, there is an increasing disposition to abandon this view; the recent experiments of Gotch and Horsley, and those of Mott, have yielded evidence in opposition. The electrical token of centripetal impulses has been found most pronounced on the same side of the cord as excitation; monkeys after hemisection have been found with the less sensitive leg on the same side as the lesion, as was originally stated by Galen seventeen hundred years ago, presumably from experiments on monkeys. To such opposition evidence must also be added the indirect testimony of degeneration—ascending degenerations above a hemisection are most marked on the same side of the cord, and degenerations between the bulbar nuclei and the cerebral cortex cross the middle line at the decussation of the fillet. We seem, in fact, to be approaching the conclusion that sensory as well as motor channels have their major decussation in the bulb, their minor decussation in the cord: in which case we must admit that sensory impulses from each side of the body can pass up both sides of the cord, but that most pass on the same side.—Dr. Augustus Waller, "An Introduction to Human Physiology," page 481.

Treatment of Gonorrhœa in Children.—Dr. Jules Janet, in his article on gonorrhœa, in the *Revue de Thérapeutique Médico-Chirurgicale*, December 15, 1897, says that this affection is especially frequent in little girls, although it may be encountered quite as often in small boys. Dr. Viger has cured a gonorrhea in a boy of two years by means of permanganate washings, twelve to twenty-five centigrams to the thousand. Dr Janet had no experience of this kind, and he gives no rules for its treatment, but he has quite frequently cared for little girls. In these cases the localizations of the gonococci are less numerous than in the woman, because the urethro-vulvar glands are less developed. The most frequent site is the vulva and the vagina, more rarely the urethra and the rectum, and very exceptionally the uterus and adnexa. The diagnosis of vulvo-vaginal infection presents no difficulty. That of urethral infection is made in the following manner: Wash the vulva and vagina with borated water; then introduce by the vaginal orifice an olivary explorer of appropriate calibre and slight resistance, and by means of this the urethra is pressed forward and one obtains a urethral drop if there is infection. This exploration should be made at least two hours after the last micturition. Diagnosis of ano-rectal gonorrhea presents no difficulties, but the uterine variety can be diagnosticated only with an endoscope. This is difficult and necessitates a special outfit, so that it is not necessary to go into details. The treatment of these different localizations of the affection is similar to that of homologous foci in women, but necessitates a small instrument. The author prefers a short fine Nélaton sound (five centimetres in length, 9 Charrière in calibre) pierced only at the extremity. After the vulva has been carefully washed with tampons of cotton steeped in permanganate of potassium (fifty centigrams to one thousand) the syringe is filled with the same solution. The beak is armed with the little sound anointed with glycerin, and this is introduced into the vagina, which is then copiously irrigated. In the beginning this treatment should be repeated twice daily, a little later once. It can be done by the nurse. Later one abandons the irrigations, but the child should be kept under observation, so that any relapse may be treated early. In other cases the treatment is more difficult and must be carried out by the physican himself. There are sometimes mucous para-urethral diverticula which are so deep that they need especial irrigation with a small syringe armed with a fine metallic cannula. If the urethra is infected, after the vulva and vagina have been washed, a new Nélaton sound like that used in irrigation of the vagina is introduced into the urethra; the urine is evacuated and a permanganate solution (twenty-five centigrams to one thousand) is injected with the syringe. The urethral orifice is well opened and the child is made to expel the permanganate introduced into the bladder. It is prudent not to repeat this operation oftener than once a day, and to stop as soon as the urethra seems to be disinfected, for this disinfection takes place more frequently than that of the vulva and vagina, and it is not so liable to reinfect itself, especially if one is careful to continue washing the vulva with permanganate solutions several times daily. This last precaution is useful in all cases, even in simple vulvo-vaginitis. The treatment of ano-rectal gonorrhea consists in washing the anus with cotton tampons steaped in permanganate of potassium (fifty centigrams to the thousand), then injecting into the rectum with a large short Nélaton sound fifty grams of the same solution, which the child will evacuate immediately afterward. The treatment should be repeated once daily.

Vaginal Irrigations.—Irrigations of hot water at 104° to 122° F. act by the heat, which increases the circulation of the pelvic viscera. At a temperature of from 104° to 112° F. they have vasodilating action, while at a temperature of 112° to 122° F. they cause constriction of the vessels. The latter temperatures are indicated in certain forms of metritis, especially the atrophic type when due to prolonged lactation or to early menopause in stout subjects. In these cases the hot vaginal douche will regulate the uterine functions and the menses. Hot irrigations are of considerable value in chronic metritis, with a hard uterus, due to venous stasis, and by their use the symptoms disappear, menstruation becomes more abundant, and the mucosa takes on its normal rose color. In metritis of puerperal subinvolution they cause a retraction of the enlarged organ, as well as the mucous transformation of the bloody lochia. In the abovementioned conditions it is often well to increase the effect of the irrigation by the addition of slightly irritating substances, such as the chloride or carbonate of sodium; but what is still better is a teaspoonful or two of the plain tincture of iodine to every quart of water. But under no circumstances should we use antiseptic substances, properly speaking, because they cause changes to occur in the epithelium and bring about absorption by the mucosa, whose power of absorbing is greatly increased by heat. Hot injections of 112° to 122° F. act remarkably well in cases of chronic peri-uterine inflammation, as well as in peri- and para-uterine exudations. Combined with rest, these exudations may become absorbed, and many patients are cured who at first might have appeared to be only suitable subjects for surgical interference. In such conditions the irrigations must be used in large quantities, at least two quarts morning and night. If the patient is not sick enough to be confined to bed, she should be instructed to remain on a sofa for two hours after each injection. It sometimes happens that the irrigation will make the pain worse, a fact which indicates that there is a recent, non-encapsulated pelvic exudation, often containing very virulent bacteria, and if this is present the irrigations must be immediately stopped for a certain lapse of time. The same applies when the pain increases in cases of pelvic abscess of peri-uterine origin with an acute or febrile evolution.—*Annals of Gynecology and Pediatry*, September.

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THE THYROID.

THERE was a time when the scientist was inclined to accept the dicta of his co-workers, and when he quietly digested the results of some new discoveries without the fear of having them discredited before they had barely been swallowed. But times have changed, and the *fin-de-siècle* atmosphere has penetrated the laboratories of the chemist, the physiologist, and the pathologist. At the present time refutation and disputation follow closely on the heels of the announcement.

Perhaps in no field of experimental medicine have the reports of the past half of the decade been so discordant and difficult to bring into correlation as those bearing upon the physiological activity of the thyroid gland and its kindred structures. While there have been published excellent *résumés* of small fields of this discussion, the ground as a whole has not been thoroughly covered, so that the excellent and extensive discussion by Dr. R. H. Cunningham, "Experimental Thyroidism," *Journal of Experimental Medicine*, vol. iii., 1898, page 147, is especially opportune.

In this is presented a complete and well-rounded contribution, treating of all the important work that has gone before, with an extended series of experiments which have been conducted by the writer, with the view of bringing the many discordant views into some sort of harmony. As a result of his studies the writer draws the following conclusions:

1. Absolutely fresh thyroid gland is not poisonous, in the usual sense of the term, when absorbed through the alimentary canal.

2. The symptoms of induced thyroidism are manifestations of an intoxication resulting from the ingestion of decomposed thyroid material, a conclusion that agrees in part with the previously related observations of Lanz.

3. The so-called experimental thyroidism is not specific for the thyroid alone, for the ingestion of many substances derived from animal tissues other than the thyroid gland may produce an intoxication strikingly similar in every respect to that of experimental thyroidism.

4. Most, if not all, animal tissues yield substances which, if injected in large quantities directly into the circulation or beneath the skin, will produce an intoxication often very similar to that produced by injections of various substances derived from the fresh thyroid tissue.

5. The effects resulting from the intravascular or subcutaneous injections of aqueous extracts, decoctions, and concentrated extractives of the thyroid tissue, of the thymus, of muscle, etc., are by no means necessarily indicative of the function and the action of the hypothetical internal secretions of the same tissues during life.

6. The utilization of the fact that ingestion of decomposed thyroid material produces on certain occasions an intoxication with certain symptoms similar to those of Graves' disease is not justifiable for the furtherance of the theory that the symptoms of exophthalmic goitre result from an overproduction of the thyroid secretion.

7. Our results lead us to conclude with Drechsel that the fresh thyroid tissue yields at least probably two substances that are capable of palliating the symptoms of the acute cachexia in totally thyroidless dogs.

8. The thymus tissue also yields one and probably two substances that are equally as capable as the thyroid extractives of palliating the acute cachexia of totally thyroidless dogs.

9. Neither of the above substances is an enzyme, nor does either contain iodine.

10. Neither the feeding of minced raw thyroid glands, nor the injection of aqueous thyroid extracts, decoctions, and concentrated solutions of the extracted palliative thyroid principles is capable of keeping totally thyroidless young dogs alive longer than a few weeks (possibly three weeks). Still less capable are the thyroid preparations containing decomposition products.

11. The presence of one, or usually several, small accessory thyroid bodies, which gradually hypertrophy and wholly or partially assume the functions of the excised thyroid lobes, accounts for the occasionally long survival of thyroidectomized, thyroid-fed young dogs.

12. Totally thyroidless young dogs are so quickly overwhelmed by the cachexia, and the intervals between the thyroidectomy and the onset of the severe dyspnœic attacks, and subsequent deaths differ so slightly, no matter which of the usual varieties of fresh food is employed, that kinds of fresh food cannot be unquestionably affirmed to influence the onset of the cachexia in any especially definite manner. Animal foods, in which constituents poisonous to rabbits have developed, probably hasten slightly the onset of the severer symptoms, and the vaunted remarkable modifying influence of a diet of ordinary milk, such as Breisacher observed, does not exist in the case of the totally thyroidless dog.

13. Monkeys whose general metabolism is disturbed in consequence of the removal of a greater portion of the thyroid gland, evidently become more susceptible to those constituents of meat that are poisonous to rabbits, and sufficient clinical evidence exists for concluding that probably a like susceptibility to animal foods containing such constituents also exists in men

when the function of the thyroid gland is sufficiently disturbed.

14. And, finally, as regards the thyroid factor in the pathology of exophthalmic goitre, the writer agrees with Gley, that the majority of the symptoms in many patients with that disease can apparently, from an experimental standpoint, be as plausibly explained by the hypothesis of partially deficient thyroid activity as by the hypothesis of augmentation of thyroid function.

UNSANITARY CONDITIONS OF CUBA.

It has been computed that during our civil war one man in every thirteen died of disease, or proportionately five times as many as were killed in action. The proportion of deaths resulting from disease and wounds within the past three years has been infinitely higher than this rate among the Spanish troops stationed in Cuba. By some statisticians, it is asserted that no less a number than fifty per cent. have succumbed, the vast majority of whom have died from disease. That this is not an exaggerated statement seems probable from the report for 1896 of Dr. Angel de Larro Cerego, surgeon-general of the Spanish army in Cuba, which has just been published in Madrid, and, considering the source from which it emanates, may be taken as a fairly correct account. From it we gather that of the 200,000 Spanish troops landed in Cuba during that year, fifty per cent. were invalided in the first two months of their arrival by endemic diseases and exhaustive marches. Of the patients admitted to hospital during 1895, there were 7,034 suffering from yellow fever, the admissions from which reached 23,580 in 1896 and 4,636 in the first six months of 1897, making a total of 35,250 cases of yellow fever, of which 11,347 were fatal. The fact, too, must be borne in mind that this awful death rate takes no count of the mortuary records of this fever occurring outside the military hospitals in the towns and villages throughout the island. From June 30, 1896, to June 30, 1897, there were 79,552 cases of malaria of such severity as to necessitate the patients being sent to hospital. The island of Cuba, as is well known, has for long rested under the imputation of being one of the most unhealthy portions of the globe; the deadly palmetto swamps lying on either side of the trocha are from May to October hotbeds of malaria, in addition to the prevailing climatic fevers. In regard to the mortality among the Spanish soldiery, much of the excessively high death rate must certainly be ascribed to the lack of efficient sanitary measures and to improper food and clothing. It is stated that the rank and file of the army are attired in linen, in the dripping and feverous swamps in the rainy season, when the whole air is impregnated with fever germs. Yet, although there can be no doubt that the troops of this country will be looked after with far greater regard for their health than the unfortunate soldiers of Spain, still the fact must be faced that the dangers from disease will be very great, even though every precaution be taken. We drew attention some few weeks ago, in the Medical Record, to the absolute necessity of having sterilized water for the use of troops on active service, and then recommended the adoption of an efficient portable filter. Especial point is given to these remarks by a report published in the London *Lancet* of May 14th, which runs as follows: "Enteric fever is now very rare in Alexandria, where Berkefeld filters have been provided for about two years. The disease also is much less common in Cairo than it was before the introduction of efficient filters."

SOME REMARKS ON MALARIA.

In connection with the forthcoming invasion of Cuba, a paper read by Surgeon-Captain Rogers, at the meeting of the Epidemiological Society, held in London on February 18th, upon the influence of the movements of the ground water upon the incidence of malaria in India, may be commended as worthy of the attention of the military medical authorities of this country. This is especially the case in respect to some remarks made by *The Lancet* when commenting on this paper. These are as follows: "It is too commonly assumed that in malarial countries the disease is associated only, or at least chiefly, with swampy and with low-lying districts. Its endemic occurrence on the table-land of the Deccan, of which Chota Nagur (the district in which Dr. Rogers made his observations) forms a mountainous portion, is a sufficient refutation of this supposition." It certainly is true that we possess no very exact knowledge of malaria, despite the fact that it is probably the most widely spread and one of the most fatal to human life of any disease. Nevertheless, until some further and more convincing proofs are to hand to the contrary, the majority of persons will still cling to the old belief that it is more general as well as more virulent in low-lying swampy districts than in the higher lands. However, Dr. Rogers' observations upon the influence of the ground water upon the incidence of malaria were of a most interesting nature, the more so that he had the opportunity of studying the subject under exceptionally favorable conditions. He was in charge of four hundred soldiers. The ground-water level was taken twice a week in three wells contiguous to the camp, and the mean of these three levels was taken to represent the level of the ground water. As invariably occurs in those districts where malaria prevails, all but a very few of the cases happened in the rainy season. Dr. Rogers' investigations, however revealed the fact that the fever did not begin with the rain, but commenced to increase only when the rains had raised the ground-water level from twenty-five to sixteen and one-half feet from the surface, thus demonstrating that the heavier the rainfall the more prevalent the fever. *The Lancet* argues from this coincidence that Dr. Rogers appears to have established the fact that there is a causative relationship between certain movements and levels of the ground water and the incidence of malaria. This view seems to be a reasonable one to take, and, if justified by further investigations, will go far toward clearing up the question as to the incidence of malaria.

News of the Week.

Conference of State and Provincial Boards of Health of North America.—The thirteenth annual meeting of the conference of State and provincial boards of health of North America will be held in Detroit, Mich., August 9, 10, and 11, 1898. The "Quarter-Centennial Celebration of the Establishment of the Michigan State Board of Health" will be in progress at the time. After the meeting it is expected that the sanitarians from outside of Michigan will be given free transportation to various summer resorts. Therefore, it is hoped that all will come prepared to spend at least a week in Michigan. The first day, August 9th, will be given to meeting with the Michigan quarter-centennial celebration in effecting organization and hearing reports of committees. The second day will be given to answers to the following questions: "What are the principal lines of work of your board? How is each accomplished? What modification, if any, does the experience in your State suggest?" The third day, August 11th, will be given to discussion of "The Restriction and Prevention of Tuberculosis."

Use of a Brooklyn Hospital Offered to the Government.—The use of St. Catharine's Hospital in Brooklyn, with its mother superior, forty-five nuns, the entire hospital staff, and all the attendants, has been offered to the government. The institution is conducted by the sisters of St. Dominic.

The Western Ophthalmologic and Otolaryngologic Association.—The third annual meeting of this society was held in Chicago, April 7 and 8, 1898. The address of welcome was made by Dr. F. Henrotin, president of the Chicago Medical Society. Dr. A. Alt, of St. Louis, Mo., responded for the association. The annual address was then read by the president, Dr. B. E. Fryer, of Kansas City, Mo. After the usual routine business had been concluded, a scientific communication was read by Dr. Herman Knapp, of New York City. The ophthalmologic and otolaryngologic sections each held five separate and two joint sessions, many articles of interest being read and discussed. The last joint session was occupied with the exhibition of clinical cases. The following officers were elected for the ensuing year: *President*, Dr. J. Elliott Colburn, of Chicago; *First Vice-President*, Dr. W. Scheppegrell, of New Orleans; *Second Vice-President*, Dr. Casey A. Wood, of Chicago; *Third Vice-President*, Dr. H. Gifford, of Omaha, Neb.; *Treasurer*, Dr. W. L. Dayton, of Lincoln, Neb.; *Secretary*, Dr. F. M. Rumbold, of St. Louis. New Orleans was unanimously selected for the next meeting, which will take place just before the Mardi Gras of 1899, thus allowing the members to conclude their scientific session with the gayeties of the carnival season.

The Hospital Ship "Relief," now being fitted up here, will have accommodations for one hundred and fifty patients. All the staterooms on the main deck will be removed, giving space for large airy wards. The frames of the bunks, which will be in two tiers, are to be of gas pipe, and each cot will have a woven-wire and cotton mattress. On each side a wire screen will be attached to prevent the patient falling out with the rolling of the ship. Attached to the rear of each cot will be a wire crate to contain bandages, dressings, and medicines. The cots will be arranged in rows, the space between rows being wide enough to permit the easy passage of a litter and its bearers. On the port and starboard rails davits will be fixed, to which will be fastened cradles, to be raised and lowered by a steam windlass, by means of which the sick or wounded can be expeditiously raised to the deck from the transport barge alongside the ship. The cradle will then be run along a track to the ward, or to a bath-room if the patient's condition will allow of a bath. There is a disinfecting apparatus for the purification of the patient's clothes and of the mattresses and bed clothing after a cot has been vacated. There will be separate bath and toilet rooms for convalescing patients, for the officers and medical staff, and the nurses. There will also be an isolating-ward on the upper deck. The ship will also be provided with electric fans, an *x*-ray plant, a refrigerating plant, an ice-making machine, and a distilling plant. As quickly as possible the patients taken aboard the ship will be transferred to the nearest shore hospital. Dr. L. H. Williamson, of St. Louis, and Dr. R. M. Myers, of Washington, have been appointed to service on the *Relief*.

Measles is prevalent among the soldiers in camp at Hempstead, San Francisco, and elsewhere.

Trained Nurses for the Army and Navy.—A bill has been introduced in the house of representatives by Mr. Cummings, of New York, authorizing the secretaries of war and navy to enlist one hundred female nurses for service in hospitals and hospital ships during the war with Spain. The nurses must be graduates of training-schools, and will have the same pay as hospital stewards.

The Early Diagnosis of Measles.—Dr. F. P. Atkinson, of Surbiton, writes in *The Lancet* that he has carefully observed a number of children who had been exposed to the contagion of measles, and has noted that for a fortnight at least prior to the appearance of the influenza symptoms, although they seemed to be perfectly well and had a good appetite, the temperature persistently remained at 97° F., but it at once commenced to rise directly the running of the nose and eyes commenced. He thinks that in cases of doubt whether children have taken the infection or not, this may be of service in helping to a correct decision.

Mount Sinai Hospital.—Dr. Carl Koller has been appointed adjunct ophthalmic surgeon to the above institution.

The German Hospital of San Francisco has opened its doors to the Red Cross Society for the care of sick soldiers. The San Francisco branch of the Red Cross has raised over $30,000.

Dr. Anita McGee has been appointed to the duty of selecting nurses for the army. She is one of the vice-presidents-general of the Daughters of the Revolution, and wife of Dr. W. J. McGee.

Dr. Mavrogenis, of Athens, is said to be the last survivor of the Greek war of independence. He was born in 1798, and was one of the first to rise against the Turks in 1821.

Control of Tuberculosis in Denmark.—A committee of the Danish Medical Association has caused to be distributed throughout that country placards and pamphlets giving careful instructions for the prevention of tuberculosis. The placards are hung up in railway carriages and stations, schools, and factories, and the pamphlets are distributed gratis in public places. A movement is on foot also for the establishment in many parts of the country of sanatoria for consumptives. The disease has been increasing at an alarming rate in Denmark, and it is hoped that these measures will be successful in restricting its spread.

Contract Medical Practice.—The Connecticut State Medical Society, at the annual meeting recently held, passed a resolution discountenancing the making of contracts for medical service at a fixed annual rate with lodges, mutual-benefit societies, and medical clubs.

Dentists for the Army.—Representative Otey, of Virginia, has introduced a bill into congress providing for the appointment of a brigade dentist for each brigade, with the rank of major, and for each regiment, with the rank of captain.

A Convalescent Hospital is being fitted up at Fort Myer, Va., for the reception of all soldiers recovering from the effects of wounds or operations. They will be sent there from the other hospitals as soon as they are in condition to be transported without injury, and will be kept there until discharged cured.

Slander of a Physician.—The court of appeals of this State has recently handed down a decision of general interest, as showing that a medical man has some rights which an offended patient is bound to respect. A physician who was called in to attend a neighbor's daughter, prescribed belladonna for her. Within a few days she began to lose her eyesight, and became almost totally blind. When this loss of vision was first discovered, the attending physician and another who was called in consultation attributed it to the action of the belladonna, but later they came to the conclusion that it was not due to this cause. The doctor was obliged to sue for the payment of his bill, the defence being that the blindness was caused by the belladonna administered. The jury disagreed, but the man later paid the bill, or a portion of it. Afterward he published an article, asserting that the physician through his carelessness and ignorance in prescribing belladonna was directly responsible for the patient's loss of vision. The doctor then brought an action against the writer of the article for slander and libel. The expert witnesses all testified that belladonna could not have caused the blindness, but the court nevertheless acquitted the defendant. This decision has now been reversed by the court of appeals, the judge holding that the justification sought to be established by the defendant had failed, and that the verdict was against the weight of evidence.

The American Medical Temperance Association.—The annual meeting of this association will be held in this city at Prohibition Park, Borough of Richmond, on July 5th and 6th. Papers have been promised by Drs. T. H. Manley, D. H. Mann, J. J. Morisy, and Ira Van Gieson, of New York; W. Van R. Blighton, of Buffalo; M. H. Hunt, of Boston; F. Horner, of Marshall, Va.; Norman Kerr and Sims Woodhead, of London; and Sagrund, of Paris. The following are the officers of the association: *President*, N. S. Davis, Chicago, Ill.; *Vice-Presidents*, J. B. Whiting, Janesville, Wis., F. E. Yoakum, Shreveport, La., J. Taft, Cincinnati, Ohio; *Secretary*, T. D. Crothers, Hartford, Conn.; *Corresponding Secretary*, J. H. Kellogg, Battle Creek, Mich.; *Treasurer*, G. W. Webster, Chicago, Ill. The late Dr. Quimby, of Jersey City, was a vice-president of the society at the time of his death.

Hispano-Portuguese Surgical Congress.—The first meeting of this congress, which it has been arranged to hold every year in Spain and in Portugal alternately, was held in Madrid from April 18th to the 23d, under the presidency of Dr. Calvo y Martin. The list of communications included about ninety papers. The proceedings seem to have been somewhat hurried, or the orators and readers of papers were allowed a more liberal time limit than is customary elsewhere, inasmuch as of twenty-two communications on the programme of the first day only ten could be dealt with. Portugal was not represented at the congress.—*British Medical Journal.*

An Experiment in Government.—The San Diego (Cal.) Medical Society has turned over a new leaf and elected the women members to fill the offices instead of men. Dr. Magee, who has been secretary for ten years, stepped out and made room for Mrs. Dr. Nelson. During the present year the society will have a lady president, a lady vice-president, and a lady secretary. —*Kansas Medical Journal.*

"The Journal of Tropical Medicine" is the name of a new monthly journal to be published in London by John Bale, Sons & Danielsson, under the editorial management of Mr. James Cantlie and Dr. W. J. Simpson. As its name implies, the new periodical will be devoted to the publication of papers on tropical diseases and to the discussion of subjects, scientific and practical, affecting the interests of medical men in tropical and subtropical climates.

The California State Medical Society.—The twenty-eighth annual meeting of this society, recently held at Fresno, was marked by unseemly quarrelling, which culminated in a personal encounter between two of the members. The meeting was largely attended and the programme gave promise of much useful scientific discussion, but the politicians succeeded in creating a scandalous disturbance and bringing the medical profession of the State into disrepute.

Society Reports.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Meeting, Held in Brooklyn, N. Y., May 16, 17, and 18, 1898.

Monday, May 16th—First Day.

President's Address.—Dr. Thomas R. French, of Brooklyn, welcomed the members to Brooklyn. The history of the association was presented by Dr. Delavan in 1894, and the speaker would therefore confine his remarks to the progress in laryngology and rhinology in the past twenty years. Twenty years ago those who confined their work to one line were few; now their number was legion, and the tendency toward the selection of a special field for practice was growing stronger each year. In no department of medicine had the workers increased so fast as in laryngology. Years of practice together with natural aptitude were absolutely necessary in order to acquire skill in the surgical treatment of diseases of the larynx, but much less practice was required to permit intranasal surgical work to be done; this fact was unquestionably accountable for the large amount of indifferent or mischievous nasal surgery. The advice of Sir Morell Mackenzie ten years ago, that a man should practise medicine and surgery during the first ten years of his career, should be considered of greater value to-day than ever before. Despite the evils that were growing out of specialism, the fact that men were centring their thoughts on special lines of work more than ever would result in the largest amount of good to mankind. The advance of civilization was dependent upon the subdivision of labor. It therefore behooved us, individually and collectively, to think well on these things, that we might determine how best to secure for specialism the minimum of harm and the maximum of good. While the methods of treatment for laryngeal tuberculosis employed to-day gave better results than heretofore, we could scarcely look for signal success in dealing with this disease until the nature of tuberculosis was better understood. The speaker said that a corresponding fellow of the society, Dr. John Mackintyre, had succeeded in obtaining by the use of the *x*-ray an image of the septum, the roots of the teeth, and other hard structures in the neighborhood. He had also demonstrated the process of ossification in the thyroid cartilage. In a letter to the reader of the paper, dated January 6, 1898, Dr. Mackintyre had said that it was possible to get shadows of the larynx, but they were not so sharply defined as in the photographs of hard bone or foreign bodies.

The Laryngo-Tracheal Neoplasms of Tuberculosis.—Dr. J. N. Mackenzie, of Baltimore, read a paper with this title. He said the larynx and the trachea were the seat of various forms of neoplasms, which could be separated into three groups. In the first group was granular hyperplasia (ordinary granuloma). The second variety of growth might be termed papilloma; this was less common than the preceding, and was found in any part of the larynx, especially in the posterior wall. The speaker had found only one reference in literature giving the microscopical appearances of these growths, and in this instance the neoplasm was proved to consist of papillomatous tissue. In view of the fact that the essential nature of these neoplasms was as yet undetermined, he wished briefly to give the history of the following case. A man had tuberculosis of the lungs with consolidation at the right apex. The posterior part of the larynx was filled with a mass resembling pieces of coral. On the right vocal cord, on inspection, was seen a growth which extended under the cord, apparently springing from its free border. On phonation the growth passed beneath the cord on the opposite side. Several pieces were removed for examination. The microscopical report showed papillomatous nodules cut across and epithelium partly necrotic; also dense round cells, with a few giant cells. In the submucous layers the normal tissue was replaced by new tissue. The case fairly represented a type of laryngeal neoplasm found in tuberculosis. Microscopically it showed papillomatous tissue infected with tuberculous disease. The third variety was a true tuberculous tumor. In 1882 the speaker first called attention to this variety of tuberculosis occurring in the windpipe, and claimed that he was the first to give a description of this condition. By tuberculous tumor he meant an isolated, well-defined growth, occurring independently of ulceration or tuberculous infiltration, and covered by normal mucous membrane, with little or no tendency to ulcerate. These tumors were very rare, and he himself had seen but three cases. These cases should be clearly differentiated from ordinary infiltration, first by their gross appearances: histologically tuberculous tissue was found in the deeper parts of the growth, whereas in the ordinary infiltration the tuberculous mass was found under the epithelium. In regard to diagnosis, the growth might be confounded with malignant neoplasms, and the only certain way to differentiate was by the microscope. The color, situation, presence of tuberculosis in the body, etc., were of value in diagnosis, but the only crucial test was examination by the microscope. A great responsibility was imposed when a question of operation arose: we should not use the knife recklessly. As had been shown, these growths pursued a slow course with little tendency to ulceration, and unless serious interference with function was threatened, it was better to leave them alone; on a man in the last stages of tuberculosis it would be worse than useless to operate. In regard to the after-treatment, it had been advised to apply lactic acid or the galvano-cautery. In cases in which the joint was involved and the entire larynx seemed to be more or less affected, the question of extirpation would come up.

Dr. Delavan agreed with the reader of the paper in thinking that interference with these growths was liable to do harm. He thought the hypodermic or submucous injection of lactic acid better than any other form of treatment.

Dr. Rice, of New York, related the history of a case that he had seen one and one-half years ago, in which was found characteristic granulation tissue between the arytenoid cartilages. A few weeks ago this growth was seen to be slightly broken down and superficial ulceration existed. The growth was grayish in color, touching both vocal bands, and filled the posterior part of the larynx; it had not been examined microscopically.

Dr. H. L. Swain, of New Haven, said that one of the largest growths of the interarytenoid space that he ever had seen occurred in a tuberculous patient. The microscope showed evidences of papillary hypertrophy. In appearance it resembled papilloma. The patient was sent to the Adirondacks, where she remained a year and a half, when she returned home nearly cured and free from symptoms. She later developed tuberculosis of the wrist-joint.

Climatic Treatment of Laryngeal Tuberculosis.—Dr. W. F. Chappell, of New York, spoke of the climatic conditions and the general surroundings of Liberty, N. Y., and described the method of treatment, both local and general, in use at the Loomis Sanatorium.

Dr. Emil Mayer, of New York, said that in the treatment of these cases he had reached practically the same conclusion as Dr. Swain, that the patients, when sent to sanatoria, should be kept there for a much longer time than they were desirous of remaining. He thought small buildings or cabins to be used for sleeping advisable. The question as to where patients were to be sent was one of the utmost importance, whether to a clear, cold climate, to a dry climate, or to a warm one. In all these cases it should be borne in mind that the supervision of a competent physician was requisite.

Dr. James E. Newcomb, of New York, thought that in this country we were extremely lax in our care for this class of patients. Many felt that a case of tuberculosis was to be kept as short a time as possible, and then sent on to some one else. In sanatoria, patients became impressed with the fact that tuberculosis was a contagious disease, and it made them stronger allies of the physician in his efforts to have the sputa properly cared for, especially in the patient's home.

Dr. Thomas R. French, of Brooklyn, was favorably impressed with Dr. Mayer's cottage plan, and there was no question in his mind that all sanatoria should have but one or two rooms in each building.

Bernay's Sponge in the Nose and Nasopharynx as a Hæmostatic.—Dr. W. K. Simpson, of New York, demonstrated the use of the Bernay sponge, which, he said, consisted of cotton fibre subjected to many hundred pounds of pressure and compressed to a disc one-sixtieth of an inch in thickness. The sponge would swell to fifteen times its size and absorb twelve times its weight of liquids. Its efficacy in general surgery depended upon the absorbing power, which enabled it to be used as a cleansing agent and subsequently to pack the wound. Through this power of absorption and increase in size it exerted pressure, which was limited only by the size of the cavity in which it was packed. In tamponing the anterior or posterior nares these sponges had proved far more efficient than cotton or gauze, which had to be frequently reinserted; this inconvenience was not found with the Bernay sponge. Then the slow absorbing power of cotton or gauze was no guarantee against hemorrhage. In case of epistaxis, the sponge should be cut in semicircular form and introduced into the nostrils with the convexity upward. A string could be fastened to the sponge to assist in its removal. In tamponade of the posterior nares a disc could be used without shaping. As to the other uses, the speaker said he had found these sponges an excellent splint in the later stages of an Asch's operation for deflected septum. They were also of use in fracture. They could be covered with gutta percha and introduced into the nares to prevent adhesions forming after operations. They were useful as intranasal dressings by reason of their power of absorbing discharges. As a means of conveying medicament to various parts of the nose, they were also very useful. As in the case of all nasal tampons, hemorrhage might occur on their removal; this could be avoided by the application of some antiseptic ointment to the sponge before its introduction.

Dr. Mackenzie asked if the sudden expansion did not give rise to pain.

Dr. Swain asked if the sponge would contract so that it could be removed with ease.

Dr. Simpson, in answering Dr. Mackenzie's question, said that he had not noticed that it caused severe pain: that the expansion would be in proportion to the amount of hemorrhage. The cavity of the nose was soon filled by the sponge, with but little pain. The sponges were particularly applicable in those cases in which it was absolutely necessary that no hemorrhage should occur after operation. In answer to Dr. Swain, he said that the sponges did not contract; they continued to expand and were subject to the same rules as applied to any other packing.

Kirstein's Autoscope.—Dr. J. W. Gleitsmann, of New York, showed this instrument. It was for use in cases in which the laryngeal mirror did not disclose the posterior laryngeal wall. This autoscope should be used when one was satisfied that the whole larynx could not be seen. In the German Dispensary it was noticed that the patients on whom this instrument was used did not return. He thought there might have been a lack of dexterity in its employment. He had used it himself in Kirstein's clinic, and found that it could not be used satisfactorily without anæsthetizing the patient. The instrument could not be left *in situ* sufficiently long to obtain a good view of the larynx.

Enlargement of the Lingual Tonsils a Cause of a Cough.—Dr. Beverley Robinson, of New York, read a paper on this subject. For many years past, he said, it has been recognized that enlargement of the lingual tonsil is a cause of cough, although few appreciated the fact. Its beginning was insidious, especially in young adults. If the cough lasted for only a few hours the general practitioner usually examined the chest and then examined the throat; this examination being negative, he concluded that it was a stomach or a reflex cough. The speaker emphasized the point that impaired condition of general health and a continuance of a catarrhal relaxation were predisposing causes. Anæmia, constipation, and habitually irregular habits as regards food and rest were responsible for this condition. Overfeeding and indulgence in cake in children caused congestion of the lingual tonsil. Rheumatic dyscrasiæ, frequently found in adults, were causative factors which must be attended to. The symptoms of acute congestion of the lingual tonsil were mainly those of an irritative cough, and there was little to be learned on inspection. At first there was some expectoration, later it became thick muco-pus, and later still there was found blood, which came from an inflamed lingual tonsil. All the symptoms were worse at night. Sometimes the patient went to bed and slept from one to three hours, when he was aroused by a cough which anodynes failed to relieve, except for a short time. The speaker had noticed that the tonsil appeared red and swollen, and in his observation the left side was more frequently enlarged than the right. He had found the fossa completely filled by a swollen gland, which overlapped the border of the glottis. It should first be determined if any underlying dyscrasia was present, and if it was this should be treated. Gout and rheumatism should always be considered. Swollen lingual tonsils were unaffected by cough mixtures. External medication could not be relied upon. The compound tincture of iodine, with an equal amount of glycerin and water, applied every day, might reduce the size and generally acted well. Change of air was a very essential thing in the treatment. If there was marked renal deficiency, spirits of Mindererus was useful. If there was a malarial element, the use of Warburg's tincture was of benefit. For hypertrophy of the tonsil the speaker recommended, first, the electro-cautery; second, the snare; and third, ablation by means of the tonsillotome.

Dr. James E. Newcomb recommended the use of boroglyceride locally and oxalate of cerium internally, the latter drug being given so that one drachm was taken in the twenty-four hours.

Dr. Clarence C. Rice said that the lingual tonsil did not enlarge in early life. As regarded acute inflammations, physicians often overlooked these acute attacks of inflammation, which were put down as glossitis. The speaker did not believe that children had localized attacks of inflammation of the lingual tonsil

which were not secondary to inflammations in the neighborhood.

Dr. H. L. Swain, of New Haven, said he was interested in the subject of lingual tonsil, and that in 1885 he had given the *résumé* of sixty-six cases observed, in which he went into the histological condition of the tonsillar growth and its development. At birth there was no adenoid tissue to be observed at the base of the tongue. After zymotic diseases in children there resulted a congestion and an enlargement of the adenoid tissue at the vault of the pharynx, and accompanying these there was an enlargement of the lingual tonsil.

Dr. John O. Roe, of Rochester, said that the lingual tonsil was composed of the same structure as the faucial and pharyngeal tonsil, and that when there was an enlargement of one tonsil there was an enlargement of the other. A few years ago he invented a tonsillotome for the removal of the lingual tonsil, made somewhat on the same plan as the one of Dr. Mackenzie. In adults the instrument worked beautifully. He spoke of the varicose condition found at the base of the tongue. Sometimes a nodular mass was seen which had to be removed piecemeal, and here the growth should be snared with a stiff wire. This operation caused but little pain, especially when cocaine was used.

Dr. J. W. Gleitsmann, of New York, related the case of a woman who had an obstinate cough which was relieved after the removal of her tonsil. Later the cough returned, and another examination revealed a small hidden growth, the removal of which cured her. Cases occurring in children, in which cough was produced by an enlargement of the lingual tonsil, he had not had the opportunity to see.

Fracture and Depression of the Anterior Wall of the Maxillary Antrum, with Restoration of the Depressed Wall.—Dr. John O. Roe, of Rochester, reported this case. On the 15th of last February a woman, aged thirty-five years, got into an altercation with a man and received a severe blow with the fist, breaking in the anterior wall of the antrum like an eggshell. The speaker did not see the patient until three days after the accident. The face then presented a one-sided appearance, on account of the cavity which was situated in the cheek. An operation was performed. The upper lip was raised, the dissection being carried high; by keeping close to the bone there was but little hemorrhage. A hole was drilled through the antrum, entering the cavity through the canine fossa. By means of a curved sound the crushed wall of the antrum was raised into the right position. On the sixth day the dressings were removed. The antrum was cleansed until the hole existed no longer. There appeared no evidence of trouble, and the contour of the face was entirely normal.

The Treatment of Fractures of the Nose.—Dr. John O. Roe read another paper, with this title. He said these fractures were infrequent, on account of the yielding character of the cartilaginous septum. Fractures of the nose were the consequences of forces applied from without, and usually were the accompaniments of fracture of the superior maxilla. Such injuries were usually attended with severe hemorrhages. Fractures of the nose were usually bilateral. These fractures were classified as simple, compound, and comminuted. Injuries to the lacrymal apparatus affected the resonance of the voice, and one should therefore be careful in examining these parts. In the treatment, replacement of the parts should be done as speedily as possible after the receipt of the injury. Much swelling could be prevented by antiseptic measures. If the fracture was a compound one, the parts should be rendered aseptic and the wound brought together with sutures. In replacing the fragments the sound and little finger should be used conjointly. The smooth-bladed forceps was useful, but too much force should not be applied. If the septum was fractured, it should be replaced at the same time. These parts should be held in place by means of splints. The external one should be of aluminium or copper, and it could be shaped to the normal contour of the nose, and should be large enough to cover the entire nose. The edges of this splint should be fastened by a piece of adhesive plaster, while another piece strapped the whole thing to the side of the face. For the internal splint, the speaker had made two arms, one of which went on the floor of the nose and the other exerted general pressure from the outside. These two arms were so arranged that they could be regulated by means of a screw; by means of this sufficient pressure could be brought to bear to bring the parts to their normal position.

Dr. Casselberry, of Chicago, said the apparatus he used was made of plaster-of-Paris bandage, and was perfectly satisfactory. The parts should first be properly adjusted; elevation from within and support from without should be aimed at. Inside the nostril he used iodoform gauze, which was retained very well without much inflammatory reaction. The plaster-of-Paris bandage was first moistened and then passed across the nose, spreading it out over the cheek: this was moulded in place, and, by means of pieces of tape attached to the upper and lower angles, it was held in place. After it had become fixed and additional pressure was desired, pieces of cotton might be used. This dressing was extremely simple and very convenient, the only disadvantage being that it disfigured the patient for two or three weeks.

Dr. J. Payson Clark, of Boston, referred to the splint devised by Cobb, which, he said, consisted of a head band moulded to the head in the same way that one's hat was shaped to it. From the front of this two straight bands came down, and one could exert pressure on the parts which needed it.

Dr. George A. Leland, of Boston, mentioned the case of a patient who had been thrown out of a carriage and kicked by the horse, and had sustained a fracture of the nose. The superior maxilla was driven backward into the antrum. In these cases the interior of the nose bulged forward and so left plenty of room for the use of the finger in replacing the fragments. In these cases he advised the use of the finger rather than of the other instruments. He wished to emphasize the importance of intranasal rather than extranasal replacement of the fragments; also splints in the interior rather than upon the exterior of the nose.

Early Diagnosis of Whooping-Cough.—Dr. Henry L. Wagner, of San Francisco, read a paper with this title. In many cases one could shorten the duration and prevent the spread of this disease by adopting proper measures. This was especially interesting to the general practitioner, but particularly to the rhinologist and ophthalmologist, who so often saw this disease in its very beginning. The diagnosis could be made at once by bacteriological examination of the secretions. The nose was the primary place of infection. The secretions from a normal mucous membrane contained but very few bacteria, and in whooping-cough there was a large number of bacteria, especially of one kind. These bacteria were characteristic. The bacterium, when full grown, was two or three times as long as it was broad; it was rounded and somewhat thickened at the ends, and was divided apparently in the middle. It was surrounded by a capsule, not unlike Friedländer's pneumococcus. The method of staining was by using a one-per-cent. acetic-acid solution and then Loeffler's solution—fuchsin, 1; carbolic acid, 5; glycerin, 50; water, 100. The

speaker used plain aniline dyes. Argonin solution could also be used; this stained the bacteria blue and the cells red.

Dr. Swain asked if the speaker was successful in finding the bacteria in every case of whooping-cough; also how long before the patients began to cough.

Dr. Wagner answered that he had found them in every case. He considered the bacteria as really the cause and the primary cause; they might be found in the pharynx, but the most usual site for them was in the nose, and they could always be found before the whooping-cough set in

Leprous Ulcer of the Lip.—Dr. Henry L. Wagner, of San Francisco, reported a case of leprous ulcer of the lip. This had been considered to be rare, only one case having ever been reported. At the international congress it was held that the primary seat of this contagious disease was the mucous membrane of the upper respiratory tract. The disease could be communicated by contact. The case he reported occurred in a middle-aged white man who had lived in China. He consulted the speaker for a broken-down ulcer with small nodules on the lower lip. This had existed for many months, with little pain. The speaker suspected that it was syphilitic. The patient's nose and throat showed nothing abnormal. He scraped away some of the ulcer and submitted it to examination, which examination revealed a large number of lepra bacilli and innumerable suppurative bacilli. The lepra bacilli were lying about among the staphylococci and streptococci of suppuration. These bacilli were lying partly in and partly without the cells. The patient went away and unfortunately did not return.

The Use of Schleich's Solutions for Anæsthesia in Nose and Throat Operations.—Dr. Emil Mayer, of New York, read this paper. In 1895 Schleich presented his results from experiments with this new mixture. In its use, in the speaker's experience, there was no stage of excitement or any asphyxia or cyanosis. Bronchitis or broncho-pneumonia did not occur. It was rarely associated with vomiting and the patients became conscious in an incredibly short space of time. The speaker had used this method of anæsthetizing in twenty-three cases. Solution No. 1 being evanescent, it had not been used in twenty-one cases, but he was now better impressed with the use of No. 1, which he would use more in the future. There was no excitement; the tension of the pulse was markedly increased; the breathing was quiet, and in from three to five minutes after inhalation was discontinued there was complete consciousness. An average of six drachms was used. The youngest patient operated upon was two years of age. Schleich had used this method in more than one thousand cases without complications. He thought this rapid return to consciousness must be especially alluring. The speaker made the following deductions: Schleich's theory of adaptability of the boiling-point of the anæsthetic to the temperature of the body was amply proven; these mixtures were safe for short operations; there was no stage of excitement; the tension of the pulse was increased; the patient became rapidly conscious.

Dr. Delavan, of New York, thought well of this method. He referred to the plan of Mr. Bennett, of London, who, he said, used nitrous-oxide gas as a preliminary. It seemed to the speaker a satisfactory and safe method. The rapid return to consciousness he did not think was always desirable in throat work.

Dr. W. K. Simpson, of New York, thought that the rapidity with which the patients went under the anæsthetic and the rapidity with which they recovered from it were two great points in favor of this new compound.

Tuesday, May 17th—Second Day.

The Hoarseness of Singers.—Dr. S. W. Langmaid, of Boston, read this paper. In this condition the nasal mucous membrane, he said, was swollen, the turbinates were enlarged, and the larynx was congested. Occasionally there was absence of catarrhal affection, but there was a disability resulting from impaired muscular power of the glottis. Laryngitis was usually present. The acute catarrhal condition might be superimposed upon long-existing infection of the cavity by catarrh of the nose. The speaker then referred to the predisposing factors of this condition, such as neuroses, constitutional defects, anæmia, rheumatism, atmospheric conditions, etc. In these cases weakness of the intrinsic muscles—the tensors, the adductors, and sphincters—always existed. He briefly referred to the various conditions noted, such as the bending inward of one or both cords, the divergence of the posterior portion of the cords, and, what was more constant, deflection of one or both cords, more often only one. For some years he had noticed that when one cord was deflected it was the left, but of late years he had found the reverse true. He emphasized the importance of removing any inflammatory conditions, as but little good could be done while such conditions remained. First, treatment should be directed to the mucous membrane. If stenosis existed, it should be removed. The swellings should be reduced. If there was a septal spur or a deflected septum, it should be attended to. The glands in the posterior larnygeal space often interfered with singing in young persons. In the dry and painful state of the throat, steam inhalations were to be recommended. In the case of muscular weakness, strychnine was of benefit. Complete rest of voice was desirable.

Spasm of the Tensors of the Vocal Cords.—Dr. J. Edwin Rhodes, of Chicago, read a paper with this title. He said that dysphonia spastica was a very rare affection, Mackenzie having seen only thirteen cases. The condition was produced by an abnormal use of the voice; possibly there was also some neurotic condition not yet understood. It was an occupation neurosis, the same as writer's cramp. It was usually connected with some nasal affection. The symptoms appeared upon attempted phonation. The voice was a jerking one when it was made to pass from a low to a high tone, and there was difficulty in getting started. There was an involuntary breaking in the speech. Disturbances of reflexes and hysteria were other elements in its etiology. The prognosis was very unfavorable. In the treatment local applications, strychnine, sprays, etc., were of no benefit. The best possible treatment was long rest of the voice, general tonics, such as iron, arsenic, iodide of potassium, electrical treatment, etc. Astringent applications were sometimes of value. The use of cocaine in the nose relieved the spasm for some time, but of course this could not be recommended. One should not hope for any cure in any fixed line of treatment.

Dr. Simpson, of New York, said it was very pathetic to have singers, who had become hoarse, appeal for relief in order that they might go on with their occupation to gain a living. He had come to the conclusion that the fundamental cause of singers' hoarseness was to be found in the fact that the human larynx was never intended to be used for constant singing; this was not natural. The human larynx was intended to be used for conversation. This was shown to be true in amateurs as well as in professionals; even the de Reszkes must occasionally stop the use of their voice. The fundamental cause of this condition was overuse of the voice. The speaker referred to the baritone voice, in which a man had a natural baritone voice with limitation to high or low tones; when a baritone

made an effort to accentuate high or low tones, it produced a condition called stretching the vocal cords. When was the proper time to begin the use of the voice? In reply the speaker referred to the case of a young girl who began singing when very young; after three or four years she was absolutely unable to sing. In this case there was a lack of tension of the vocal cords. She had overstrained and was worked out. He also related the history of a case showing the other extreme. An elderly woman, aged fifty-five, had musical aspirations and thought she would take singing-lessons. She was put through the same drilling as others; she soon became hoarse and had marked swellings of both arytenoid cartilages.

Dr. Mackenzie, of Baltimore, reported a case occurring in a boy, aged sixteen. Ever since puberty he had been troubled with his voice changing into the falsetto. He had been under treatment since that period, about two years, when the speaker first saw him. He found that he had an obstruction from a nasal spur, which caused him some difficulty in breathing. The boy's larynx was pushed up over one and one-half inches, and the speaker thought the muscles of the larynx had contracted too much. He then placed one finger over the Adam's apple and the other he introduced into the boy's mouth, and pushed the larynx into its proper position. He then had the boy talk, which he began to do with as good a voice as he ever had. The boy went home then and in two weeks he had a magnificent chest voice. He thought that the future treatment of all these cases should be muscular training. In his clinic he had one woman whose duty it was to teach muscular movements.

Dr. Delavan, of New York, thought that another factor in the production of this condition was that which caused a relaxation of the system in general and the vocal organs in particular. He expressed himself as extremely opposed to the use of cocaine, on account of the alluring nature of the remedy and the ease by which one might become attached to it.

Lipoma of the Larynx.—Dr. F. W. Hinkel, of Buffalo, reported the case of a man, aged fifty-five, who in 1895 was in excellent general health. In 1883 the patient was conscious of a swelling at the back of his tongue, and consulted Dr. Roswell Park, who removed a tumor, which was about one and three-fourths inches long and one-half inch in diameter. After some years there was a gradual return of the symptoms, and in February, 1893, Dr. Park again removed a tumor, which was one-third of an inch in diameter. Again, in 1894 he removed a tumor similar to that removed the year previous. The patient consulted the reader of the paper, in 1895, for a cough and difficulty in swallowing. There were no other symptoms. He stated that his father had died of cancer of the face. Upon the left epiglottis a pinkish body was found, which was soft or doughy in consistence, and there were varicosities at the root of the tongue. On March 9, 1898, the patient again consulted him for discomfort, and upon examination a tumor was found at the free margin of the epiglottis and bending toward the right. The left aryepiglottic fold was thickened. There was no involvement of the ventricular band. With forceps and scissors the growth was readily removed. It was three-fourths of an inch in length. The epiglottis presented a curious appearance. The epiglottic fossa was filled with a tissue similar to the tissue removed. The persistent recurrence of the tumor led the speaker to send a specimen to Dr. Wright for examination, who, from the microscopical appearances, reported the case to be one of lipoma of the larynx.

Dr. Hinkle also reported a case in which death followed immediately an operation for nasopharyngeal adenoids under chloroform anæsthesia, and made some remarks on anæsthetics in this operation.

Recurrence of Adenoids after Excision.—Dr. Arthur Ames Bliss, of Philadelphia, reported three cases, in which recurrences had appeared. To prevent the return of the tumors he advised a very thorough removal; the incomplete removal of these adenoids would, as a rule, result in their recurrence.

Operative Treatment of Pharyngeal Adenoids.—Dr. D. Bryson Delavan, of New York, said that he would especially refer to the surgical means used for the removal of these growths. It was twenty-one years since attention was called to this subject. The two grand principles which should be kept in view, and without the recognition of which success could not be obtained, were thoroughness and humanity. One should aim at a minimum of discomfort. Thoroughness meant complete removal, because any tissue left behind was certainly unhealthy tissue. In regard to the humanitarian side, certain methods gave less pain, shock, and injury. The statement had been made that the operation was not painful; but for many years he had carefully questioned his patients, and invariably the answer was that the removal of the adenoid was accompanied by sharp pain. In operating upon these growths four classes of instruments were used, which were, 1st, the curette; 2d, the forceps (Gottstein); 3d, the adenotome with plain edges; 4th, the wire loop or snare. Another instrument of great use was the finger nail. The sharp spoon should not be used, on account of the danger of hemorrhage. The Gottstein knife was very popular. The advantages of the various instruments were treated of, as well as their disadvantages. It was best for the patient to be in a state of complete anæsthesia; the skilful and thorough removal with a blunt pair of forceps was desirable, when through reason of age or superior strength of the patient or some other special indications general anæsthesia was desirable.

Dr. J. W. Gleitsmann, of New York, said that three or four per cent. of the operations were followed by recurrences. He had used ethyl bromide very extensively, and was well satisfied with it.

Dr. Casselberry, of Chicago, said he had used ether exclusively for many years when a prolonged operation was necessary. In brief operations he thought bromide of ethyl might be good.

Dr. Wagner, of San Francisco, said that he had given up the usual method of operating, on account of recurrences in some cases. He now had a hook with which he pulled the growth down; then with a special set of instruments which he had had made he dissected everything out. He had never seen recurrences following this operation, and there were no bleeding whatsoever and no pain in its performance.

Dr. A. B. Thrasher, of Cincinnati, thought that fatalities from the use of chloroform were due more to the method of administering it than to the drug itself.

Dr. J. E. Logan, of Kansas City, spoke of the preparation of the patient before giving these anæsthetics. He thought that in young children only a general anæsthetic was to be considered. In operations upon adults, he never gave a general anæsthetic. In adults he used forceps almost entirely; in children, the curette with the additional use of the finger nail properly cleansed. In operating about the origin of the Eustachian tube, he advised the use of the finger nail in removing any growths, and so obviating any danger of injury to these orifices.

Wednesday, May 18th—Third Day.

The discussion on the last three papers read at Tuesday's meeting, on the subject of adenoids, was continued.

Dr. Swain advocated the use of chloroform, operating in the primary stage of anæsthesia. There had been no bad effects from its use in his hands, and, in

spite of what had been said, he would go on giving chloroform.

Dr. Bryan, of Washington, thought it was very desirable that the patient should not be so completely under the influence of the anæsthetic that he would be unable to expel foreign matter; in other words, the reflexes should not be abolished. Unless the growth was thoroughly removed it would recur. He stated that it was his observation that in adenoid cases the obstruction often came from the mechanical effect of the secretions. The removal of the adenoids and the turbinates did away with many of the symptoms, but in many cases, in which it was stated that there had been a recurrence of the trouble, he had made an examination and found the throat and pharynx free; no adenoids were to be found, but there were present an acute rhinitis and an engorgement of the inferior turbinate. In regard to the instruments, he did not think there was any one instrument that would remove the growth entirely in all cases; hence he used the curette and the forceps. He had had one made with an anatomical curve: a cast of this region in many children was made, from which pattern a curette was formed.

The Upper Respiratory Organs and the General Health.—Dr. J. C. Mulhall, of St. Louis, read a paper with this title. The general health of every child that had a rhinitis was at fault, and this fault was often due to bad hygiene. Diseases of the upper air passages might produce disturbances of the general health, and disturbances of the general health might produce diseases of the upper air passages. Dr. Bulkley, of New York, had claimed to have cured an acute attack of rhinitis with large doses of sodium bicarbonate: he agreed with Dr. Bulkley as to this agent, and he considered it to be especially efficacious in those who were suffering from a uric-acid diathesis. This drug was good, too, in those cases in which there was a constant desire to hawk. Another factor in these diseases was an auto-intoxication from the intestinal tract. People eat hot bread and rolls for breakfast, cereals and sugar, and much candy, and so laid up a large supply of carbohydrates that were not worked off. The surgeon always had the intestinal tract cleared out before operations, in order to prevent infection from within; this was as important as the prevention of infection from without. It had been noted that a cut in the skin would heal much more rapidly if the intestinal canal was cleaned out by a calomel purge. Opera singers were acquainted with the fact that careful dieting and an abundance of outdoor exercise were productive of better voices. A patient, for instance, had nasal symptoms, and upon examination a nasal spur was found; there were also present symptoms referred to another part of the body; the removal of the spur was followed by removal of all the symptoms. Another patient referred to him was relieved by sawing wood; he lost thirty pounds in three weeks. Pugilists were frequent subjects of pharyngeal catarrh, produced by their wild living and bad habits; but as soon as they trained down for a fight, all these symptoms disappeared; all the bad things in the body were then eliminated. In the purulent catarrh of adolescence, unless the patient was taken away from books and the piano and placed on iron, outdoor exercise, and good food, no progress would be made toward the cure of the disease, no matter what local methods were used. Prophylaxis should begin in childhood. The nearer we approached the outdoor life, the better was it for our health. The head covering should be that which allowed air to touch the scalp. One should eat but three meals a day, and candy only after meals, if at all. Rubber shoes and mufflers were a mistake. The diet was most important. The speaker's motto was, "Long live the general health; away with the spray."

Dr. Mayer, of New York, said he had a practical suggestion to offer: in those patients suffering from grippe, with enlarged turbinates, and who suffered intensely, and for whose relief something must be done, he had found the tincture of gelsemium in small doses frequently repeated of marked benefit: or one could follow the advice of Dr. Delavan—puncture the engorged turbinates and then spray with menthol solution, following this with the tincture of gelsemium.

Natural Immunity.—Dr. Henry L. Wagner, of San Francisco, read a paper upon this subject. Two kinds of immunity were to be considered—the natural and the acquired. Natural immunity existed not only in the body, but also in the upper air passages. Microorganisms were constantly carried to all parts of the body by active respiration without causing infection of the body, which fact alone proved this immunity. The bactericidal power of the nasal mucus was referred to, as well as the active phagocytosis occurring in the mouth. Mucin was antagonistic to bacteria. It had been said that the physical function of mucin was to prevent mechanically the invasion of bacteria, but he had found that the immunity caused by mucin was produced by the development of a ferment like pepsin or trypsin.

Operative Treatment of Inflammation of the Frontal Sinus.—Dr. J. H. Bryan, of Washington, reported two cases, one of chronic suppurative sinusitis with caries of the frontal cells and a fistulous opening into the orbit. An incision was made along the eyebrow, just along the supra-orbital notch. The orbital plate was opened, and it was found that it communicated with the frontal sinus. The cavity was filled with granulation tissue. The sinus was freely curetted, and an attempt was made to pass a probe through the nasal duct: this could not be done until a trocar had been passed through into the nose. One week later the patient was discharged from the hospital. Ten days afterward the drainage tube was removed and the patient made an uneventful recovery. The scar of the incision was concealed by the hair on the eyebrow.

The second case was one of chronic frontal sinusitis, with suppurative caries of the frontal cells. An external operation was advised, and many of the carious ethmoid cells were removed by means of the curette. After the operation the patient grew worse; later purulent secretions were blown from the right nostril. Her headaches increased in severity. A radical operation was then advised and accepted. An incision was made through the eyebrow at a point just within the supra-orbital notch. A flap was raised and the bone just above the superciliary ridge removed by means of a trephine. The cavity was found to be filled with thick fetid pus. The vertical septum was broken down and the ethmoid cells were found to be in a state of caries. The septum was completely removed and all the diseased bone also. The parts were irrigated with a solution of chloride of zinc and the cavity was packed with gauze and irrigated daily with a bichloride solution.

Disease of the Accessory Sinuses.—Dr. J. W. Farlow, of Boston, reported a case of this nature, which was interesting from the fact of its following scarlet fever. There was, too, a thickening of the superior maxilla. Particularly to be noted was the absence of discharge from the nose. The eye was pushed outward, downward, and forward, and possibly the antrum was involved secondarily.

Acute Inflammatory Conditions of the Upper Air Passages Accompanied by Laryngeal Œdema.—Dr. Clarence C. Rice, of New York, explained that his reason for bringing this subject before the association was that he had found it had been so little discussed by the members. In the classification of this disease he wished to have it understood that laryngeal œdemas

due to diphtheritic infection were to be carefully excluded, which had not been done in many of the cases published. He thought it was also well to leave out of consideration cases of non-inflammatory œdema, or so-called "passive œdema," which was only a symptom of general disturbance and due to cardiac, renal, and hepatic disease. Another line of cases which should be properly excluded was those which might well be termed "chronic" œdema of the larynx, in which the swelling was occasioned by a chronic local disease, such as tuberculosis, syphilis, and malignant disease of the larynx. The paper therefore dealt with acute œdemas only. He included in his cases the œdemas due to traumatism and external irritants of all kinds. He found that while many authors made separate chapters in their text-books of œdematous laryngitis and erysipelas of the larynx, others combined the two under one consideration, and there were some observers who thought erysipelas was very frequently the cause of primary idiopathic œdematous laryngitis, and pathologically identical with it. Semon, of London, who had written a most interesting article on this subject, had stated his belief that erysipelas of the larynx, phlegmonous laryngitis, Ludwig's angina, were pathologically identical, differing only in virulence and locality of attack. He had tabulated fourteen cases. Sestier had used a classification which was perhaps as fortunate as any, calling the case typical when it originated in the larynx, contiguous when it proceeded from the pharynx or other parts, and consecutive when it occurred as a sequel to a previous disease of the larynx. He found that in one hundred and ninety acute cases it was primary sixty-eight times, and secondary one hundred and twenty-two. The late Sir Morell Mackenzie had stated that in nearly all the instances of so-called idiopathic œdematous laryngitis the disease was due to blood poisoning, and that he had met with it among hospital physicians, medical students, and nurses. He stated also that in every case that had come under his notice ample opportunity for acquiring septicæmia had been present. The paper referred to an epidemic of cases occurring in St. Louis in 1886 and presented to the society by Dr. Glasgow. Nearly all these cases began as pharyngeal trouble, the laryngeal œdema being secondary, and Dr. Glasgow felt that they were constitutional in their cause and showed rheumatic tendency. The author of the paper expressed himself as having grave doubts as to the pathological identity of acute primary laryngitis and erysipelas of the larynx. He had never been able to demonstrate this to his satisfaction, and thought it unwise to make the diagnosis without a corresponding erysipelatous condition of the skin. He quoted Mackenzie as saying that in the large majority of cases erysipelas of the pharynx and larynx occurred as an extension of a similar attack on the face. Mackenzie had seen but four cases, and in none was the diagnosis made until the disease extended to the skin. In fifty per cent. of Semon's cases the laryngeal œdema seemed to be secondary to cellular inflammation about the tonsils. Dr. Rice had tabulated for his paper forty-one cases reported by journals from the year 1887 to date, exclusive of the fourteen cases by Semon. He found that but four or five cases were reported annually, and that the prevalence of grippe since 1890 had not materially increased the number of reported cases. In about fifty per cent. of all the cases the cause was put down as "catarrhal," *i.e.*, due to exposure to cold. The author cited three cases of moderate laryngeal œdema of his own following peritonsillar inflammation; two cases of œdema of the larynx due to traumatism—*i.e.*, one following the use of the galvano-cautery applied to the lateral wall of the pharynx, and the other due to a foreign body which had lodged in the pyriform sinus; and two cases of œdema due to constitutional causes. These two cases seemed both to be preceded by inflammation at the base of the tongue, possibly due to inflammation of the lingual tonsil. There was no indication of diphtheritic exudation. Exactly what the infection was in these cases it was difficult to determine, but in neither case had there been pre-existing inflammation of the respiratory tract, except possibly inflammation of the tongue. The author thought the cases very rare in which there was an acute primary œdematous laryngitis which existed without relationship to any other inflammation in this location. He thought the possible existence of diphtheritic poisoning in many of these cases should be more carefully considered; and it was likely that some which were put down as primary and acute were really secondary to renal disease. Extraordinary exposure to cold, together with the effects of alcohol and tobacco, were potent factors.

The Use of Aqueous Extract of Suprarenal Glands, Locally, in the Upper Air Passages.—Dr. Henry L. Swain, of New Haven, read a paper with this title, of which the following were the conclusions: (1) The aqueous extract of suprarenal glands was a powerful, local, vasoconstrictor agent, and a contractor of erectile tissue, which it was safe to use in very considerable amounts without dangerous or deleterious effects locally or to the general constitution of the individual. (2) These local effects could be reproduced in the same individual, apparently any number of times, without entailing any vicious habit to either the tissue or the individual. (3) The use of the extract seemed rather to heighten the effects which might be expected from any given drug used locally after it. (4) In acute congestions it had its widest application and greatest opportunity for good, but in certain chronic conditions of the hay-fever type, when redundant tissue seemed prone to develop, it could be relied upon as one of the most helpful adjuvants at command.

Officers.—The annual election of officers resulted as follows: *President*, William E. Casselberry, of Chicago; *First Vice-President*, John W. Gleitsmann, of New York; *Second Vice-President*, F. Whitehill Hinkel, of Buffalo; *Secretary and Treasurer*, Henry L. Swain, of New Haven; *Librarian*, Jonathan Wright, of Brooklyn: *Delegate to the Council*, Thomas R. French, of Brooklyn: *Representative to the Congress of Physicians and Surgeons*, W. K. Simpson, of New York; *Members of the Council*, Thomas R. French, of Brooklyn; John O. Roe, of Rochester; W. H. Daly, of Pittsburg; Charles H. Knight, of New York.

Chicago was chosen as the next place of meeting.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Twenty-Third Annual Meeting, Held in Boston, May 24, 25, and 26, 1898.

Paul F. Mundé, M.D., President.

First Day—Tuesday, May 24th.

The meeting was called to order by the president in the hall of the Boston Society of Natural History.

Address of Welcome.—Dr. A. C. Sinclair, of Boston, delivered the address of welcome. He referred to the fact that twenty-two years ago Dr. James R. Chadwick, of Boston, took the first step toward the organization of this society, which began with a membership of thirty-nine.

Congenital Pelvic Kidneys Obstructing the Parturient Canal; Report of a Case of Vaginal Nephrectomy.—Dr. Edwin B. Cragin, of New York, read this paper. He said that although this condition was a rare anomaly, it occurred with sufficient frequency to be worthy the attention of the obstetrician and gynæcolo

gist. In round numbers it might be said to occur about once in a thousand cases. In by far the larger number, the left kidney was the one presenting this anomaly, and the condition was usually unilateral. He had been able to find recorded only five cases in which dystocia had resulted from this unusual position of the kidney, and to this list he could now add another. His case presented the following history: The patient was a Cuban, twenty-five years of age, whom he had first seen on May 8, 1897. She had had two preivous confinements, both of them requiring interference to effect delivery. Behind the cervix was a tumor which reduced the internal conjugate diameter of the pelvis to about seven centimetres. The other pelvic measurements were normal. As the tumor was situated quite low in the pelvis, it was decided to attack it by the vaginal route. It proved to be the left kidney. Vaginal nephrectomy was performed by first clamping the vessels and ureter at the hilus of the kidney, and after the removal of the organ applying ligatures and packing gauze firmly against the pedicle. Twelve hours after the operation labor began, and after about five hours a living child was easily delivered. From the ease with which the delivery was effected and the previous difficult labors, there was little doubt that the kidney was the cause of the previous dystocia. As the kidney in this case formed a cyst, it was the unanimous opinion of those who saw the case that the induction of premature labor would not have accomplished the desired result. The question of the possibility of Cæsarean section and replacement of the kidney had been considered, but in view of the low origin of the renal vessels, the shortness of the ureter, and the fixity of the kidney, it had been decided not to adopt this plan of treatment. The absence of the right kidney had been excluded by the abundance of normal urine excreted and the existence of hydronephrosis in the displaced kidney. From this experience Dr. Cragin drew the following conclusions: (1) A kidney, displaced into the pelvis, might cause dystocia; (2) the induction of premature labor, timed according to the amount of obstruction, was the procedure indicated; and (3) in rare cases, in which the pelvic kidney was in a condition of hydronephrosis, vaginal nephrectomy might be proper. He had failed to find in the literature a report of such a case of vaginal nephrectomy.

Dr. Howard A. Kelly, of Baltimore, said that he had seen three cases in which the kidney had been displaced in this way. In one of these the left kidney was in the pelvis, and in the other two the right kidney was displaced.

Dr. Hunter Robb, of Cleveland, said that one of the cases seen by Dr. Kelly had been in his practice. It was a case of double tubo-ovarian disease in which the kidney presented just above the brim of the pelvis. The mass was thought to be an adherent tube and ovary until the operation. Nothing was done with the kidney, as there were no symptoms referable to it.

Dr. S. C. Gordon, of Portland, and Dr. E. C. Dudley, of Chicago, each reported one case in which the kidney of a male was found at or below the brim of the pelvis.

Dr. Philander A. Harris, of Paterson, reported having operated upon a woman whose left kidney was located in the true pelvis.

Dr. Robb said that, as he had proved it was not necessary in dogs to strip off the capsule and peritoneum from the kidney, he would like to ask if Dr. Cragin had done so in his case.

Dr. J. Wesley Bovée, of Washington, D. C., remarked that nephrectomy seemed to be an unnecessarily severe measure in these cases.

Dr. J. Clifton Edgar, of New York, asked if Dr. Cragin had attempted to dislodge the kidney upward by postural treatment—a method which was wonderfully successful in cases of prolapsed funis.

Dr. Charles P. Noble, of Philadelphia, reported one case of congenital displacement of the kidney, in which the organ was found near the sacro-iliac junction. He expressed the opinion that a Cæsarean section was no graver than a nephrectomy, and that consequently, if in a case of dystocia due to displacement of the kidney the organ was not diseased, Cæsarean section would seem to be a desirable method of treatment.

Dr. Paul F. Mundé said that he had met with two cases of intrapelvic and evidently congenitally displaced kidney.

Dr. Cragin, in closing the discussion, said that he had stripped back the peritoneum, but not the capsule. Owing to the shortness of the ureter and renal vessels, the kidney could not be pushed up.

Pregnancy Following Ventrofixation with Improvements in Technique.—Dr. A. Lapthorn Smith, of Montreal, presented the results of a collective investigation on this subject. The following conclusions were based upon about twenty-five hundred cases, by forty-one operators, including one hundred and eleven cases of his own: (1) For the cure of retrodisplacements and also prolapse of the uterus, ventrofixation, with two buried silk stitches passed through the peritoneum and fascia, gave the most reliable results. (2) Ventrofixation should be reserved for cases in which abdominal section was necessary for other reasons, and in which pregnancy was not expected to occur. (3) Although pregnancy followed in only one hundred and forty-eight of the cases, in thirty-six of these there was pain, miscarriage, or difficult labor. (4) When suspensio uteri was performed—*i.e.*, attachment of the uterus to the peritoneum—only a few relapses occurred, and subsequent pregnancy and labor were much less complicated. (5) In the intra-abdominal method of shortening the round ligaments, the latter were able to develop as pregnancy advanced; and hence the serious accidents following ventrofixation were avoided. (6) Complications were more frequent when there was much anteversion of the uterus; hence the anterior surface of the fundus should be attached to the abdominal wall. (7) As large a surface as possible should be made to adhere by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum. (8) As a number of his correspondents had stated that they knew of many cases in which pregnancy and labor had not been unfavorably influenced by Alexander's operation, this should be preferred whenever the uterus and appendages were free from adhesions. (9) The results of Alexander's operation were so good that even when there were adhesions it might be well to free the adhesions by a very small median incision before shortening the round ligaments, after which the abdomen should be closed. This would not add more than five per cent. to the mortality, which in Alexander's operation was *nil*.

Treatment through the Posterior Vaginal Cul-de-Sac of Adherent Uteri.—Dr. William Pryor, of New York, read a paper with this title. He said that the posterior cul-de-sac operation, because of the position of the incision, enabled the operator to apply conservatism in a class of cases in which he would not otherwise dare to attempt it. That operations between the bladder and vagina, such as Mackenrodt's, were not desirable, had been well shown in the statistics collected by Dr. G. M. Edebohls. The hernia service at the Hospital for Ruptured and Crippled bore evidence to the frequency with which hernia followed Alexander's operation, even in the hands of the most skilful. After thorough preparation the uterus was curetted, and the posterior cul-de-sac entered with

the fingers. With the patient in the Trendelenburg posture, it was easy to deal with the pathological conditions encountered. The cervix was forced upward and the upper part of the vagina was packed with gauze. A catheter was left in the bladder for two days, after which the gauze was removed. The dressings were continued until the cul-de-sac had closed. Hernia could not occur through the scar, because it was thicker than the normal vagina and under the protection of the sacral promontory. The cervix being high and the body free, there was no tendency to abortion. The after-treatment was undoubtedly troublesome and exacting.

Dr. H. A. Kelly opened the discussion on the two preceding papers. He said that the suggestion made by Dr. Pryor, to act on the posterior pole of the uterus, was a most rational one from a mechanical point of view, but it involved certain difficulties of technique. Personally, he had preferred suspension of the uterus —not fixation—and had done this operation one hundred and ten times. There had been at least eighteen pregnancies following the operation, and in only one case—one of his earlier ones in which a faulty technique had led to suppuration and extensive adhesions —had there been anything unusual about them. Statistics on this subject should give an analysis of the difficult labors based upon the particular method of operating, for he had found that there were at least forty-five different methods. If the round ligaments had been intended to support the uterus, they would not appear lax and bent when the abdominal cavity was open. In one of these patients, upon whom he had subsequently performed laparotomy, the ligament was so thin and stretched that it measured nineteen centimetres in length and 1.5 millimetres in diameter.

Dr. A. Palmer Dudley, of New York, said that after having observed the intense suffering of three of his patients during pregnancy after ventral fixation, he had determined to avoid this operation in future. He was opposed to the Alexander operation, but he believed the internal shortening of the round ligaments would prove effective and satisfactory. If the ligaments were properly scarified and doubled upon themselves within the abdomen, and sewed together in two directions, they should hold securely, and they certainly gave no opportunity for the formation of intestinal adhesions. His objections to Dr. Pryor's operation were: (1) It was necessary that the pelvic floor should be movable; and (2) the resulting scar tissue in the vagina would cause tenderness and discomfort during sexual intercourse.

Dr. C. P. Noble said that he had seen no occasion to change his opinion that fixation of the uterus was a bad operation for all women during the child-bearing period, and that the best operation was that of suspensio uteri, as done by Dr. Kelly. In two out of seventy-five cases in which he had done Alexander's operation, the round ligaments had stretched within a few months, and this was true of the work of other operators. In the few instances in which he had used the method of intraperitoneal shortening of the round ligaments the results had so far been very satisfactory.

Dr. H. J. Boldt said that Alexander's operation gave the least trouble if done in properly selected cases, *i.e.*, those in which the uterus was freely movable, and in women in whom the adnexa could be carefully mapped out, so that disease of these organs could be excluded.

Dr. Edward Reynolds, of Boston, said that he had seen three out of the five cases referred to by Dr. Pryor as having the uterine body adherent to the posterior peritoneum. In the first case the diagnosis had been confirmed by laparotomy, and he had then performed vaginal fixation. A few hours afterward the patient had been seized with severe paroxysms of pain, and these had recurred at short intervals for about two weeks. She eventually recovered. The same thing was observed in the other cases, and the only explanation he could suggest was that the utero-sacral plexus which had been involved in the adhesions had been injured.

Dr. Matthew D. Mann, of Buffalo, said that he did not think it was sufficient to hold up the cervix alone, and hence he preferred to shorten the round ligaments at the same time. He had done about one hundred Alexander operations in the past three years, and in only two had hernia developed. The extensive opening up of the intercolumnar fascia and ring he believed to be entirely unnecessary, and a fertile cause of hernia. When there was extensive disease of the appendages, he favored intraperitoneal shortening of the round ligaments at the same time that the abdomen was opened for the treatment of the adnexa. If both tubes and ovaries were removed, ventral fixation might be allowable. He believed it to be a great mistake to employ non-absorbable sutures for these operations.

Dr. Gordon said that in an Alexander operation, unless the peritoneum was stripped entirely from the round ligament up to the internal opening, a glove-shaped fold of peritoneum would be carried down, and, by enlarging the internal opening, would favor the occurrence of hernia.

Dr. Horace T. Hanks, of New York, said that he thought the reason the cases operated upon by Dr. Kelly's suspension method were so free from reflex disturbances was that the uterus was not fixed too firmly. He had operated forty-six times by this method, making the incision through the rectus muscle and fastening it with two or three silkworm-gut sutures.

Dr. R. Stansbury Sutton, of Pittsburg, said that in suspending the uterus he followed a peculiar method, by which the abdominal cavity was not opened at all. The patient was placed in the Trendelenburg posture, a large staff was inserted into the uterus, the fundus of this organ brought against the abdominal wall, and a cut made down to the peritoneum; then with a running catgut suture the fundus was sewed to the abdominal wall.

Dr. E. C. Dudley said that if the uterus was so diseased that the normal mobility at the angle of reflexion was impaired, and the uterus remained straight, then the uterus was apt to go back after any operation for shortening the round ligaments, unless the cervix could be fixed back in the hollow of the sacrum. To obtain permanent results after suspension operations it was necessary to stitch to the abdominal wall the posterior wall of the uterine body at a point a little back of the summit of the fundus. For this purpose he greatly preferred catgut.

Dr. Hunter Robb said that many patients were needlessly subjected to these operations, for he had seen many of them entirely recover without any operative procedure. These patients often seemed to be relieved shortly after operation, but in the course of a year or two they would frequently complain as bitterly as before. It had seemed to him that the mere separation of adhesions would often relieve all the subjective symptoms.

Dr. James R. Chadwick, of Boston, said that he had done at least two hundred Alexander operations, and had followed most of the cases, yet he had never known hernia to succeed one of these operations, and he saw no reason for its occurrence if a proper method of operating was adopted.

Dr. Andrew F. Currier, of New York, said that as many of the persons seeking relief by these operations were young unmarried women, it was not desirable to use a pessary, and disfigurement should be

avoided as far as possible. He, therefore, preferred internal shortening of the round ligaments.

Dr. J. Riddle Goffe, of New York, said that for the past two years he had been shortening the round ligaments through a vaginal incision, and regretted that so far others had not seen fit to give the method a trial, as it had proved satisfactory to his patients and himself.

Dr. A. J. C. Skene, of Brooklyn, said he was sure more trouble followed from scar tissue in the vagina than from the wounds of abdominal section. He found a field for all of the operations that had been discussed, but the comparatively frequent absence of the round ligament served greatly to limit the usefulness of the Alexander operation.

Dr. Bovée spoke of the advantages in certain cases of shortening the utero-sacral and the broad ligaments. The harm done by a too short or abnormally attached anterior vaginal wall should also be borne in mind.

Dr. A. Lapthorn Smith said that hernia was impossible after Alexander operations, if they were done as he was accustomed to do them. Lest he should be tempted to use the knife too much, he introduced the forceps into the ring and closed his eyes while feeling for and pulling out the ligament.

Dr. Pryor, in closing the discussion, said that hernia was known to follow operations done by the most skilful surgeons and by various methods. He recommended his operation only in certain cases of adhesion; it was not intended at all to take the place of Dr. Kelly's operation of suspension.

Discussion: Has Electricity Ceased to be a Useful Therapeutic Agent in Gynæcology?—Dr. Henry J. Garrigues, of New York, opened the discussion, by touching upon the chief uses of the different forms of the electric current. Speaking of faradization, he said that the current from the short, thick wire coil was useful in subinvolution, infantile uterus, amenorrhœa, sterility, and uterine hemorrhage. The high tension current, obtained from the long, fine wire coil, was chiefly of value for its analgesic action. The galvanic current had a wider field of usefulness. While it was much less used at present in extra-uterine pregnancy than formerly, he would prefer, in the case of a patient personally dear to him, to give it a trial, provided the pregnancy had not advanced more than a few weeks. In many cases of uterine fibroids the symptoms were markedly relieved, and the patient's general condition was improved by the use of the galvanic current. In only one such case, however, had he observed a total disappearance of the tumor under this treatment.

Dr. Egbert H. Grandin, of New York, said that in taking the affirmative regarding the question propounded, it should be stated that he did so only after having given electricity a prolonged trial in gynæcological practice, and after having been at one time a more or less enthusiastic advocate of it for the treatment of certain conditions. He described in detail how he had abandoned the electrical treatment in one condition after another, always after having abundantly tested it by the touchstone of clinical experience. Thus he had tried the electrical treatment in about fifty cases of uterine fibroids, and, while he had been able to control the discharges in about thirty per cent. of the cases, he had never seen the tumor disappear, except when the menopause had supervened, and he had soon learned that the painful cases were unsuitable for the treatment, because the condition was chiefly due to disease of the appendages. He had treated by electricity five or six cases, supposed to be ectopic gestation, and all the patients had recovered. One of the patients lay in collapse for hours, and subsequently had a suppurating hæmatocele. About eighteen months later he again saw her in collapse with symptoms of extra-uterine pregnancy, and he subjected her to laparotomy. With her recovery from this operation he had recovered from the effects of an erroneous belief in the efficacy of electricity in the management of these cases. Since then he had operated in fourteen cases of ectopic gestation, and the only death was one from fatty heart. In none of these operative cases could electricity have been of any avail, except perhaps to precipitate a fatal termination.

Dr. George Engelmann, of Boston, said that electricity must still be considered a potent agent in the treatment of certain gynæcological cases. In uterine fibroids electricity was used to relieve certain symptoms, chiefly those dependent upon congestion. It at least had the merit of being perfectly safe; it did not confine the patient to bed, and very often gave speedy relief.

Dr. H. J. Boldt said that, while cervical stenosis could be relieved symptomatically by the galvanic current, it resulted after a year or two in a worse stenosis than before. In a recent case of ectopic gestation, in which he had applied a current of fifty milliamperes, the embryo had not been destroyed and the patient had nearly died from the subsequent rupture and hemorrhage.

Dr. A. Palmer Dudley said that he had given Apostoli's method of treating uterine fibroids a careful trial for two years, using the most approved apparatus, but had come to the conclusion that it was a very uncertain and unsatisfactory method.

Dr. A. Lapthorn Smith said that he had used electricity quite extensively in gynæcology for the past ten years, and had permanently restored to health about forty women suffering with uterine fibroids. He had followed Apostoli's method in these cases, using an average current strength of one hundred and twenty-five milliamperes and an average of thirty-five or forty applications. He had absolute proof of cure in two cases, and in the others the patients had been symptomatically cured.

Dr. Florian Krug, of New York, heartily indorsed the position taken by Dr. Grandin. He attributed the success of electricity entirely to poor diagnoses and ill-observed cases.

Dr. R. Stansbury Sutton, of Pittsburg, said that he had given the electrical treatment of uterine fibroids his very best attention for five years, and then, finding that it had resulted in no cures, he had discarded it. True, it would control the hemorrhage, but so would the curette, and galvano-puncture was certainly dangerous.

The Porro Operation versus Total Hysterectomy.—Dr. Henry J. Boldt, of New York, read a paper with this title. He strongly advocated total hysterectomy in preference to supravaginal amputation, with extra-peritoneal treatment of the pedicle. With the present technique, he said, total hysterectomy could be performed nearly as quickly as the Porro operation. In all cases giving the absolute indications for Cæsarean section, complete extirpation of the uterus was to be preferred. The following were appropriate cases for total hysterectomy: (1) Women who had a living child in the uterus, at or near term, and in whom the pelvic diameters would not admit of the delivery of a living child by the natural passages; (2) when the child was dead *in utero*, and the organ had been infected through this cause; (3) when there was sufficient cicatricial contraction of the vagina to prevent delivery in the usual manner; (4) cases in which there was rupture of the uterus, demanding abdominal section, and in which closure of the uterine wound was unsafe; and (5) some cases of atony of the uterus following Cæsarean section. In cases of advanced cancer of the cervix the Porro operation should be given the preference. There was only a difference of a few minutes in the time re-

quired for the performance of a Porro operation and an ideal total hysterectomy. The advantages of total hysterectomy were: (1) Less danger of infection; (2) practically no danger of secondary hemorrhage; (3) less danger of intestinal obstruction; (4) shorter convalescence; and (5) less danger of ventral hernia.

Dr. E. P. Davis, of Philadelphia, heartily indorsed the position taken by Dr. Boldt, and emphasized the fact that at the present time the choice of the method of delivery could not be based absolutely on the pelvic measurements, but must depend upon a careful weighing of all the factors entering into this most difficult problem. An experience with nine hysterectomies in which the stump had been treated intraperitoneally, had convinced him of the superiority of this method.

Dr. Philander A. Harris reported two cases upon which he had operated during the past year for the absolute indication.

Dr. Robb cited a case showing the advantages of the intraperitoneal treatment of the pedicle.

Dr. A. Palmer Dudley remarked that for years he had advocated the intrapelvic method of performing hysterectomy, but in the future he proposed to do complete hysterectomy in the manner described by Dr. Boldt.

Dr. Joseph Taber Johnson, of Washington, D. C., referred to a case which seemed to prove that the removal of the whole uterus was not necessarily the best procedure in every case.

Dr. Boldt, in closing the discussion, said that in the true Porro operation the pedicle was treated extraperitoneally, and he considered it inferior to complete hysterectomy.

Second Day—Wednesday, May 25th.

Observations in Regard to General Anæsthesia, Especially by the Schleich Mixtures.—Dr. Henry J. Garrigues, of New York, in a paper with this title, detailed his experience with the Schleich method in one hundred cases. He said that his clinical experience had not entirely borne out the theory of Schleich regarding the relation between the boiling-point of the anæsthetic and the body temperature. The general effect of the anæsthetic, both during and after operation, had been satisfactory. In speed, it ranged between chloroform and the A.C.E. mixture: it greatly promoted the patient's comfort, and its administration was simplicity itself. The average duration of the anæsthesia had been fifty-two minutes, but in some cases it had been as long as two or three hours. He preferred to use the ordinary Allis ether inhaler, leaving the top open until consciousness had been nearly lost. He had used the No. 1 mixture almost exclusively, and, on an average, 1.5 c.c. had been administered every half-minute. The average quantity necessary to produce anæsthesia had been 17.5 c.c., and the average quantity necessary for the entire period of anæsthesia—fifty-two minutes—had been 51 c.c. The average time necessary to anæsthetize the patient had been six minutes. There had been much less accumulation of mucus in the mouth and throat than with ether, and less of that slight cyanosis so commonly associated with the use of the Trendelenburg position.

In seventy-one per cent. of the cases there had been no vomiting at all, and in the remainder it had been slight or moderate. The respirations had been invariably increased, and in three instances the breathing had been temporarily arrested. Deep respiration and slight superficial breathing should indicate the necessity for an immediate interruption of the anæsthetic. In nearly all the cases the pupils were contracted. The return to consciousness was very rapid, the average period having been nine minutes and the minimum one minute. In conclusion, Dr. Garrigues recommended the Schleich mixtures for general use, and especially to the gynæcologist.

Dr. W. R. Pryor remarked that the petroleum ether used in the Schleich mixtures was pure benzin, and should not be confounded with rhigolene. The only manufacturer of it in this country was Cooper. He said that he used the No. 1 mixture exclusively with the Esmarch inhaler, and had found that it must be administered almost continuously, like chloroform. A more profound narcosis was obtained with less of the anæsthetic, and the return to consciousness was quite rapid.

Dr. Boldt said that in three cases he had observed such deep cyanosis that a change had been made to another anæsthetic, but in these cases Dr. Garrigues had not supervised the administration of the anæsthetic. At present he preferred ether to the Schleich mixtures.

Dr. H. T. Hanks said that in a trial of the Schleich mixtures at the Woman's Hospital, cyanosis, nausea, and severe vomiting had been observed, with no corresponding advantages.

Dr. Malcolm McLean, of New York, said that caution was necessary in the use of the Schleich mixtures near an open flame, for with atmospheric air they formed violent explosive mixtures.

Dr. Kelly remarked that ether was usually given so wretchedly in this country that it could not fairly be compared with the other anæsthetics.

Dr. Chadwick said that in the home of etherization—Boston—ether was considered so safe that it was quite common to intrust its administration to a nurse.

Dr. M. D. Mann, of Buffalo, said that he had always been an advocate of ether for anæsthesia, but having, during the past year, lost four patients from uræmia after etherization, he had been led to investigate more carefully its effects upon the kidneys, and had found in upward of thirty cases that albumin, with granular and blood casts, made its appearance in the urine shortly after etherization in about fifty per cent. of the cases. This condition usually lasted about one week. In not one of his fatal cases had albumin been found in the urine just prior to etherization.

Dr. Noble remarked that some years ago Dr. Kelly and he had independently investigated this subject, and had arrived at about the same results.

Dr. A. Palmer Dudley said that he had had three deaths after laparotomy from acute suppression of urine. He now insisted on giving his patients plenty of air during the operation, so as to avoid overtaxing the kidneys, and when there was reason for suspecting the integrity of the kidneys he ordered a large wet pack of infusion of digitalis to be placed over the region of the kidneys immediately after operation.

Operation for the Relief of Incarcerated Pregnant Uterus.—Dr. Matthew D. Mann, of Buffalo, presented this paper. He said that up to the present time the alternatives had been restoring the uterus to its proper position or emptying it of its contents. If the uterus was large, efforts made through the vagina to liberate it would fail, because the atmospheric pressure caused a prompt return of the organ to its faulty position. If, therefore, the usual measures failed, he would advocate opening the abdomen and pulling the uterus up as preferable to emptying the uterus. Another indication for operation was the uterus bound down in this backward position by adhesions. Two illustrative cases were reported.

Dr. Henry D. Fry, of Washington, D. C., said that he had had one of these cases in 1895, and had opened the abdomen, liberated the uterus, and performed ventral suspension to prevent a recurrence of the incarceration. The woman had passed through her pregnancy and confinement without incident. Operative measures were, however, not justifiable until an effort

had been made to liberate the uterus, with the patient anæsthetized.

Dr. P. A. Harris reported a case in which he had endeavored by pessaries and by manipulations under anæsthesia to relieve the condition, but without success. A few days later, to his surprise, the uterus spontaneously assumed its proper position.

Dr. Malcolm McLean described a remarkable case in which nature, in her effort to liberate the uterus, had caused a distortion of the organ resembling a double uterus. After the abdomen was opened and the uterus released, it at once assumed its customary globular shape.

Dr. Mann, in closing, said that he had taken it for granted that a case would not be considered irreducible until an effort to release the uterus had been made under anæsthesia.

Bacteria of the Vagina and their Significance, Based upon the Examination of the Vaginal Secretion of One Hundred Pregnant Women.—Dr. J. Whiteridge Williams, of Baltimore, read a paper with this title. After reviewing the many investigations of this kind that had been made, and noting the conflicting opinions, he detailed his own results. In his cases he did not find a single streptococcus or staphylococcus aureus. The different results obtained by various investigators, he said, were entirely explicable by differences in technique. Those who had obtained positive results had introduced a large speculum and taken the secretion with a platinum needle, but the introduction of such a large object carried past the hymen the organisms lying at the ostium vaginæ. To obviate this, he had used a small scoop, and, in introducing it, had spread the hymen and labia widely apart so as to avoid contact. Consequently organisms were not introduced from without and no pathogenic germs were introduced into the vagina. The author, therefore, concluded: (1) As the vagina did not contain pathogenic germs, autoinfection with these germs was impossible: (2) if the vagina contained streptococci frequently, a vaginal examination with the sterile finger would be very dangerous, which it was not: (3) the vagina might occasionally contain bacteria which might give rise to sapræmia by auto-infection, but this was usually quite mild: and (4) death from puerperal infection was due to infection from without, and usually to neglect of aseptic precautions on the part of the physician or midwife.

Dr. Robb said that his own work had proved the correctness of this view regarding the different results obtained, for in some experiments, on taking cultures from a drainage track, it had been proved that a minute portion of bichloride solution, used to sterilize the outer parts, had been carried along into the deeper portions, giving negative results. The same mistake had been made by some observers in their bacteriological examinations of the vagina.

Dr. Edward Reynolds said that while he did not doubt the correctness of the investigation just reported, he did not think that practical surgeons should allow a laboratory demonstration of the innocuousness of the vaginal secretion to guide their actions until this view had received abundant clinical confirmation. He believed that it would be unsafe to discard antiseptic cleansing of the parts before labor.

Dr. Charles Jewett, of Brooklyn, said that he had made it a practice for some time past to refrain from both ante-partum and post-partum douches, even in operative cases, provided the vagina was healthy.

Dr. Henry D. Fry said that he had recently had bacteriological examinations made of the vaginal secretion of about fifty women who had had slight elevations of temperature following parturition. In not a single case had the streptococcus or the staphylococcus aureus been present.

Dr. R. L. Dickinson, of Brooklyn, expressed the hope that some simple and effective method would be discovered of sterilizing the external genitalia in parturient women.

Dr. Philander A. Harris said that he firmly believed that the practice of entirely refraining from making vaginal examinations in obstetric cases would not cause any more deaths than are now produced by septic infection.

Dr. Howard A. Kelly said that it was probable that this investigation of Dr. Williams would have the effect of stopping a good deal of meddlesome and hurtful practice. As cases had been reported in which serious and even fatal puerperal sepsis had had its source in some small ulcer or sore on the patient's body, it was within the province of the obstetrician to attend to all of these small details and to warn the patient of the possible risks of inserting her finger into the vagina, even if only to relieve a slight pruritus.

Dr. Williams, in closing the discussion, said that a vaginal examination must be dangerous in all obstetric cases, because it was impossible in such practice properly to cleanse the external genitals. Douches were contraindicated both theoretically and practically. It had been shown that the normal vaginal secretions possessed a marked bactericidal action, and that, no matter what antiseptic douche was employed, it diminished the protective action of these secretions. Moreover, it had been found in lying-in institutions that the results were not so good when ante-partum douches were given. Personally he did not make an internal examination in more than one-third of his cases of labor; the only two conditions which could not be determined by an external examination, and which were made evident by a vaginal examination, were the degree of cervical dilatation and prolapse of the cord.

President's Address: Puerperal Sepsis.—Dr. Paul F. Mundé, of New York, delivered this address. He said that at the present time it was customary to distinguish three varieties of puerperal sepsis, viz.: (1) Sapræmia, or that variety in which the septic focus remained localized; (2) septicæmia, in which the streptococci found their way into the general system; and (3) pyæmia. While in the first form the products were usually putrid, in the second there was commonly no offensive odor or peculiar pathological discharge. Owing to more enlightened methods of treatment, the pyæmic variety was at present quite rare. In the majority of cases in private practice the infection came from the fingers or instruments of the physician or nurse, and sometimes from the clothing. He believed that at times pathogenic germs were sucked into the vagina by a change in the position of the patient. He had seen one instance in which there seemed to be little doubt that the infection of the parturient canal came from a discharging felon on the patient's hand, as she admitted having used one finger of that hand to relieve a vaginal pruritus. Another source of trouble was the retention of the discharges by flexion of the uterus. It was sometimes the custom in private practice to refrain from making any vaginal examination, trusting entirely to the external examination. This was perhaps wise if the attendant had reason to doubt the aseptic condition of his hands, but with the usual precautions taken before an abdominal section it should be possible to clean the fingers sufficiently to admit of carrying out the old-fashioned method of making a vaginal examination. Every effort should be made to secure thorough evacuation of the placenta and clots from the uterus after delivery, and to keep the uterus well and firmly contracted. The symptoms of puerperal septicæmia were usually those characterizing septic infection elsewhere. The prognosis was grave in those cases in which the virulence of the infection was indicated only by elevation of temperature and

rapid pulse. To make a correct diagnosis it was absolutely essential that the genital organs be carefully examined. A speculum examination might show a yellow or brownish discoloration of the cervix and vagina. The first indication for treatment was to remove all foreign substances from the endometrium, either with the fingers or with the blunt curette. The uterine cavity should then be irrigated with potassium permanganate, a dilute solution of chloride of zinc, or peroxide-of-hydrogen solution, diluted one-half. In very bad cases of septic endometritis he was in favor of using a curette, either dull or sharp, but he used the latter on the puerperal endometrium only when the dull curette failed to remove the decidua. It was much better to apply a strong solution of chloride of zinc, tincture of iodine, or a solution of phenol, washing out the cavity and packing it with iodoform gauze afterward, than it was to indulge too freely in curettage. When the uterine cavity was empty and clean, there could be no advantage in keeping up intrauterine irrigations; if the temperature remained elevated, it was evident that the condition was one of general and not local infection. If the patient could be kept alive by the administration of alcoholic stimulants, and by the use of strychnine, caffeine, and nourishing food until nature could throw off the invading germs, the physician would gain the victory. Dr. Mundé said that he had no faith in quinine as an agent for reducing the temperature in cases of puerperal fever or for favorably influencing the infection, but he did not hesitate to give phenacetin, in doses of from three to five grains, combined with caffeine, when the high temperature seemed to warrant it. The ice bag or cold coil to the abdomen was a potent means of reducing the temperature. His experience with serum therapy in puerperal sepsis was limited to three cases, but all of these were apparently desperate and had resisted all of the usual measures. The patients were given from three to six hypodermic injections of ten cubic centimetres of the serum, at intervals of from four to twelve hours, and all three recovered. He felt that in a severe case of puerperal sepsis, in which the streptococci had evidently passed beyond the genital organs, and in which the usual measures proved impotent, the serum treatment should be tried. He would treat general puerperal purulent peritonitis by a combination of the vaginal and abdominal operations. He favored treating pelvic exudates, first, by cold, and afterward by heat and blisters, until it was evident that suppuration had begun; for he had seen many instances of complete restoration of the organs to their normal function, even when he had felt almost sure suppuration would occur. If the source of infection was in the uterus and appendages, and could not be removed in any other way, complete hysterectomy was perfectly justifiable, but it was not easy to decide when this indication was present. The remainder of the address was devoted to several minor topics, of more or less general interest.

Choice of Methods in Hysterectomy.—Dr. E. W. Cushing, of Boston, read this paper. He said that while the extraperitoneal method of treating the stump had practically been abandoned, it was well to remember that it was a precious resource when, by reason of extreme shock or hemorrhage, it was advisable to terminate an operation immediately. Regarding the question of leaving part of the cervix, he said that the burden of proof seemed to rest with the advocates of total hysterectomy, for the operation was prolonged nearly half an hour. As the cervix was the seat of sexual sensation to a considerable degree, it was desirable, when possible, to retain it. Of course in malignant disease the hysterectomy should be total. When the whole cervix had been removed, the operator might leave the vagina wide open, or he might close the peritoneum, or both peritoneum and vagina might be closed. In his opinion, the method of election was that of closing the vaginal opening with a continuous catgut suture, and afterward uniting the peritoneum with another continuous suture of catgut. This left no raw surface in the peritoneal cavity, avoided drainage, and gave an especially smooth and painless convalescence. In septic cases it was well to pack the uterine cavity with gauze, and even stitch up the cervix. The so-called "combined operation," he said, really belonged to a transition stage in the development of hysterectomy. The separation of the vagina by the thermo-cautery was not applicable to a hysterectomy for fibroids, as it prevented primary union: it should be done only when there was a positive indication for drainage or for leaving the vagina open. He was of the opinion that the abdominal route would always possess certain important surgical advantages. The present indications for the vaginal operation were: (1) Inflammatory conditions associated with large collections of pus, in a greatly debilitated subject; (2) when the patient was very old, the abdominal walls were very thick, and the vagina was capacious; (3) in cases of cancer of the cervix, when it was undesirable to close the opening in the pelvic floor and the abdominal operation was liable to cause sepsis.

Treatment of Myomatous Uteri.—Dr. Howard A. Kelly, of Baltimore, presented a paper on this subject. He took the stand that myomectomy was the operation of election in the treatment of uterine fibroids in women under forty years of age, except in cases in which the tumors were interstitial and larger than a six-months' pregnancy, or when there was extensive lateral inflammatory disease. Hystero-myomectomy was to be preferred to myomectomy, after the fortieth year, except when myomectomy was the simpler operation, as in pedicle tumors. It was necessary to exercise extreme care in controlling hemorrhage. The introduction of a sound prior to operation would determine the level of the tumor and its relation to the uterine canal.

Dr. A. Lapthorn Smith opened the discussion on the two preceding papers. He said that he had recently removed a fibroid tumor from the uterus of a woman who was about four months pregnant, without interfering with the course of pregnancy. The woman was out of bed in two weeks, and out of the house five weeks after the operation.

Dr. C. P. Noble said that, having done twenty-five myomectomies without a fatality, he felt it was an operation which should be generally adopted in the case of young and child-bearing women. Two of his patients had since been delivered of children.

Dr. W. H. Baker, of Boston, also indorsed myomectomy, as a result of six years' experience in this line.

Dr. S. C. Gordon said he had misgivings about doing this operation, because, as the "soil" was unchanged, it seemed to him that there was a liability of a return of the fibroids. Regarding Dr. Cushing's paper, he said that, as a general rule, he thought the abdominal route would be found the preferable one.

Dr. Cushing objected to myomectomy on the same grounds, for, he said, in cases of multiple fibroids one usually found the uterus filled with tiny myomata, which would probably grow if not removed.

Dr. Robb said he could add ten cases to Dr. Kelly's list. In one case pregnancy occurred a few months after the removal of four fibroid tumors.

Dr. Skene said he had long practised myomectomy, and favored it more as his experience with it increased.

Dr. Kelly, in closing, said that there had been no pregnancies in his list. Of the thirty-two women in his list who had previously been pregnant, seventeen had had difficult labors. There were three recurrences in his ninety-seven cases. We should not interfere

during pregnancy simply because a myoma was discovered attached to the uterus.

Thyroid Extract in the Treatment of Fibroid Tumors.—Dr. William E. Mosely, of Baltimore, presented a communication on this subject. His experience in five hospital cases could be summarized as follows: (1) The tolerance of the extract varied greatly in different individuals; (2) in cases of bleeding fibroids it had a marked influence in controlling the hemorrhage, and in certain cases caused a diminution in the tumor; (3) in doses of nine to fifteen grains a day it improved the general health; (4) the average duration of the treatment was about nine weeks.

Extract of Mammary Gland in the Treatment of Fibroids.—Dr. John B. Shober, of Philadelphia, in a brief communication on this subject, gave his experience with the remedy in four cases. Regarding the dose, he said that one should not administer for any length of time a reliable extract in doses of more than from three to six grains a day. When employed in doses of fifteen to twenty grains a day of the desiccated powder it was found to be a powerful depressant to the heart. In these cases of fibroids, under the influence of this extract metrorrhagia and menorrhagia ceased, the general health improved, and, in some instances, the tumor became smaller. It seemed to act on the tumor very much as ergot did.

Dr. M. D. Mann said he had tried the thyroid extract in about a dozen cases, and felt greatly encouraged with the results. In about ten of the cases of small fibroids there had been decided benefit. As a rule, the hemorrhages decreased, and sometimes the tumors became smaller.

Dr. E. L. Duer said he had tried the thyroid extract in thirteen cases, but only six of them had been sufficiently long under observation to warrant any deductions. He could not say that he had secured better results than from other medical treatment, except in one case of subserous fibroid. In this one the tumor at the beginning of the treatment reached up to six inches above the pubes. Early in February the patient was put upon five-grain doses of the thyroid extract. On April 4th it was noted that the tumor extended only two and one-half inches above the pubes, and on May 14th the tumor was scarcely discernible on the most careful examination.

Dr. Malcolm McLean said that he had been using the thyroid extract in cases of fibroids since last October. In at least three of the eight cases the hemorrhage had been absolutely controlled and in two the size of the tumor had been markedly reduced.

Dr. Fry said that he had treated four cases in this way, two of them being in young women. In the latter the tumors were hemorrhagic, and the extract had controlled the bleeding. In the other two, systematic measurements showed a steady decrease in the size of the tumors.

Discussion: Should Non-Absorbable Ligatures be Discarded in Gynæcological Surgery?—Dr. Seth C. Gordon, of Portland, opened the discussion. His conclusions were: (1) All suture material which was unabsorbed must necessarily have more or less exudate about it; (2) such exudate was of lower vitality than normal repair tissue when the tissues were just approximated and not strangulated; (3) a few days only were necessary when there was no infection, and hence when there was no great strain absorbable sutures only were needed; (4) when continued strain on the parts was unavoidable, non-absorbable sutures should be used for at least two weeks, but should be so placed as to be removable; (5) for such sutures the silkworm gut seemed to be the best; (6) for all other purposes catgut was sufficient; (7) inflammation was always destructive to complete repair; (8) inflammation was always due to infection; (9) sterile catgut or kangaroo tendon should therefore meet all the indications for suture or ligature material, with the exceptions named.

Dr. R. S. Sutton continued the discussion. He said that he had abandoned the use of silver wire except in operations for vesico-vaginal and recto-vaginal fistula. He had also abandoned the use of silkworm gut in all operations except Tait's perineal operation, and he had almost discarded the use of silk, except for intestinal surgery and occasionally for tying the pedicle. After having given up the use of catgut, on three different occasions, he was induced to procure a quantity of catgut known as "O" and "OO." This was put for forty-eight hours in sulphuric ether and the bottle agitated occasionally. It was then placed between the folds of a towel for a short time, after which it was transferred to a five-per-cent. formalin solution. It remained in this for twenty-four hours, and after having been again placed for a short time in a dry towel it was put in a bath of one pint of alcohol, forty minims of formalin, and half an ounce of resin. He had made up an enormous quantity of this catgut two years ago, and when the last was exhausted about sixteen months later, bacteriological examinations showed it still to be sterile. Formerly on closing the abdominal wound with silkworm gut he had had frequent stitch abscesses. Now he closed the wound with catgut in planes, the upper layer being under the skin, and these wounds did not suppurate.

Dr. Charles P. Noble said that he was using catgut more and more, yet he had had good results with non-absorbable sutures, and he doubted if for the occasional operator the absorbable ligatures and sutures presented any advantages over the non-absorbable ones. Out of four hundred and seventy-two cases in which he had used the latter, suppuration occurred in only ten, or about two per cent., and in only two had hernia developed. He was now employing catgut sterilized according to the cumol method, and while it was rather expensive and its preparation tedious it had stood the test of bacteriological examination.

Dr. Howard A. Kelly said that catgut did not bear tension well, and in surface work it was liable to become infected. Since he had used catgut prepared according to the cumol method he had never met with any infection from the catgut, although he had used on an average fifty strands of catgut daily for the past two years.

Conservative Operations upon the Uterine Appendages.—Dr. A. Palmer Dudley, of New York, read this paper. He said that he had done one hundred and three conservative operations on the uterine appendages without a death, and with inflammation in one case. He had not had the courage until recently to attempt such work when there was reason to believe that gonorrhœa existed, but recently he had met with an accidental success in this direction, and would follow up this clew in the future. Two cases in which the specific nature of the infection was proved by microscopical examination, and in which he had done conservative work, were then given in detail.

A Method of Searing the Pedicle with the Electro-Cautery.—Dr. A. J. C. Skene, of Brooklyn, demonstrated the method. The broad ligament was seized with a hæmostatic forceps which was in electrical connection with a galvanic battery. The current was allowed to flow about half a minute for arteries of about the size of the radial, and a longer time for larger masses. The object was to desiccate but not to cauterize, and the current could be gauged by a milliamperemeter, or roughly in practice by the heat of the instrument when touched with the finger. This method not only reduced the pedicle to the smallest size, but it was thoroughly aseptic, and would completely close the lumen of a Fallopian tube or of the appendix.

(To be Continued.)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

TUBERCULOSIS OF THE BLADDER—DISTRIBUTION OF THE LEPROSY BACILLUS—TUBERCULOSIS OF THE TONSILS—CLINICAL EXHIBITION—ROYAL SOCIETY—THE PRINCE'S FUND—MR. HORSLEY AND THE NEW PRESIDENT OF THE COUNCIL—THE VACCINATION BILL—SIR WILLIAM STOKES—AMERICAN LADY DEFIES HER AMBASSADOR—THE NEW PHARMACOPŒIA—"PHOSSY JAW"—COLLINS COMMITTED ON CHARGE OF MURDER—WILL OF SIR R. QUAIN.

LONDON, May 15, 1898.

THE Medical Society held its last scientific meeting for the season on Monday last, when Mr. Moullin read a paper on tuberculous disease of the bladder. He advocated direct treatment after suprapubic cystotomy—the operation, according to him, not being attended with much risk and if undertaken early enough affording a chance of removing the disease. Thus early diagnosis would, as in so many other cases, be of the utmost importance—a point Mr. Moullin did not fail to enforce. He remarked that irritability of the bladder and hæmaturia occurred from the commencement of the disease, and that the cystoscope would reveal any ulcer, while the bacillus is easy to detect. The number of cases of primary tuberculosis seems to be on the increase, but this is probably due to more careful observation. Secondary cases are mostly from pyelitis, and the infection may be carried by the vessels and lymphatics. Concomitant infection of the ureter is consequently not necessary. When it is, the disease is most likely to be found at or near the orifice of the ureter; so in this locality it suggests tuberculous pyelitis. In three cases in which he had operated, two were satisfactory and the third was too recent to judge.

Dr. Freyer could not admit that the risk of suprapubic cystotomy was so slight. Out of the forty or fifty cases recorded by Barling as operated on for stone in children, the deaths numbered twenty. He had operated in six or seven cases, and in only one had he had reason to regret it. Still his opinion was rather against operation in this disease.

The differential diagnosis from stone was not easy, but he observed that the micturition in tuberculous disease of the bladder was as frequent by night as by day, while in stone was frequent only in the day.

Mr. Battle had operated in six cases, in none of which had there been any evidence of tuberculous disease elsewhere. He had seen serious results from operation only when the wound had been closed too early.

Dr. Clifford Beale observed that in post-mortem examinations the disease was not found to be associated with pulmonary tuberculosis.

The Pathological Society has had before it the question of the distribution of the leprosy bacillus in the tissues. Unna's view that the parasite inhabits the lymphatics and not the cells, in opposition to what was previously believed, has been confirmed by Bergengruen, Gerich, Herman, and Dohl. Dr. Kanthack, at the last meeting, gave an abstract of a paper of Bergengruen's, in which, though he does not deny that the bacillus may occasionally be found in the cells, declares that Unna's view is correct. Bergengruen has the merit of establishing this (for Unna cannot be said to have done so satisfactorily); his specimens show that the giant cells in leprosy of the larynx are due to endothelial proliferation around bacillary thrombi. The latter appear to be engulfed by the giant cells, but as a matter of fact they remain in the lumen of the lymphatic vessel, the endothelium of which grows around and into the thrombus and so destroys it. The thrombus acts as a foreign body, irritating the contiguous endothelium at some parts where the cells proliferate and form a plasmodial mass.

The president (Dr. Payne) remarked that, although he once thought the bacilli intracellular, he now doubted it, for in a case under his care sections of cutaneous lesions showed the organisms diffusely scattered through the tissues, the globes or clumps being practically absent.

Dr. Hebb had noticed in longitudinal sections of leprous nerves that the bacilli were distributed in long irregular lines corresponding with the clefts of the tissue, and did not regard the location as that of the cells.

Dr. Andrewes suggested that the location might differ in external lesions and internal organs. He had seen the bacilli in the spleen look as if they were in the cells.

Dr. Kanthack said that the greatest difficulty of determining the question was in the spleen, as a zoöglœa adhering to a cell would closely simulate a location within it. Serial sections of the individual cells would alone suffice for the determination.

Dr. Hugh Walsham then brought forward the results of an inquiry into tuberculosis of the tonsils, which he had undertaken in consequence of a suggestion made by Dr. Sims Woodhead that these bodies were probably the frequent site of infection. Dr. Walsham found histological signs of tuberculosis in twenty-one out of thirty-four cases of "enlarged tonsils." As in many cases there had been nothing to direct attention to the throat during life, he termed them "latent;" but there was nothing to show whether the tuberculosis was primary or secondary, and probably the explanation must be sought in the passing of expectoration over the parts. Of course in acute miliary tuberculosis the tonsils, like other tissues, might be invaded through the blood stream.

There were some interesting exhibits before the Clinical Society. Mr. Eve showed three cases of transplantation—or, as Mr. Jackson Clarke proposes to call it, reimplantation—of tendon for infantile paralysis.

Dr. Pasteur showed a woman with atrophy of the thyroid and certain symptoms of myxœdema following Graves' disease, and said the pulse had fallen to 40 and 50. This symptom was, however, variable, for during the excitement of the examination it rose to 70 and 90. Thyroid extract had been given, but seemed to aggravate the symptoms.

Dr. Garrod showed a child with a typical Mongol cast of features, associated with cyanosis and a loud systolic murmur and a thrill. He had observed this cast of features to be frequent when idiocy is associated with heart disease.

Among others exhibited were a woman who had undergone gastro-duodenostomy; another from whom portions of five ribs had been removed; a man of thirty who had become hemiplegic on the twenty-fourth day of an attack of typhoid, and it was remarked that only eight similar cases are recorded by English physicians; a woman of fifty-two with osteitis deformans affecting all four extremities, in whom the disease began twelve years ago.

The Royal Society had a brilliant assembly at a *conversazione* on Wednesday. Many interesting exhibits attracted attention. So-called "wireless telegraphy" was carried on between the library and secretary's room. Photographs of the solar eclipse were shown; also some colored photographs, one scene having been taken in both spring and autumn. There was also a green oyster on view. The majority of such creatures derive their color from copper, but it is

said that Marennes oysters owe it to an animal pigment. As to typhoid, which has been said to be conveyed by oysters, it is now asserted that the bacillus found in these and other shellfish resembles that of typhoid, but is not the same. The differentiation deserves attention, but even if made out the danger of sewage in oyster beds would still remain.

Fears are being freely expressed that the Prince of Wales' fund will not be the boon it was hoped to prove to the London hospitals. It is no longer doubted that many who have given a lump sum to the fund feel that they have discharged all their duties in the matter, and some have withdrawn annual subscriptions. The few large hospitals which have received considerable sums may feel satisfied, but the much larger number consider themselves losers by the prince's fund. It will be a disappointment to the prince if his scheme should prove a failure, and there is no longer any doubt that there is danger that such may be the result of the jubilee effort to place the hospitals on a secure footing.

Mr. Victor Horsley has issued a fourth report to his constituents, from which it appears that the new president of the General Medical Council has instructed the registrar to refuse him access to the documents of the council, unless he first obtains the permission of the executive committee or of the council. This extraordinary assumption of authority to refuse a member of the council access to its archives is, I fancy, unprecedented in public bodies of this kind. Mr. Horsley naturally wrote to the president to ask by what authority he sought to debar him from his natural rights in the matter, and in his report says that the president has complicated his extraordinary action by refusing in uncivil terms to answer either of the three questions he put. Mr. Horsley says the medical acts and standing orders confer no such power on the president, and he is taking steps to clear away this novel and foolish hindrance to his work. I am astonished that a man of Sir W. Turner's judgment should assume such an unconstitutional attitude, and await the development of the conflict with interest, for it promises lively times.

The vaccination bill has been read a second time, and the details are exciting more interest. Dr. Bond, in a letter to *The Times*, makes some suggestions, among which I notice is the payment out of public funds even when the operation is performed by a private practitioner. Some economists are startled at this, but it is not unprecedented. I remember that many years ago a certain board of guardians offered to pay every private practitioner in the parish who filled up the usual certificate. The result was satisfactory, for even busy and well-to-do doctors preferred to vaccinate their own cases and had no objection to fill up the certificates for the very trifling fee, rather than have their patients troubled by others.

The presentation to Sir William Stokes took place in the College of Surgeons of Dublin on Saturday. It commemorates his twenty-five years' professorship at the college, and consists of handsome pieces of plate. In the evening a dinner was given him in the college by a large number of his brethren and former pupils. Sir William has written a life of his distinguished father, the late Dr. William Stokes, the great Dublin physician, which is just about to appear in the "Masters of Medicine" series.

A young American lady was lately released from an asylum on the representation of Colonel Hay, who undertook that she should at once be sent home; but, having been duly discharged, she defies the ambassador and positively refuses to leave England. Being told that unless she promptly sailed for the States she would be again sent to an asylum, she called at the embassy and said she had seen the English authorities and was informed that her discharge was permanent. It is a curious problem for the embassy.

The new Pharmacopœia is now on sale. The price is fixed at 10*s* 6*d*, and dear enough many think for an official publication, the purchase of which is compulsory on so many. It ought to be sold at the same rate as are parliamentary papers. Of course the cost of producing it has been enormous, but that is because of the extravagant methods of the council.

Phosphorus disease has been mentioned in Parliament in consequence of recent cases, and the home secretary stated yesterday that there had been systematic neglect of the factory regulations as to reporting "phossy jaw," and in one case he had ordered a prosecution—so there may be further revelations as to the value of hygienic laws.

Dr. Collins was yesterday committed for trial on the charge of murder by producing abortion on Mrs. Uzzielli.

The will of Sir Richard Quain has been proved. The personal property is over £118,000.

Medical Items.

Mysterious Disease in Africa.—While the bubonic plague seems to be spreading in India and threatens almost to equal in fatality the epidemic of a year ago, the French physicians in Algeria have discovered a disease in Africa which, if the meagre reports which have been received prove true, is none the less fatal. It is a mysterious disease, and no satisfactory diagnosis has yet been made of it. It first shows itself by the patient having an inordinate desire to sleep. Its symptoms resemble those manifested in laudanum poisoning. If the patient be not at once aroused, he soon falls into a stupor which is succeeded by death. From its symptoms it has been called, by the correspondents of French medical journals in Algeria, *la maladie du sommeil* (the sleeping-sickness). Europeans are not susceptible to it, Arabs only slightly, but the negro falls a ready victim. Two doctors of the University of Coimbe have a theory that the disease is microbic. With some bacilli in serum obtained from the blood of a young negro who had died from the disease, they inoculated half a dozen rabbits. The little animals became drowsy, and soon died, betraying all the symptoms of the disease.—*Scientific American.*

Health Reports.—The following statistics concerning cholera, plague, and small-pox have been received in the office of the supervising surgeon-general of the Marine Hospital service during the week ending May 28, 1898:

CHOLERA.

		Cases.	Deaths.
India, Madras	April 16th to 22d	1	2

PLAGUE.

India, Bombay	April 19th to 26th		442

SMALL-POX—UNITED STATES.

Louisiana, New Orleans	May 14th to 21st	1	
New York, New York	May 14th to 21st	1	
Ohio, Carroll	May 11th	6	

SMALL-POX—FOREIGN.

Belgium, Antwerp	May 1st to 7th	2	
Bohemia, Prague	May 1st to 7th	3	
Canada, Halifax	May 14th to 21st	3	
Ceylon, Colombo	April 8th to 23d	1	1
China, Hong Kong	March 26th to April 2d	7	7
Engand, Newcastle-on-Tyne	May 1st to 7th	2	
Germany, Bremen	April 13th to 30th	1	
India, Bombay	April 10th to 26th		3
Madras	April 16th to 22d		3
Russia, Odessa	April 23d to 30th	5	
Moscow	April 23d to 30th	9	1
St. Petersburg	April 16th to 30th	25	5
Warsaw	April 23d to 30th		12

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Original Articles.

ON REMITTENT (RELAPSING) MELANCHOLIA.

BY WILLIAM B. NEFTEL, M.D.

NEW YORK.

IN 1875 I published, in the MEDICAL RECORD and in the *Centralblatt fur die medicinischen Wissenschaften*, my observations and researches on a peculiar form of melancholia, which I called periodical melancholia. The article had quite a remarkable fate. My views were accepted by such authorities as Meynert, Westphal, Krafft-Ebing, Eulenburg, Kirn, and others; and the term periodical melancholia received the right of citizenship in all the text-books on diseases of the nervous system. The reason for this prompt recognition is obvious: the periodical form of melancholia throws light upon the melancholic process in general, upon its etiology, symptomatology, and prognosis. The disease attacks the patient in the midst of perfect health, often without any premonitory symptoms, and, having lasted for weeks and months, suddenly disappears and the patient regains his former health, until it is again interrupted by the melancholic attack. I could, therefore, easily compare the condition of the patient during the healthy intervals with his condition during the melancholic attacks, and the difference in his functions during the two conditions offered the pathognomonic symptoms of the melancholic state. Thus it could be demonstrated that in the melancholic state the patient constantly loses flesh, sometimes very considerably; this loss of weight begins with the attack and stops immediately at its disappearance. There is no exception to this rule. Furthermore, all the functions, both psychical and somatic, are retarded during the melancholic attack (the circulation, respiration, sleep, appetite, digestion, body temperature, all muscular and mental activity, the secretions and excretions, are greatly diminished); there are considerable general anæmia and, especially, anæmia of the brain. Besides, there are always vasomotor disturbances, which are very probably the cause of the anæmia and of the psychical depression. Finally, the periodic form of melancholia is invariably the expression of an inherited psycho-neuropathic disposition; hence its prognosis is unfavorable.

The periodical form of melancholia has proved of such theoretical interest and practical importance that a new chapter has been added to neuropathology, viz., periodical psychoneuroses (periodical mania, periodical paranoia, etc.).

At the time of making my first observations on periodical melancholia, some thirty years ago, I frequently met with cases apparently resembling this affection, but differing in some points; and I was inclined to consider them as modifications of the same neurosis. Gradually, however, I came to the conclusion that they belonged to quite another type and were entirely different as regards their etiology, prognosis, and treatment. Indeed, while periodical melancholia always presupposes an inherited neuropathic constitution and may be considered incurable, the other form of melancholia affects persons who are free from any neuropathic disposition; it requires a different treatment and is almost always curable. Moreover, in periodical melancholia there are perfectly healthy intervals between the attacks, while in the other form there are only remissions. In my notes I have been in the habit of calling this affection remittent or relapsing melancholia, and still continue to do so for want of a better term. For a long time I hesitated to publish my observations under this name, because the remarkable researches of Charcot's school on hysteria and those of Beard on neurasthenia made it necessary for me to reinvestigate the whole subject in its relations to hysteria and neurasthenia. Moreover, neuroses like periodical melancholia, and still more remittent melancholia, hardly ever occur in hospital practice, and it necessarily requires a long time to collect detailed facts from single cases in private practice. It takes many years to study the affection in all its phases in order to complete the neuropathological picture, and I now offer the result of observations extending over more than a quarter of a century. What was lost in time might perhaps be compensated by a contribution to the etiology, pathogenesis, and therapeutics of melancholia and other psychoneuroses.

Before describing remittent melancholia, I will illustrate it with a few selected cases.

Mr. B——, aged forty-three, comes of a healthy, long-lived family. He is without any neuropathic disposition and of regular habits. He neither drinks nor smokes, and, with the exception of typhoid fever in his twenty-third year, has always been healthy and had no acute or chronic affection. He was a good student in school and college, of a cheerful disposition, and very fond of outdoor exercise. Later on he had to work hard, and by industry and perseverance succeeded in establishing a prosperous business. During the panic of 1873 he sustained severe losses, which involved almost the whole of his fortune, on which depended the welfare of his family. His income having dwindled to a mere trifle, the consequences appeared to him so much the more disastrous as he saw no prospect of retrieving his fortune. He struggled for a time to keep up appearances, but physical disabilities began to develop and soon assumed an alarming character. One of the consulted physicians pronounced the case incipient diabetes with a gradual impairment of vision. The patient became depressed, suffered from insomnia, lost appetite and flesh, and grew weak and anæmic. The depression steadily increased, although it followed an irregular course, being at times greatly aggravated and occasionally showing remissions for days and weeks, until the depression would again attain its former intensity or even surpass it. This psychical condition was often accompanied by a most distressing sensation in the precordial or epigastric regions, extending into the thoracic or abdominal cavities, but could not be exactly located. The patient called it not a pain, but an exceedingly unpleasant and undefinable sensation, somewhat resembling seasickness, but causing much more distress and prostration. Even during the remissions the patient was not entirely free from this sensation. Next to the psychical depression, insomnia

was the most dreaded symptom. During the sleepless nights the patient brooded and worried over his unpleasant affairs: precordial distress and palpitation would set in, and leave the patient utterly exhausted and prostrated. This was followed toward morning by abundant and frequent urinary secretion and profuse perspiration. During the day he was able to attend to his business, though physically weak and without mental vigor; his memory, which used to be excellent, lost some of its acuteness. Besides medical treatment, change of climate had been resorted to at the advice of several eminent physicians; the seaside, the mountains, travelling in Europe and at home had been repeatedly tried, but seemed to bring little benefit.

I examined the patient for the first time in the fall of 1878, and continued to observe him for several years. He was a well-developed, muscular man of more than medium size, in whom the most careful examination could not detect anything abnormal. The organs of respiration, circulation, and digestion were perfectly normal, and so were the functions of the cerebro-spinal nerves, both sensitive and motor; in fact, the whole nervous system was normal. The urine contained neither sugar nor albumin, nor any morphotic elements; the skin and the visible mucous membranes were pale. The patient was thin, but said he was well nourished formerly and used to have a very healthy complexion. His depressed condition resembled, to a certain extent, the melancholia agitans without delusions, but differed from it by remissions. I examined the urine after the patient had a sleepless night and had passed a large quantity in the morning. It contained a small amount of sugar (about one per cent.), but the glycosuria was ephemeral and entirely disappeared the next day, returning only under similar circumstances. A most remarkable cardiac symptom appeared every time the patient suffered from what he called his attacks, which usually began with a feeling of cold in the extremities, a chill, followed by precordial distress, physical and mental prostration, accelerated and small pulse. The heart, at the height of the attack, showed an enlarged area, especially to the right, while the apex was felt lower and more to the left. This dilatation of the heart lasted for hours, until the attack ended under profuse perspiration and urinary secretion, when the heart resumed its normal dimensions. The diagnoses made at different times varied greatly, owing doubtless to the changeable condition of the patient. The majority of physicians who observed the case considered it as one of neurasthenia, especially cerebral neurasthenia; some pronounced it to be a cardiac disease, functional or even organic; others thought it was diabetes or some obscure visceral disease, possibly of the pancreas; and others apprehended incipient insanity.

After a careful analysis of all the symptoms, I came at last to the conclusion that the patient was suffering from a peculiar kind of melancholia, induced by depressing emotions, resembling periodical melancholia. Two reasons, however, excluded the latter: there were no healthy intermissions between the melancholic attacks, the patient remaining more or less depressed during remissions; and, besides, there was no hereditary neuropathic disposition. I therefore considered the case as remittent melancholia and treated him accordingly, with a satisfactory result.

During the panic of 1893 I saw him again professionally. At the same time I had quite a number of analogous cases, especially among brokers and business men. It looked almost like an epidemic, and was called forth by financial losses and business troubles. I purposely selected the above case as an illustration of remittent melancholia, because it was simple and free from complications. The patient had no hereditary neuropathic disposition, no previous organic or functional affection, and the cause and effect could be traced from beginning to end. But such uncomplicated cases are exceedingly rare and almost exceptional. In the majority of cases the complications obscure the essential nature of the disease and make a correct diagnosis very difficult. This explains why the affection has not yet been described by clinical observers.

Remittent melancholia in the majority of men is induced by financial losses, although other causes are not uncommon. Among women, however, while depressing emotions of a different character mostly produce the affection, financial troubles may occasionally be found as an etiological factor.

Mrs. K——, over seventy years old, widow of a wealthy banker, consulted me two years ago. Although of a nervous temperament, she was formerly healthy, but for the last ten years suffered from insomnia, nervous prostration, etc. Of her two sons, the elder is intemperate and unable to attend to any business. The second son was unfortunate in Wall Street speculations and lost even the greatest part of his mother's capital; the old lady and her daughter were obliged to give up their luxurious home and reside in a country boarding-house. When she consulted me in May, 1895, she was emaciated and her face was flushed, with an anxious expression; the pulse was small and accelerated; the extremities were cold; the respiration was superficial and accelerated; the area of the heart was enlarged, especially to the right, and the apex was lowered and more to the left. She suffered from insomnia, with great distress, depression, and prostration. I was prepared to corroborate the previous diagnosis of cardiac disease, and, with a palliative object in view, I employed the galvanic method I generally use to produce a soothing effect and to induce sleep. The next day there was a complete change in the patient's countenance and sensations. She had had a prolonged and refreshing sleep, had no distress, and felt quite cheerful, with a good appetite and normal respiration and pulse. The physical examination of the heart revealed nothing abnormal. This improvement lasted about a week, when renewed worry brought back the insomnia with all the other morbid symptoms, which again yielded temporarily to the same treatment.

Mr. T——, forty-nine years old, well built and of an excellent constitution, free from any hereditary morbid disposition and belonging to a healthy, long-lived family, very muscular and a great sportsman, placed himself under my care in the winter of 1893. Eighteen years ago he first complained of dyspepsia, which became more and more severe in the course of time and assumed a complicated form. The disease was at first considered gastric catarrh and treated accordingly, without the desired result. Later on it became characterized by attacks of acute pain in the hepatic and gastric regions, by nausea, vomiting, diarrhœa, great prostration, complete loss of appetite, icteric discoloration of the skin, scanty and dark urine, insomnia, mental depression, loss of flesh, and anæmia. Such attacks would last from several days to several weeks, when he would gradually improve, to be pulled down again by the next attack. Some of these attacks would be so severe and the pain in the region of the liver and in the left hypochondrium so persistent and intense, that a malignant disease of the stomach, of the liver, or of some other abdominal viscus was suspected. He had been subjected to different methods of treatment, which he carried out conscientiously for months and years. He was kept on a strict, almost starvation diet; he tried the milk cure, kumyss cure, meat-and-hot-water cure, rest cure, Turkish baths, massage, gymnastics; was treated with opiates and other

narcotics, with stimulants, cathartics, change of climate, etc. The physical examination showed nothing abnormal besides general anæmia and emaciation and a slight dilatation of the stomach and enlargement of the spleen.

Having regulated his diet and mode of living, I prescribed hydrochloric acid and quinine; the patient gradually improved, but was soon attacked again with the symptoms above described, and after a sleepless night was entirely prostrated and suffering from pain in the left and right hypochondriac regions, with complete loss of appetite, diarrhœa, scanty and dark urine containing biliary coloring matter, icteric discoloration of the skin and mucous membranes, weak pulse. It was impossible to make a diagnosis; a malignant tumor of the stomach could be suspected, an organic affection of the liver, cholelithiasis, or inflammation of the pancreas, etc. But gradually, in the course of careful observation, several of these suppositions had to be excluded. The urine examined during the healthy intervals was normal, a malignant tumor could not possibly exist so long, and the intervals of comparative health between the attacks excluded the existence of any organic disease. The anamnesis furnished points for a different diagnosis; it showed that long-continued depressing emotions were the primary cause of the affection. In his youth he became infatuated with a lady twenty years his senior. The relations between them lasted for many years, entailed great expenses, and precluded the possibility of his settling in life according to his high social standing. This was a source of continual worry and depression, culminating in melancholia with vasomotor disturbances simulating different organic affections. The secondary somatic complications attracted the attention of the patient and the attending physicians, while the primary psychical cause was lost sight of. The vasomotor phenomena were not concentrated so much in the cardiac as in the various abdominal plexuses—solar, gastric, hepatic, mesenteric, hypogastric—and manifested themselves as diseases of the various abdominal viscera. Taking into consideration the absence of any organic disease and of a hereditary neuropathic disposition, I made a diagnosis of remittent melancholia, with a favorable prognosis, which was confirmed by the result.

Mr. W——, aged forty-two, a widower, cultivated, of a nervous temperament but of a good constitution, of healthy parentage and himself formerly in good health, consulted me in 1889. He suffered from insomnia, great mental depression, and a peculiar feeling of distress, accompanied by very unpleasant sensations in the head, cardiac and epigastric regions. These sensations were more or less constant, but reached their highest degree during the sleepless nights. This condition incapacitated him for any steady work, and, though endowed with literary tastes and having received a most liberal education, he was for the last six years condemned to an enforced mental and physical idleness. His case was considered either severe neurasthenia or dyspepsia with affection of the liver. Various treatments and travelling brought little if any relief. The anamnesis revealed the source of the affection. His young wife, during her first pregnancy, suffered from albuminuria and nearly died of eclampsia at childbirth. Although she slowly recovered and the symptoms of Bright's disease gradually disappeared, the husband was informed by the family physician that a new pregnancy would probably call forth the same symptoms, with a fatal termination. Indeed, when she again became pregnant, the disease of the kidneys did not entirely disappear after the eclampsia, and she died at the end of two years. This was a great shock to the husband, and produced the above-described symptom complex of remittent melancholia.

Mr. J—— consulted me in 1896. He was of a weak constitution, inherited from his mother, who died early in life; on the father's side his ancestors were all healthy. From his infancy he was brought up by a stepmother, who took great care to develop him physically and intellectually. Although he was never robust, his health was fairly good during his college life, and remained so for a while after his return to the parents' home. He could not, however, become reconciled to the idea of another woman taking the place of his own mother, and this idea daily grew in intensity, especially after his father's death. The patient became very irritable, pessimistic, and complained of various morbid conditions—dyspepsia, bilious attacks, diarrhœa, etc.—and was very much emaciated. He was constantly under treatment for liver complaint, chronic intestinal catarrh, spermatorrhœa, sexual neurasthenia, and was subjected to a variety of treatments during many years. Among other methods he was put on calomel treatment, which extremely weakened him; at another time he was kept on a strict diet and sulphur water, and for an alleged stricture of the urethra and inflammation of the prostate he had to undergo a methodical introduction of sounds into the bladder. Later, tenotomies of the eye muscles were performed, and gymnastics, massage, hydropathy, and electricity were resorted to, without benefit. When I first saw this emaciated but intelligent young man, of a sallow complexion, he made the impression of a phthisical person, but on examination the lungs and other thoracic and abdominal organs were found in a normal condition; the nerve centres, the whole peripheric nervous apparatus, the muscular and vascular systems were also normal. The organs of special senses were sound and exceptionally acute. On the other hand, his subjective feelings were morbid to such a degree that he was frequently considered neurasthenic, hysterical, or simply insane. He mostly complained of intense precordial and epigastric distress in the sphere of the various plexuses—thoracic, abdominal, and especially pelvic (prostatic, vesical, and hemorrhoidal); also of unpleasant sensations in the head, eyes, occiput, and nape of the neck. These distressing sensations were accompanied with nausea, vertigo, faintness, nervous prostration, insomnia, and a suicidal tendency. At times the patient would seem relieved and would steadily improve in health, but after a while the same morbid condition would return with increased intensity. My diagnosis was remittent melancholia, from which the patient ultimately recovered.

As already stated, prolonged depressing emotions frequently lead to remittent melancholia, in both men and women; but in the latter case the depressed condition is mostly attributed to some affection of the pelvic organs, and the psychical condition remains entirely overlooked.

Mrs. F——, aged thirty-four, a cultivated lady of healthy parentage and mother of three children, consulted me in November, 1885. She was well before her marriage, although of a nervous and excitable temperament. She menstruated regularly, and has always been free from any female complaint, the pelvic organs being perfectly normal. For the past eight years she has been suffering from attacks of nervous prostration, accompanied with insomnia, precordial distress, palpitation and small pulse, gastric disturbances, loss of appetite, with occasional vomiting. The attacks lasted from several days to several weeks, during which she rapidly lost flesh, became weak and anæmic to an alarming extent. Under the best medical treatment she would slowly recuperate, although a high degree of anæmia, emaciation, and general debility would remain, with occasional vasomotor disturbances. Her health improved rapidly, however, when she was on a long visit to her wealthy relatives and friends,

where she remained for weeks with her children or even alone. After returning home a new attack would be sure to follow sooner or later. The patient consulted excellent physicians here and abroad, and almost every one suspected a cardiac affection. A careful examination of the patient during the intervals between attacks could not reveal any organic disease. Besides general anæmia and emaciation, there were present vasomotor and trophic phenomena. Her hands and fingers were painful, red, and glossy, resembling erythromelalgia (Mitchell). The anamnesis gave a history of long-continued worry, the real cause of all the morbid psychical, vasomotor, and trophic phenomena which produced the symptom complex of remittent melancholia. Accordingly a favorable prognosis was made and a different treatment resorted to.

Mrs. G——, a childless married woman who had been under a prolonged nervous strain, became depressed, melancholic, with occasional remissions. She was treated for some chronic pelvic trouble; the symptom which mostly attracted attention was pain in the left ovarian region, and it was at last decided to extirpate both ovaries, but the operation did not remove the pain. Her general health suffered to such an extent that she could not see even her nearest relatives or bear the slightest noise; even the shortest conversation would set her frantic. She could not sleep at all, lost appetite and flesh, became anæmic, looked cachectic, and was threatened with insanity. Under a treatment for remittent melancholia her health improved.

I designate by remittent melancholia a peculiar psychical affection produced by long-continued depressing emotions. All the functions, psychical and somatic, are lowered and retarded; the skin and mucous membranes are pale; there is general anæmia, especially anæmia of the brain, with loss of flesh and nervous prostration; the secretions are scanty; the pulse is small and weak. Although the intellect remains intact, there is a lack of energy and of will power.

Characteristic of melancholia is the impossibility for the psychical organ to produce any but unpleasant sensations; it reacts with painful emotions to every impression, even to those which at other times would have been agreeable to the patient.

The psychical depression is always accompanied by attacks of vasomotor disturbances in the nerve centres and other viscera. They either affect the vasomotor centre in the medulla oblongata and produce a general angiospasm, or are concentrated in the cardiac or any other plexus. The patient at the height of despondency, especially during a sleepless night, feels cold all over the body, particularly in the extremities, with precordial distress, palpitation, faintness, and complete prostration. The pulse during these attacks is accelerated; the heart is enlarged, especially toward the right side; the apex lower and toward the left. After the attack the heart gradually resumes its normal position and size. The attack may last for hours or days, and usually terminates under profuse perspiration and increased urinary secretion, the urine sometimes containing sugar. It is evident that these attacks are caused by a general angiospasm and temporary dilatation of the heart, which by frequent and prolonged recurrences may lead even to a permanent cardiac affection. The cardiac phenomena, always present in remittent melancholia, are sometimes less pronounced than the disturbances in the sphere of other plexuses—in the solar, gastric, hepatic, mesenteric, splenic, vesical, prostatic, ovarian, or hemorrhoidal. Accordingly the original psychosis may be obscured by the prevailing morbid symptoms of the different affected viscera. Thus the patients are treated for affections of the thoracic, abdominal, or pelvic organs, while the primary psychical disease remains unrecognized. The temporary glycosuria is probably also caused by a vasomotor disturbance in the pancreas.

Among the most distressing symptoms of remittent melancholia is the insomnia which often precedes the attacks. However sleepy may be the patient, on retiring he remains awake and broods over his trouble; should he fall asleep, he is aroused by frightful dreams. He feels entirely prostrated in the morning and unable to get up. When by a great effort he leaves the bed, he is very weak and nauseated and has no appetite. After breakfast he regains a little strength, may sometimes attend to business, and feels better toward the evening. If the patient yields to the disinclination to leave the bed, the prostration increases, and only by great determination and repeated efforts will he be able to rise and gradually to recover the condition in which he was before taking to the bed.

Under favorable hygienic and psychical conditions the patient gradually improves to a certain degree, but does not always entirely recover his former health. He may remain in this improved condition for weeks or even months, until some unpleasant occurrence brings renewed worry and a relapse.

Cases with inherited neuropathic disposition may pass into some kind of insanity. In others some organic disease may develop, among which there may be a cardiac disease or a malignant form of diabetes.

On the whole, the course of remittent melancholia is chronic, lasting for months or years, with remissions, but under a proper treatment a complete recovery is possible.

Differential Diagnosis. — Remittent melancholia can be easily mistaken for periodical melancholia, but in remittent melancholia the morbid condition is invariably induced by long-continued depressing emotions, and develops gradually in persons free from inherited neuropathic disposition. In periodical melancholia, on the other hand, the disease appears suddenly, without any apparent cause, often in the midst of perfect health or after a very short premonitory stage of depression, in persons with an inherited neuropathic constitution. The attack soon reaches its height and remains so until, without any transition, the patient passes into perfect health, which he retains for many months, until the sudden outbreak of a new attack. In remittent melancholia the recovery from the attacks is very gradual and slow, and during the comparatively healthy intervals between the attacks the patient remains slightly depressed and does not completely recover. Remittent melancholia is often diagnosticated as neurasthenia, for both have in common the symptom of nervous prostration, but they differ etiologically. The most characteristic symptoms of remittent melancholia are the angiospastic attacks, the sluggishness of functions, and the absence of inherited disposition.

Hysteria sometimes resembles remittent melancholia, but in hysteria the so-called hysterical stigmata can always be found. In remittent melancholia, on the contrary, they are absent, as a rule, although in exceptional cases they may exist as a complication and disappear spontaneously under the treatment of the principal disease.

Frequently in remittent melancholia an affection of some organ (heart, liver, sexual organs, etc.) is considered the primary cause of the psychical depression; whereas in reality it is the psychical depression, with its accompanying vasomotor disturbances, that is the primary cause of the visceral affection.

A careful analysis of the morbid phenomena in their chronological order, the anamnesis, greatly helps to determine the diagnosis.

Etiology and Pathogenesis.—In the last two decades the greatest advance has been made in the eti-

ology of diseases by the discovery of pathogenic micro-organisms. The constant progress in etiology must necessarily lead to a science of therapeutics which will eventually supplant our present empirical methods of treatment. It would require a special article to give even a superficial review of the subject; within the limits of this paper only brief mention can be made of some of the important points. The pathogenic micro-organisms, by their vital activity, produce toxins and thus cause the morbid symptoms of different acute and chronic diseases, including those of the nervous system. Clinical observations show that in the course of any infectious disease microbic germs or toxins may be carried by the circulation into the nerve tissues and produce different acute and chronic diseases of the brain, of the spinal cord, or of the peripheric nerves; for instance, encephalitis, myelitis, multiple cerebro-spinal sclerosis, polyneuritis, etc. Moreover, long after the disappearance of the primary infectious disease, secondary autointoxication may be produced by the remaining latent germs. These clinical observations have been confirmed by experiments on animals, with injections of microbes or their toxins into the nerve tissue, where they excite inflammatory or degenerative changes of a diffused, focal, disseminative, or even systemic character. And yet in the healthy organism the alimentary canal and the respiratory tract contain normally the most virulent microbes as well as many innocuous saprophytic bacteria. Although they exert no deleterious influence under ordinary circumstances, they may under certain conditions produce auto-infection.

Even before knowing the etiological significance of micro-organisms, we were acquainted with auto-intoxications—uræmia, cholæmia, diabetic coma, etc. Senator was the first to describe in 1868 a case of auto-intoxication with sulphuretted hydrogen absorbed from the intestinal canal. Sir Andrew Clark concluded from clinical observations that products of putrid decomposition in chronic constipation produced auto-intoxication. Later Ewald, Boas, and others described the development of sulphuretted hydrogen in chronic gastric dilatation in consequence of putrid decomposition of albuminous substances produced by bacterium coli. In some other cases of dilatation of the stomach, tetany is caused by the absorption of toxins.

Heubner, Baginsky, and others ascribe to auto-infection some febrile and convulsive diseases in infants with gastro-intestinal catarrh. It was known long ago that hypochondriasis and mental depression often accompany chronic dyspepsia and intestinal catarrh. Of late Wagner found a large amount of aceton and indican in the urine of some acute cases of psychoses, and concluded that auto-intoxication from the gastro-intestinal canal was the cause of the disease. He employed intestinal antisepsis, to which the psychoses yielded.

The researches of Hoppe-Seyler, Kuehne, Salkowski, Baumann, Nencki, and others demonstrated that the aromatic substances—indol, phenol, skatol, etc.—are the products of intestinal putrefaction of proteids caused by bacteria. These aromatic substances are absorbed into the circulation and eliminated with the urine in combination with sulphuric acid; they are called combined ether sulphates, and may be considered, *ceteris paribus*, as an index of the extent of intestinal putrefaction, a certain amount of intestinal putrefaction, however, is always present even in the healthy condition, and probably promotes the intestinal digestion and assimilation.[1]

Auto-intoxication takes place only when the putrefaction is excessive; it is caused less by the combined ether sulphates than by other toxins which are eliminated by the skin and lungs. The critical perspiration in pneumonia and other acute diseases, by which the toxins are eliminated, was known as far back as Hippocrates, and the poisonous effect of the substances eliminated by expiration was demonstrated by Brown-Séquard.

Bouchard, who introduced the term auto-intoxication, designated by it only a general poisoning of the system with bacterial toxins formed in the intestinal canal. But there are many other sources of auto-intoxication besides. Thus a very frequent cause of auto-intoxication is the accumulation of incompletely oxidized products of tissue change. On the whole, auto-intoxications are readily produced whenever the alkalinity of the blood is diminished or the functions of the kidneys, skin, and other emunctories are impaired. Even healthy organs during their functional activity form poisonous substances, which would produce auto-intoxication were they not promptly eliminated by the emunctories. Thus muscular activity produces lactic acid and the so-called fatigue substances, which, if not thrown off at once by perspiration and urine, cause exhaustion and prostration. When accumulated in large quantities after prolonged and violent exercise they may become dangerous and fatal, especially if the kidneys are diseased. Most remarkable are the effects of morbid changes of the glandular secretions; for instance, a nervous shock, a sudden fright, may instantly transform the mammary secretion into poison and cause convulsions in an infant who would take the breast immediately after the shock.

Probably the parotid and the other salivary glands, perhaps all glands, are equally apt to produce toxins. We are now experimentally and clinically acquainted with some of the properties of the thyroid gland and of the suprarenal capsules. They both produce antitoxins which neutralize the poisons formed by the tissue changes, and their extirpation, therefore, or their pathological condition leads to serious affections (myxœdema, Graves' and Addison's diseases, etc.). The extirpation or a disease of the pancreas produces malignant diabetes. The liver also secretes antitoxins, which neutralize the ptomains produced by imperfect digestion.

I believe that the products of cerebral tissue change after prolonged strained and abnormal activity may be a most important factor in the etiology of psychoneuroses. If sufficient time is not given to the overworked brain to recuperate by rest, sleep, and nutrition, or if the accumulated poisons cannot be promptly eliminated from the circulation, an affection of the nervous system must necessarily follow. Possibly the quality and quantity of the toxin produced by the cerebral tissue changes determine the character of the psychoneurosis. We have learned from clinical observations and experimental pathology that different toxins have peculiar affinities to certain nerve centres and functions; for instance, chronic poisoning with ergot produces the symptoms of locomotor ataxia and sclerosis of the posterior columns identical with those of tabes; strychnine produces convulsions and woorara paralysis of cerebro-spinal motor tracts; alcohol and narcotics affect the psychical centres; digitalis and atropine act upon the vasomotor and oculo-pupillary centres, etc. I assume that in melancholia the sluggishness of all the functions (respiratory, circulatory, especially secretory) causes the accumulation of the poisonous products of tissue change, depresses the psychical, and irritates the vasomotor centres.

In acknowledging the great value of bacteriological researches for the progress of etiology, we must not neglect the study of the tissues and their reaction against microbic irritants, organic and inorganic poi-

[1] While working several years in the laboratories of Hoppe-Seyler and Kuehne I often found moderate amounts of indican in the urine of perfectly healthy persons.

sons, and other injurious agents. The results obtained by Nissl's method have greatly increased our knowledge of both the normal structure of the nerve cells and their alterations under various influences. Nissl has shown that the ganglion cells consist of two substances—an amorphous and a formed substance—the latter consisting of corpuscles variously arranged and typical of the different kinds of nerve cells. When treated with alcoholic methyl-blue, these corpuscles in the normal condition assume the dye, while the amorphous substance remains colorless.

Experiments on animals made by Nissl, Ramon y Cajal, Van Gehuchten, Lenhossek, Marinesco, Flemming, Flatau, Goldscheider, and others demonstrated the different characteristic and specific alterations which the nerve cells undergo when subjected to the influence of various agents and poisons—the electric current, mechanical, chemical, thermal, and other irritations. In these cases the structure of the nerve cells undergoes pathological changes: the Nissl bodies either approach each other closely or become more separated by the amorphous substance; they break up into fine granules or are entirely dissolved, and the amorphous substance assumes a blue color, etc. In case of recovery the nerve cells resume their normal structure.

Many other striking results may be expected from Nissl's method. Perhaps it will be found that even psychical impressions cause certain alterations of the cerebral cells, and thus an anatomical basis may be found for the so-called functional and hysterical affections of the nervous system.

The researches of Flechsig cannot be left unnoticed whenever a neurosis or psychosis is under consideration; they mark an epoch in the anatomy and physiology of the brain, and in psychology and psychiatrics. The results obtained by him are based on the following elementary facts of embryology. The mature nerve fibres of the brain consist of the transparent cylinder axis and of the surrounding myelin sheath. The immature nerve fibres in the fœtus and the newborn consist at first of cylinder axis alone, and receive their myelin sheaths much later. The myelin sheaths surround the nerve of various centres at different periods, according to the earlier or later development of their functional activity. On examining, therefore, cerebral sections of the fœtus and the newborn treated by Weigert's method (hæmatoxylon), it is easy to distinguish the mature (stained blue) nerve bundles of certain developed functions from the transparent immature nerve bundles of the still undeveloped functions, and thus to follow up the tracts of the various functional spheres. Thus Flechsig could determine with great accuracy the cortical centres of the different senses, together with the corresponding motor areas and their corona radiata nerve fibres. Their neurons are connected with the subcortical centres of the brain and of the spinal cord, the nuclei of sensitive, motor, or reflex centres. The spheres of senses, although very extensive in the human brain, occupy but one-third of it, and are intercalated between the centres of intellect, which constitute the two other thirds of the brain. This enormous expansion of the intellectual or association centres is peculiar to the human brain. In the higher animals the association centres are only rudimentary, and in the lower animals they are absent, the sense centres being contiguous; for this reason the anatomical and experimental study of the brain of animals is but slightly applicable to the human brain.

An affection of the association centres produces mental diseases, and these centres are the real substratum of psychology and psychiatry.

The intellectual or association centres are devoid of corona radiata fibres, and are not directly connected with peripheric, motor, or sensitive apparatus. Their neurons have innumerable connections among themselves and with all the sense spheres, with the vasomotor and respiratory centres, with the corpus striatum and thalamus opticus (where the higher and lower cerebral functions combine), and with the formatio reticularis (the seat of lower instincts), etc.

The great preponderance in the human brain of the association centres explains their influence upon the whole organism, both in health and disease, especially in nervous and mental affections.

Prognosis and Treatment.—The prognosis in remittent melancholia is favorable in simple, uncomplicated cases; it is doubtful in cases with neuropathic disposition; and in complicated cases it depends on the nature of the complication.

The acute angiospastic attacks often terminate spontaneously under profuse perspiration and increased urinary secretion. Therefore I tried an empirical method, suggested by this observation, and advised hot water or hot lemonade, to be taken by sips until perspiration would ensue. This was generally followed by a complete relief from the vasomotor disturbance—the precordial distress, palpitation, etc., and by a refreshing sleep from which the patient awakened feeling better than he did for days or weeks.

As regards the chronic neurosis, the therapeutic indications are as follows: to remove the psychical cause and to improve the functions of circulation, secretion, etc., in order to hasten the metamorphosis of matter and the elimination of toxins; also to increase the amount of blood and strengthen the nervous system. The first iddication, viz., the removal of the primary cause, although theoretically the most rational, is certainly the most difficult to carry out. As a rule, when a case comes to our notice, the psychical impression which produced the melancholia has already lasted for some length of time, and we have to deal with its consequences, the fully developed disease, which may now continue independently even if the primary cause be removed. Besides, the patient may have become physically weakened to such an extent that we must somewhat improve his general condition and palliate certain severe symptoms before expecting any effort on his part. Later on it will be easier for the physician to impress upon the patient the necessity of giving up worry in order to get well, as prolonged worry often causes incurable diseases. Indeed, I have seen diabetes, cardiac and other affections brought on in healthy persons by continued depressing emotions, and benign affections become malignant under their influence. As soon as the acute attack is over, I commence the general treatment of the chronic neurosis. It is important for the patient to have daily outdoor exercise; at first, short walks which must be gradually increased. He is advised to return directly home after each exercise, and take something hot until he gets into perspiration, as the profuse acid secretion of the skin and kidneys increases the alkalinity of the blood. Any one who wishes to appreciate this simple remedy ought to try it on himself. Every sip not only stimulates the gastric nerves in a direct manner, but by reflex stimulates the cardiac branch of the pneumogastric; the heart acts more vigorously, the circulation is quickened, the pulse becomes stronger, the blood rushes to the skin and other emunctories; all secretions are increased, and the patient feels revived. After the hot drinking the patient takes a short rest; when possible, another walk is taken in the afternoon, also followed by hot drinking. The outdoor exercise is gradually increased until the patient is able to take long walks, bicycle or horseback rides, rowing or skating, etc., and as a rule should exercise until a general reaction is produced and he is in a glow.

At first I was in doubt whether the exercise or the

perspiration is the most important factor. If the perspiration alone were productive of the good result, outdoor exercise could be dispensed with and the patient given a Turkish bath or some diaphoretic. I found, however, that neither the hot drinks nor the muscular activity alone was sufficient. In both cases the result was unsatisfactory. It is evident that exercise and perspiration combined produce the beneficial effect. Besides the exercise and hot drinking I prescribe some of the bitter waters to be taken before breakfast. These bitter waters wash out and stimulate the stomach, increase the peristalsis, and act as the best intestinal antiseptic. Before retiring the patient is advised to take hot milk, which acts as a mild hypnotic. In the morning a warm bath is taken, followed by a cold douche or sponging. These simple hygienic remedies accomplish a great deal if properly and systematically used; they improve all the functions (the respiratory, circulatory, digestive, secretory, etc.), and increase the metamorphosis of matter. The more energetic the latter, the more vigorous the health, provided the products of tissue change are promptly eliminated.

Weak digestion and anæmia require hydrochloric acid and iron, the former about three-quarters of an hour after the principal meals. In order to produce the desired effect, the hydrochloric acid ought not to be taken immediately after the meals, as the hydrocarbons must first undergo the action of the saliva before the nitrogenous substances are digested by the acid secretion of the stomach. Iron can best be taken with the meals.

An old-fashioned remedy, almost forgotten at present, is, however, most valuable, especially in nervous affections, for the simple reason that it is an indispensable constituent part of the nerve tissue, just as iron is a part of the blood tissue. I mean sulphur. I usually prescribe it in combination with sugar of milk, a very good diuretic. I generally begin with the hydrochloric acid for a week or ten days, then I give iron for about a month, after which I prescribe the sulphur. If necessary, the iron can be resumed and alternate with the sulphur for any length of time.

The most valuable remedy in the treatment of chronic psychoneurosis is the galvanization of the brain, according to my method described in Virchow's *Archiv für pathologische Anatomie*, Bd. 79, 1880, and in Westphal's *Archiv für Psychiatrie und Nervenkrankheiten*, Bd. 8, Heft 2, and Bd. 16, Heft 1. The galvanic current regulates the circulation in the nerve centres and improves their nutrition. Moreover, the brain being the principal central organ of all the psychical and somatic functions, its galvanization affects favorably the whole system. I therefore employ the galvanization of the brain not only in affections of the nervous system, but in a great many other chronic diseases. In the very many cases treated by me in the last thirty years, I cannot single out an instance when it acted injuriously or did not prove beneficial.

As in other chronic diseases, simple cases are very rare in remittent melancholia. The majority of cases are complicated with malaria, gout, rheumatism, tuberculosis, hysteria, etc. Accordingly, the treatment has to be somewhat modified by combining the remedies for both the neurosis and the complicating disease. I will here limit myself to a few remarks with regard to malaria, the most frequent complication. It sometimes imparts to the exacerbations and to the angiospastic attacks of remittent melancholia an intermittent character. As in these cases there is always an enlargement of the spleen, I used formerly to consider them simply as malaria; they would improve under a quinine treatment, but neither the neurosis nor the vasomotor disturbances could be permanently benefited. In 1868 I made the following observation concerning malaria in its relation to the galvanic current. A middle-aged lady, of a strong constitution, placed herself under my care for rheumatic pains in the shoulder. Two applications of a strong galvanic current relieved the pain, but during the third application she was seized by a chill, followed by high fever with profuse perspiration, similar attacks recurring every other day. The patient was promptly cured by quinine. I had several other cases of obscure chronic diseases, in which a strong galvanic current called forth regular attacks of intermittent fever and thus unmasked the latent malaria. Since then, in cases of melancholia or any other chronic neurosis, if I find an enlarged spleen not caused by typhoid or rheumatic fever, I search for the plasmodium malariæ and prescribe quinine before resorting to the galvanic current.

Having considered the indications for the rational treatment of remittent melancholia, the counter-indications can be easily pointed out. The majority of my patients before coming under my care had tried all possible remedies and different methods of treatment, and I have thus been able to discard those which proved useless or injurious. Narcotics and stimulants should be avoided; the first on account of their debilitating effect on the nervous system and their tendency to lessen the secretions. Besides, neuropathic patients are very apt to acquire the morphine, cocaine, and ether habits, etc. Stimulants, if often administered, are injurious and may also lead to a morbid habit. The moderate use of light wines, however, may be recommended as a tonic.

The most popular method of treatment seems to be the rest cure, as almost all of my patients, at one or another period of their illness, were treated by this method. Although I have not employed it myself, I have thus been able to observe its after-effects. As far as I can judge, the rest cure acts favorably only in cases of hysteria, principally by its moral influence. Many hysterical patients are averse to outdoor exercise and persuade themselves that the least exertion aggravates their morbid condition. In this auto-suggestion they are usually upheld by their near relatives and friends, and make it hard for the physician to overcome their combined notions. But when such patients are isolated and compelled to remain almost motionless for days and weeks, they feel greatly relieved when permitted to leave the bed and resume activity, which is naturally followed by an improvement in health. That the rest cure is not meant, however, to suppress altogether muscular activity, is evident from the fact that massage is employed and faradic current applied to induce muscular contractions.

In other chronic neuroses the patients generally find that their condition was not improved by the rest cure; in melancholia, for instance, the physical rest increased the internal agitation. This is quite in accordance with *a-priori* reasoning and with experience. If we consider that the muscles constitute more than half of the weight of the body, it is evident that the system must suffer when their functional activity is suppressed. No doubt in cases of exhaustion and emaciation an entire rest is absolutely necessary, but as soon as the patient is able he should resume outdoor exercise. For healthy persons the night's rest is sufficient; for the invalid an additional hour or two may be required during the day.

Finally, it is best to avoid gynæcological treatment in melancholia, except in urgent cases like hemorrhage, vesico-vaginal fistula, etc. In women who were subjected to the usual local treatment, the neurosis was invariably aggravated and prolonged. The same rule applies to men. Melancholics often complain of some genito-urinary trouble, and on examination a spasmodic stricture or an enlargement of the

prostate is found and treated with sounds, etc. This local treatment aggravates and prolongs the nervous affection, which for some reason or other often becomes complicated with a catarrh of the bladder or cystitis. I therefore consider local treatment contraindicated during the melancholic process; it is wiser to postpone it until the patient recovers from the neurosis, so much the more that these genito-urinary troubles generally disappear spontaneously after the cure of the neurosis—the best proof that they were of a vasomotor or neurotic character.

November, 1897.

OBSERVATIONS UPON THE DIAGNOSIS AND SURGICAL TREATMENT OF CERTAIN DISEASES OF THE STOMACH, BASED UPON PERSONAL EXPERIENCE.[1]

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In the short paper which I have the honor to present to you this evening I have avoided, as far as possible, reference to the labors of many workers in this field of surgery, especially those whose efforts in this direction have become a matter of history. This is not due to a lack of appreciation of the pioneers in gastric surgery, but rather to the wide extent of territory which I have attempted to cover. The cases which form the basis of this paper have been operated upon by myself and my brother, Dr. C. H. Mayo, with few exceptions in St. Mary's Hospital, Rochester, Minn. Our experience in this field comprises twenty-six cases in which the stomach itself has been the object of attack, and twenty-five operations made for the relief of marked gastric distress, caused either by adhesions between the stomach and the gall bladder, duodenum, or neighboring organs, or to adherent omentum in hernial pouches, or to ventral herniæ. This makes a rather natural division into two general classes:

1st. Those due to causes acting from within the stomach.

2d. Those due to causes acting outside the stomach itself.

There are a few facts in regard to the anatomy of the stomach which are of so much importance in its surgical relations that I take the liberty of referring to them. The blood supply is from three principal sources, and the various anastomoses are so complete as to resemble the palmar arch or the circle of Willis.

This enormous blood supply allows free incisions into the stomach walls or resections of any desired amount, and gives a certainty of well-nourished flaps. In this respect it vastly differs from the intestines, in which the utmost care as to nourishment of the bowel periphery is of such importance in dealing with the mesentery.

The smaller vessels lie along the surface of the mucous membrane, and this latter structure is very thick and easily separated from the outer coverings. Independent suture of the mucous coat, therefore, gives firmness and checks oozing.

The gastro-hepatic omentum anchors the stomach well under the ribs, and if this be divided first the pylorus and lesser curvature can be easily delivered and the fingers pass at once behind the stomach and pylorus into the lesser cavity of the peritoneum. In operations upon the living subject, and in a number of cadavers upon which I experimented, the value of this manœuvre was readily apparent.

Volumes have been written about the functions of the stomach, especially by the specialist in internal medicine, but to the surgeon at least the mechanical theories have the greatest attraction. From my standpoint, the stomach represents a combination of the hopper and the silo. The fundus can be compared to the magazine of a coal stove, making it self-feeding, while the great muscular power of the pyloric region, with the aid of a weak solution of pepsin and hydrochloric acid, softens the food masses and slowly passes them into the intestines for digestion and absorption. As Wendt points out, the stomach also absorbs fluids, prevents intestinal overloading, and corrects the varying temperatures of the ingesta. The gastric juices, while not markedly antiseptic, are hostile to germ growth—a factor of considerable importance.

Cancer of the Stomach.—The differential diagnosis of cancer of the stomach, especially the obstructive type, may be difficult, and many an individual has perished because of this too ready opinion based upon insufficient evidence. The history in cancer of the stomach is of the greatest importance. The patients can usually fix a time in which the symptoms became marked; not a definite date, but a period within from one mouth to three months, in which, they will state, the disease became very noticeable, and from which time the symptoms had been more or less continuous. In cicatricial stenosis the history covers a longer period of time. The not infrequent malignant degeneration of former scars is confusing in this respect.

Vomiting is a symptom of some value. In pyloric obstruction it is usually infrequent, once or twice in twenty-four hours, and a large quantity of material is ejected. This is not materially different in character from the vomiting of cicatricial pyloric obstruction. The obstruction and resulting dilatation of the stomach are in either case easily demonstrated by filling the stomach with air through a stomach tube by the aid of an enema syringe. This procedure is one of great diagnostic value; it also aids in locating the pylorus.

In cancerous disease, even with only a moderate obstruction, vomiting is often met with, and, if the walls of the stomach are extensively infiltrated, vomiting may be both frequent and painful, resembling ulcer. Pain and emaciation are the rule, and I am always suspicious of a person of middle or later life who presents these symptoms, with a cachexia which, while not peculiar to cancer, differs from the pale, bloodless appearance frequently seen in ulcer. The presence of a tumor, while most often noted in cancer, may be found in cicatricial contraction. I have several times felt masses of this character, which appeared prior to operation to be too well marked for any other disease than malignancy.

Examinations of test meals for the absence of hydrochloric acid and the presence of lactic acid have some diagnostic value. Dr. Christopher Graham has made a great many examinations of this description, and, as a whole, they have been fairly satisfactory; but the tests are of value only when corroborated by better testimony. The tests with iodides for stomach absorption and with salol as to the motor power are essentially laboratory tests and of no great aid in this class of cases.

The gastroscope and gastrodiaphanoscope are of little practical use.

Time will not permit me to refer to the many valuable diagnostic features of cancer of the stomach, and it must be left to the exploratory incision to clear up the doubtful cases if a radical cure is to be attempted.

In such explorations the enlargement covered with dilated veins is easily differentiated from the whitish scars of former ulceration, while the extent of the disease and adhesions to important viscera render the radical treatment more or less feasible.

We have made seven exploratory operations for supposed cancer of the stomach. In one case the tumor

[1] Read before the meeting of the Minneapolis Academy of Medicine, at Minneapolis, February 2, 1898.

proved to be tuberculous omentum, and the patient was benefited by the exploration, as often happens in tuberculous peritonitis. Another case, thought at the time to be cancer, I now believe to have been a benign obstruction, too much attention being given to enlarged glands in the omenta. I have almost always found enlarged glands in pyloric obstruction, whether the disease was cancerous or not, due to chronic sepsis from the absorption of decomposing stomach contents, and, unless microscopical examination is made, such findings are of small value. In five cases the cancer was inoperable. In one of these five hopeless cases great improvement followed, and the patient, who was a butcher, worked nearly a year at his trade before the growth again became active. Similar cases have been reported by Lawson Tait. J. William White has extensively investigated this and kindred phenomena, in which tumors had disappeared or greatly improved after such exploratory manipulations, and reference to his statistics will show a number of such cases. The relatively large number of such explorations is a confession of failures as to exact diagnosis, either as to the existing condition or as to the stage of the disease; but, as such an exploration is the only way an early diagnosis of the operable cases can be established, it is in my opinion fully justified.

Unfortunately, radical operation upon cancer of the stomach depends upon an early and often, without incision, an impossible diagnosis; as in cancer of the uterus, the large majority of cases will be seen at a time when the diagnosis is only too apparent and the prognosis equally so. I will not discuss the advisability of active interference in this otherwise hopeless malady. I can only say that for myself the results, the nature of the disease being considered, have been satisfactory.

For cancer we have made three gastro-enterostomies and three pylorectomies, one of the gastro-enterostomies proving fatal from broncho-pneumonia on the fourteenth day, due to the aspiration of material vomited into the throat during the manipulations. With the stomach partly out of the abdomen, the elevation gravitated the contents into the dependent œsophagus. This should have been avoided by raising the head and the upper œsophagus. The preliminary emptying and cleansing are often more apparent than real, and it is the rule in my experience that the stomach at the operation will be found containing a considerable quantity of material, although emptied and washed through the tube immediately before operation.

The remaining patients upon whom gastro-enterostomy was performed lived for a year or more. One, under the care of Dr. R. C. Dugan, of Eyota, from a state of starvation, not only gained rapidly in flesh and strength, but labored on a farm for more than a year. The second, I was informed by his attending physician nearly a year afterward, was up to that time comfortable and about. In the three cases of pylorectomy all the patients recovered from the operation, and all are now in good condition, though sufficient time has not elapsed to speak of them as cured.

The method of pylorectomy we have followed has been so speedy and satisfactory that I would like to call your attention to it. The ease with which any desired amount of stomach can be excised is especially noticeable—in one case the upper suture angle lying behind the left costal arch in close proximity to the cardiac orifice and passing obliquely downward and to the right more than six inches in length, making a sort of shovel nose to the amputated end. I make no claim to originality, although I know of no method of equal simplicity, and in the cases referred to and also in a number of cadaver operations the details were readily carried out. The steps are as follows:

1st. A median incision above the umbilicus, and, if needed, a cross-cut of the rectus.

2d. Double ligation and division of the necessary amount of gastro-hepatic omentum: this allows the pylorus and lesser curvature to be delivered. The fingers are now in the lesser cavity of the peritoneum, and at once slip under the pylorus and act as a guide to the careful double ligation and division of the gastro-colic omentum attached to the malignant area.

3d. The diseased part is isolated by a piece of gauze drawn under it, and a pair of forceps are caught from each side, separating the diseased from the healthy stomach and also preventing leakage from below. With a knife a circular cut is made completely around the healthy portion of the stomach to the mucous coat. The muscular and peritoneal coats are stripped back and a few bleeding points caught with forceps. The mucous coat is cut inch by inch and at once closed with a continuous catgut suture; this is cut short and the detached pylorus and tumor are covered and turned out of the way. A second continuous catgut suture of the muscular coat rolls in the mucous, while outside of this a good silk Lembert of the peritoneum and muscular coats protects and rolls in the two first rows of sutures.

4th. The end of the stomach is slipped to the right and the ends of the tied omenta are sutured to each other and to the suture line, not only making further protection, but also anchoring the stomach to the right and preventing undue traction upon the duodenum after it is fastened in place.

5th. The duodenum is cleanly amputated at a healthy point and buttoned with a Murphy button to the anterior lower wall of the stomach.

We have done this operation once in forty-five minutes, once in one hour and five minutes, and once in one hour and twenty-five minutes. I mean by this, from the time the operation was commenced until the dressings were in place, and in each case from four to six and one-half inches of stomach had been excised.

Benign Obstruction.—Time forbids remarks on the diagnosis of cicatricial stenosis of the pylorus, if, indeed, they are necessary after what has been said on malignant disease. Valve formation, either with or without scar contraction, I called attention to in papers read before the meeting of the American Medical Association in 1896 and again in 1897. It is undoubtedly a common condition and responsible for many cases of dilated stomach which have been thought to be due to chronic gastritis.

For cicatricial stenosis and valve formation we have made four pyloroplasties on three patients and five gastro-enterostomies. Of the pyloroplasties, two were followed by good results: one relapsed and after a second pyloroplasty eventually required a gastro-enterostomy.

In the last operation for pyloroplasty we made a very long incision, three or four inches in length, and, while it required careful suturing, the opening was of ample and permanent size.

The method of suture employed by Ochsner, of Chicago, and published in the *Journal of the American Medical Association* for October 16, 1897, can be commended in this operation.

Of the five cases of gastro enterostomy for cicatricial stenosis, one proved fatal from aspiration pneumonia on the eleventh day (this patient was the one upon whom the two pyloroplasties had failed). The four remaining patients made fine and so far permanent recoveries, and I must say that, while I was prejudiced against the operation in this class of cases and was forced in each instance to do it by reason of extensive adhesions or great extent of scar tissue, the ultimate results have been uniformly good, and equally so with pyloroplasty which has been done in easier cases. All of our gastro-

enterostomies have been button operations. The muscular walls of the stomach in cicatricial stenosis are always very thick, and, on account of the length of time the obstruction has existed, much more so than in cancerous disease. For this reason the walls of the stomach should be incised to the mucous coat before the button suture is put in, and only a small bit of these tissues included in the grasp of the button, to prevent it hanging too long in place. In all of our cases the jejunum was caught at its origin and a coil formed and united to the anterior wall of the stomach, after such fashion as would not cause traction or kinking; and in the eight gastro-enterostomies of all sorts performed none of the cases had regurgitant vomiting.

The objection to the Murphy button that it may be retained in the stomach is legitimate, but as no cases have been reported in which such retention has caused harm, and experience has shown that the button may be passed at a very late date after the patient has been discharged as cured, the objections do not overcome its advantages in the way of speed, certainty of approximation, and permanency of opening. Two years ago I advised a kite-tail guide of silk to act as a tractor down the intestine; the value of this is uncertain.

Gastrostomy was performed three times for stomach feeding necessitated by œsophageal obstruction. One operation was by the Fenger method; this case required constant attention on account of leakage. The other two operations, done after the Witsel plan, gave ideal results, and I have not been convinced as to the superiority of the Frank operation, which Meyer and others recommend.

Gastrorrhaphy was done in one case of gunshot wound of the stomach eight hours after the injury, and the large wound of the anterior wall sutured; the case terminated in recovery. The patient was brought into St. Mary's Hospital by Drs. Way and Edgerton, of Claremont, as quickly as possible after the accident, and to their prompt action the good result was undoubtedly due.

Causes of Stomach Distress Acting from without the Stomach.—Cases of this description are very common and usually due to well-understood conditions, such as chronic appendicitis, intestinal adhesions, movable kidney, and similar ailments; but in these instances the resulting stomach disturbance is largely through the nervous system.

There are, however, a number of cases in which adhesions of the stomach or pylorus to a neighboring organ, hampering its free action, are sources of more or less disability, and the separation of these adhesive bands will relieve the difficulty.

Of these we have seen three marked instances—one due to an old, adherent gall bladder, without stones, although it had undoubtedly once contained them; one due to a duodenal ulcer, with a mass of adhesions binding the pylorus and limiting its calibre; in the third case I am unable to state the exact cause, but it was probably a recurrent regional peritonitis about a diseased gall bladder. This caption does not include the many instances of gall stones in which stomach symptoms were present.

Such results are also easily understood when the omentum has become adherent to a hernial sac and remains irreducible, causing a certain amount of dragging and interfering with the free action of the stomach. We have seen this happen three times in umbilical hernias, eight times in inguinal hernias, and three times in femoral hernias; and in each instance release of the adherent omentum and radical operation on the hernia gave complete and lasting relief to the gastric symptom. In these cases the patient came complaining of stomach trouble and not of the hernia. The list does not include cases in which the intention of the patient was merely to be rid of the annoyance of the hernia, and in which, as a part of the radical cure, the omentum was freed.

Just why the ventral hernia protrusion through little defects in the median line above the umbilicus should cause gastric distress, I am unable to state; but that such is the fact I feel sure, and recent surgical literature contains many reported cases.

In our earlier operations I believed that the protrusion was always omentum, but careful dissection has shown me that it is often preperitoneal fat, and the constant congestion causes it to become lipomatous—a condition exceedingly common about old femoral hernial sacs. In all these cases of ventral hernia a glove-like protrusion of peritoneum occupies the central part, and this may be empty, although I have seen omentum and also a part of the fatty contents of the suspensory ligament of the liver in the sac. We have operated upon eight such herniæ, and the results have been very satisfactory.

In closing, I cannot do better than quote a passage from Mayo Robson: "Although difficult to lay down hard-and-fast rules, it is certainly wise, in cases of obscure gastric pain producing invalidism or debility, after medical treatment has been fully tried and failed, to open the abdomen in order to clear up the diagnosis and then adopt that line of treatment which seems indicated."

THE VALUE OF THE BUCCAL ERUPTION OF MEASLES (KOPLIK) FOR EARLY DIAGNOSIS.

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The experience I have had with the buccal eruption of measles dates back to the spring of 1895, when I was made cognizant of its occurrence and diagnostic import by Dr. Koplik, of this city. He later published an article on the subject in the *Archives of Pediatrics*,[1] but little interest in the matter seems to have been aroused until a second paper recently appeared in the Medical Record.[2] Since then there has appeared a contribution to the subject, from Heubner's clinic, by Slawyk.[3] Writing from the observation of a large number of cases, he confirms all the statements made by Koplik.

For an account of the characteristics of the spots described by Koplik, I refer to his articles. As to their value, he says that the spots are absolutely diagnostic of measles; that they occur during the invasion period of measles, and begin to disappear as the skin exanthema reaches its height.

My own observations extend over a series of fifty cases. Of these cases, thirteen were seen in the isolation house of the Mt. Sinai Hospital during the spring of 1895. Twelve of the latter were children transferred from the children's ward of the hospital, in the service of Dr. Scharlau, through whose kindness I am enabled to make use of the cases for publication. These children came under notice with either a beginning rash or immediately after a diffuse rash had appeared. In every case the spots described by Koplik were present in large numbers on the buccal mucous membrane, and in some cases on the lips. The children with the measles eruption already markedly developed had, in general, fewer spots. The thirteenth case was that of a patient, aged nineteen years, who was first seen when the measles rash had already covered the larger part of the body. In this case also the spots were plainly seen.

The second group of cases came under observation in the children's ward of the hospital in 1896. The first case of this series was especially striking. A boy,

[1] December, 1898. [2] April, 1896.
[3] Deutsche medicinische Wochenschrift, April 28, 1898.

six years old, was admitted to the ward with a history of having been sick three weeks with fever, cough, and pain in the chest. When first seen, he had no coryza and no conjunctivitis. The physical examination revealed a slight bronchitis and a mitral regurgitation with hypertrophy of the right ventricle. The child had a temperature of 102.8° F. The diagnosis seemed doubtful until on examination of the mouth the measles spots were seen. The child was at once isolated. Two days later a typical measles eruption developed on the chest and neck.

This case seemed so demonstrative to us that later, when we feared a measles outbreak because of the occurrence of another case in the wards, we determined to put the sign to a careful test. We began, after the occurrence of this last-mentioned case, to inspect daily the mouths of all the children in the ward. Twelve days later the spots were seen in another child, and in a short time thereafter they developed in nine other cases. These ten children were removed from the ward as soon as the spots became evident, and all of them developed the measles eruption in the succeeding twenty-four to forty-eight hours. The children not presenting the spots did not develop measles.

There can be no discussion as to the very great necessity of early isolating measles cases occurring in the wards of hospitals and in kindred institutions. In the set of cases just detailed, had we not been aware of the existence of the buccal eruption we could not have so early picked out the infected children. The occurrence of temperature rises could not have been of much service to us, as most of the children already had high fever from various causes. Furthermore, in children already suffering from disease, the temperature often does not rise to any marked degree during the invasion period of measles nor at the eruption stage. Thus in two cases of the above series the children had temperatures of 100° to 100.5° F. before they entered the invasion period. In these two cases the temperature never rose above 101° F. during the entire course of the disease.

The early diagnosis of measles in sick children is frequently made still more difficult because of the absence of catarrhal symptoms at the invasion, and when the eruption appears in such cases it is often atypical in arrangement and distribution, and pale in color. In children suffering from broncho-pneumonia or empyema, the question may well arise whether we have to do with one of the exanthemata complicating the original disease, or whether the rash is a septic manifestation or due to drugs. In diphtheria cases we may be in doubt as to whether there exists an antitoxin rash or a complication with measles. In several of the cases cited above, for example, the catarrhal symptoms were very insignificant, and in four of them the rash appeared irregularly and was very sparse.

From a consideration of these points, it becomes clear what a great aid in the prevention of measles epidemics the Koplik spots are, and it is not going too far to say that the mouths of children applying for admission to hospitals should regularly be examined for the measles spots, just as we look into their throats for membranous deposits and at their skin for desquamation.

Besides these cases, seen in hospital work, the measles spots were observed in a number of cases in various dispensaries. In no case when the spots were noted did we fail to find a measles eruption present then or in the course of the following few days. Among these cases, the diagnosis of some of which was first made clear by the finding of the Koplik spots, five occurred in adults. Two observations are of sufficient interest to be detailed.

Case I.—Man, forty-eight years old, who had been sick four days with fever, coryza, and bronchitis, and who, for the past twelve hours, had had a maculo-papular eruption on the face, chest, and abdomen. A diagnosis had been made by the physician in attendance of influenza with a drug eruption (antipyrin and phenacetin had been administered). The case, although presenting a fairly typical measles eruption, was not clear till a buccal exanthema was looked for and found. A positive diagnosis of measles was made, and this was confirmed by the appearance of measles in two of the patient's children two weeks later.

Case II.—Man, twenty-two years old, who, six weeks previously, had a sore on the penis, diagnosed as a hard chancre. He now presented a rash, consisting of papules and maculo-papules, over almost the whole surface. He also had coryza and conjunctivitis. Because of his history, and notwithstanding the fact that the eruption looked decidedly like measles, the family physician considered it a secondary syphilide. The presence of the Koplik spots made the diagnosis of measles evident. This diagnosis was confirmed by a leading dermatologist, and subsequent events proved its correctness.

In the series of cases above given only those seen before the rash appeared on the skin, or within twenty-four hours after its complete efflorescence, are included. At a later period than the latter, the spots are often not to be found. In healthy children and in those suffering from other diseases than measles, I have never observed the spots described by Koplik. In two cases recently, one of purpura rheumatica and one of secondary syphilis, there were to be seen spots on the mucous membrane of the cheeks, resembling the central whitish part of the measles spots; but they could be easily distinguished by their larger size and by the absence of the surrounding congested zone. These two cases are mentioned to show the importance of accurately noting the description, as given by Koplik, when looking for the spots.[1]

108 East Sixty-Fourth Street.

THE POSSIBILITIES AND LIMITATIONS OF SERUM THERAPY.[2]

By W. E. SANDERS, M.D.,

ALTA, IOWA.

Mr. President and Gentlemen: Under the above title I wish to call your attention to a system of therapy which has been elaborated in the past few years, and its agents placed before the profession as a valuable addition to our therapeutic armamentarium.

My reason for directing your attention to this subject on this occasion is a conscientious belief that its curative value has in many instances been greatly overestimated, through the influence of auto-suggestion and commercial interests operating upon the minds of their promulgators, and also that its possibilities and limitations and the scientific basis upon which its curative value rests, are too little understood by the profession of medicine at large.

Before we enter upon the consideration of the subject proper, I respectfully ask attention to a fundamental biological manifestation, whose operation is universal throughout the domain of protoplasmic organization.

It not only marks the distinction between animate and inanimate nature, but also upon this psycho-physical attribute depends the power of the organism to maintain its integrity, perpetuate its species, and like-

[1] Filatow (cited in Slawyk's article) seems to have observed the spots described by Koplik, but in his description only the central, white part of the measles spot is mentioned.

[2] Address delivered before the Sioux Valley Medical Association at Sioux City, Ia., January 20, 1898.

wise so to adjust its internal relations as to effect an immunity against an adverse environment.

In the history of biological science this protoplasmic esssence was known two or three hundred years ago under the provisional term of *consensus partium*, which implies the concurrence of parts in action in such manner that each does *quod suum est.*

At the beginning of the present century Treviranus, of Germany, and the father of modern biology, adopted the term adaptation, which has since come into general use.

Again, about twenty-four years ago Prof: Ernst Haeckel in his "History of Creation,"[1] made use of the word œcology, under which he designates the relation of an organism to its organic and inorganic environments, particularly its hostile and friendly relations with the plants and animals with which it comes in contact, and identifies it with "those complicated mutual relations which Darwin specifies as the conditions of the struggle for existence."

But this is not so much a question of terms as of a vital manifestation; however, its operation within the host and its concomitant effect upon the specific nature of an invading organism in an infectious disease, will serve in a measure at least to justify me in calling it to your attention.

The operation of this universal law in the higher animal organizations is too obvious to require consideration, but it is my purpose to show that it extends to the lowest unicellular micro-organisms, at least in so far as phototaxis and chemiotaxis obtain.

The rod-like organism called by Engelmann the bacterium photometricum[2] is such a lover of light that if we place a drop of water containing these organisms under the microscope and focus the smallest possible ray of light upon a particular spot, this spot exercises a phototactic influence, in so much that it becomes crowded with the organisms.

By means of the projection of a white-light spectrum in the field it shows a selective influence for certain spectral colors, which are absorbed when transmitted through its body.

By illuminating with a spectrum water containing a filament of confervoid alga, and what was formerly known as the bacterium termo, it will be seen that they are most agile in that part of the filament which receives the red rays and consequently where the assimilation of carbon and the disengagement of oxygen are most active.

Certain plasmodia of the myxomycetes have also been proven to exercise a selective influence for certain chemical substances.

In view of the above facts, Pfeiffer has been able to demonstrate that there is a definite relation of reaction to stimuli, not in the force of the stimulus alone but also as compared to the intensity of a previous excitation.[3]

But this specific faculty of adaptation is set within certain limitations for every organism.

According to the researches of Tyndall, Geisler, Buchner, Blunt, and others, very many micro-organisms cannot survive the actinic rays of the spectrum, or those rays which lie just beyond the red and where vibrations are somewhat less than four hundred trillion a second, but direct oxidation occurs in this zone.

This has a practical bearing upon hygiene and public sanitation, because these rays not only affect the vitality of the bacteria, but also the media upon which they grow.[4]

Many other like examples could be mentioned, but I think I have given sufficient data to show that upon this immutable biological law, whether you regard it as a physical or psychical manifestation, depends the power of every organism so to modify its intrinsic activities as to adjust itself to new conditions, and that previously adverse conditions become innocuous.

We have therefore brought immunity in conformity to a general law—the law of adaptation.

In this light an infected organism can so modify the œcological influences under which the *contagium vivum* operates, that it in turn by means of adaptation will become non-pathogenic or extinct.

In the state of our modern scientific knowledge no man can entertain a serious doubt that the *causa excitans sensu strictu* of every infectious disease is due to the invasion of a *contagium animatum*, and that the symptoms are simply the life manifestations of the tissues and organs of the body in seeking to adjust themselves to a new enivronment.

If such adaptation is effected, health is restored; if not, disease or death ensues.

The great majority of infectious diseases have been proven to arise from the invasion of these *materies morbi*, most of which have been made to conform to the requirements of Koch's postulates, and are hence regarded as the specific etiological factors in the pathogenesis of disease.

Others, perhaps owing to their obligate parasitic nature, can never be cultivated on artificial media, or inoculated into the lower animals, and, so far as this particular proof is concerned, must remain questionable.

The growth and multiplication of these fission fungi on any media are characterized by certain well-marked changes in the substances upon which they grow.

In the human body the presence of these bacteria, not only by osmosis deprives the tissues of a certain amount of nourishment which they appropriate to build up new organisms, but at the point of inoculation are produced extensive katabolic metamorphoses of tissue, various degenerations, necrosis, inflammation with often the consecutive formation of new tissue. Also by a process of hydration, reduction, and oxidation, there are produced ptomains, nitrogenous bases, organic fatty acids, aromatic substances, toxins, and toxalbumins, depending to a great extent upon the specific nature of the invading organism.[1]

The last two substances, toxins and toxalbumins, are the most potent agents, and to their presence is due that train of constitutional symptoms characterizing the infection, and which it is the object of our therapeutics to neutralize or destroy.

Chief among the pathogenic bacteria which owe their specific action to the production of toxalbumins may be mentioned the cocci pyogenes, bacilli tetani, diphtheriæ, anthracis, typhosi, and the spirillum choleræ asiaticæ.

It has been a question in the minds of investigators whether toxalbumins are formed by bacteria from the albuminoids of the juices of the body, or are the direct product of the bacteria *per se.*

According to the experiments of Buchner the latter is the case, since he has succeeded in producing them by the artificial culture of the bacilli tetani and diphtheriæ in non-albuminous media.

I wish now to call your attention to the protective and restorative powers of the body, because no system of therapeutics which disregards these can be said in any sense to rest upon a scientific basis.

Every human organism is endowed with certain means of defence which ward off noxious influences. These may be arranged under five heads:

1st. Those which prevent the entrance of bacteria into the body, as the protective epithelium and the normal secretions.

[1] Ziegler's "General Pathology" (Wood's edition), p. 437.

[1] English edition, ii., 354.

[2] Pflüger's Archiv, vol. xxiv., p. 387.

[3] Pfeiffer: "Untersuchungen aus dem botanischen Institute Tübingen," vol. i., part 1884.

[4] "Climate and Health," No. 3, September, 1895, U. S. Weather Bureau; and Sternberg's "Bacteriology," p. 154.

2d. Those which limit the spread of bacteria after lodgement is effected, inhibit their development, or neutralize their poisonous products; obviously due to vital action of the tissues or chemical substances.

3d. Phagocytosis, as elaborated by Metchnikoff. Protective in some cases, it often furnishes an example of symbiosis, by means of which germs are carried to other parts of the body; notably is this true in leprosy and tuberculosis.

4th. The presence of bactericidal substances in the blood and lymph. This probably explains racial and natural immunity.

5th. The elimination of the poisonous product of bacteria by means of the kidneys, intestines, and skin.

The protection and restoration of the body are obviously due to the operation of the above forces, to which is added in constitutional infectious maladies a new substance, antitoxin, the reactive product of the organism which antagonizes the bacteriotoxins.

At the moment that the potency of the antitoxins equals that of toxic products of the bacteria, the forces are equilibrated and immunity exists.[1]

This phenomenon is accompanied by the death of the bacteria or a neutralization of their poisonous products.

The latter is usually the case, because at the crisis or termination of an infection millions of the specific organism are still present in the body.

Just whether this immunization is effected by the formation of a non-poisonous substance through the synthesis of the bacteriotoxins and the antitoxins, or the prevention of the formation of bacteriotoxins, or the modification of the specific functions of the microbes incident to an altered environment furnished by its host, is a question that cannot at present be answered.

Immunity may be conferred, 1st, by the chemical products of bacteria; 2d, by attenuated bacteria; 3d, by immunizing serums. The latter constitutes serum therapy.

From the above facts it will be observed that serum therapy is limited to the prophylaxis of disease, and to the hastening of immunity in disease.

It cannot in any sense be regarded as a therapeutic agent in stimulating any of natural protective or restorative forces of the body, with this special exception.

It is limited to the acute constitutional affections, and is not applicable to local morbid conditions, nor that class of diseases which Virchow has designated chronic infectious granulomata, such as tuberculosis, syphilis, leprosy, rhinoscleroma, molluscum contagiosum, and, in the minds of some pathologists, leukæmia.

In regard to the cure of diseases of the human species by serum we possess reliable information regarding tetanus and diphtheria.

There can hardly be a question that the mortality and morbidity of these diseases will be lessened by its judicious use.

Its application should be in prophylactic directions, and also in connection with other well-selected measures calculated to stimulate the normal protective forces, chief among which is the maintenance of nutrition.

We may reasonably hope for some measure of success in the acute infections, but logically no generalizations can be established upon the data now at our command.

I am aware of the general interest now manifest in Professor Koch's latest product, and am not unmindful of the statistical evidence advanced by Paquin, of St. Louis, regarding the cure of tuberculosis by serum.

It would seem that about twenty-five per cent. of Paquin's cases show permanent improvement or cure, but until he can demonstrate the pathologico-anatomical status of the processes in his cases, they do not carry conviction to a thoughtful mind.

No man can have had the opportunity of any considerable pathological observation without having been struck by the multiplicity of tuberculous processes, around which nature has effected as near a cure as is possible in this disease, viz., a fibroid limitation.

A liberal percentage of tuberculous processes assumes this form without the exhibition of immunizing serum. Besides, it must be remembered that very many of the so-called tuberculous symptoms are due to a secondary infection by pyogenic organisms.

Let me reiterate. Tuberculosis, as usually met with, is a local disease. Man does not acquire immunity after infection. If cure is accomplished, it is due to fibroid limitation. Hence serum is of no avail.

Our only hope, it seems to me, in eradicating this disease which carries off fully fifteen per cent. of our population,[1] lies in legislative enactments preventing the propagation of individuals tuberculously predisposed, or eventually at some far distant age by the "survival of the fittest" the human species may gain that condition of natural immunity, such as characterizes the native African against malarial infection.

Burk, the Irish economist, says: "There are but two things to which we can hold—truth and charity."

This should be the watch-word of our profession.

The science of medicine is not an absolute science.

We know no creed, no dogma, and subscribe to no ritualistic discipline but that of invincible truth.

Time was when we were "wont to look down the well-beaten and honorable path of tradition with profoundest reverence:" but now we should profit by the thought given us by the eminent English novelist, Lord Lytton, which should be the motto of every honest student of medicine, "The knowledge of to-day is the ignorance of to-morrow."

[1] "Les Microbes Pathogènes," Ch. Bouchard, Paris.

FOREIGN BODIES IN THE EAR OR NOSE.

By R. D. BARRET, B.S., M.D.,

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The general practitioner, especially one living in a small town or in the country, is often called upon to remove foreign bodies from the nose or ears, and many times, I am sorry to say, is at a loss as to how to proceed, or else makes clumsy, awkward, and ineffectual attempts that succeed only in frightening the patient and making matters worse instead of better. This is not the case now so much as it was a few years ago, for the lengthened courses of study and the enlarged clinical facilities of our colleges make it possible for every student to have some practical experience in examining and treating diseases of the ear and nose at some time during his college course, and hence he graduates better fitted to handle such cases than did the students of ten, fifteen, or more years ago.

Every practitioner who is so situated that he cannot send patients to a specialist should possess the few necessary instruments and familiarize himself with their use in removing foreign bodies from the nose or ear, for a little skill in this direction will often enable him to relieve a frightened patient easily and quickly, and add greatly to his reputation, if nothing else.

Foreign bodies that find their way into the nose or ear may be divided into two classes—animate and inanimate. It is with the latter that we have to deal most frequently. Of the former I will merely say that they are usually some insect which has crawled into the spaces in question during the patient's sleep.

[1] Wood and Fitz "Practice of Medicine," p. 249.

Flies are the most common, and they not infrequently deposit their eggs, sometimes within a suppurating ear, but especially in the nasal cavities, which hatch in due time, and then we have the distressing and disgusting condition of maggots in the nose or ear to contend with. But the treatment of such conditions must be reserved for consideration at some future time.

Inanimate bodies may enter the nasal cavities in one of three ways — through the anterior nares, the posterior nares, or the walls of the cavities. The latter are usually shot or bullets from gunshot wounds, and with these we have nothing to do in this paper. Bodies entering through the posterior nares are particles of food, etc., forced in by severe spells of vomiting or attempts at swallowing when the food "goes the wrong way;" and these also we will merely mention.

Foreign bodies in the ears or nose most commonly occur in children, or sometimes in lunatics, placed there of their own account. Almost anything of convenient size and shape may be found in such cases — peas, beans, pebbles, buttons, cherry stones, plum seed, sponges, paper pellets, metal rings, coins, etc. Vegetable substances, such as peas, beans, etc., are apt to swell from the heat and moisture, and thus become more difficult of extraction the longer they remain. Some writers have said that they are apt to germinate within the cavities in question, but I am inclined to doubt this.

Very few instruments are needed for the operation of removing such foreign bodies, and in fact the fewer instruments displayed the better, for a large array will only serve to frighten the patient, especially if it is a child, and thus make matters the more complicated. But a few are absolutely necessary, and, as I have said before, every practitioner in the country or small town should provide himself with them and accustom himself to their use. A good head mirror — I prefer one three inches in diameter—two pairs of angular forceps, one serrated and the other rat toothed, a pair of foreign-body forceps for the nose, a good long flexible probe, a "nest" each of nasal and aural specula, and a cotton carrier, are about all that will be needed for such work. Either daylight from a good large north window, or artificial light from an Argand burner or a good coal-oil lamp may be used. The latter with a good broad wick and clean globe can be found in almost every house, and is generally about as satisfactory as any light I have ever tried.

Have the mother or nurse take her seat upon a straight-backed, steady chair, with her back to the table or stand on which the lamp is placed in such a position that the light shines over her right shoulder. Then she should take the child on her lap, clasp its limbs between her knees, and with her right arm thrown across its body secure its arms, while with the left hand on its forehead she holds its head firmly and steadily against her right shoulder. The operator then places himself in front of the patient, seating himself upon a straight chair or stool (never use a rocking chair), and with the thumb of the left hand slightly tips up the end of the nose, while the right hand so adjusts the head mirror as to throw a flood of reflected light into the nostrils. Having located the foreign body, proceed as quickly as possible to remove it before the child becomes frightened or the nervous strain upon the mother becomes too great. No force should be used under any circumstances, lest the delicate parts be seriously injured. If possible, grasp the offending body with a pair of forceps, and by gentle traction withdraw it; or very often, as in the case appended, the flexible probe may be bent in the form of a hook of suitable size and slipped past the obstruction, then turned, and the foreign body rolled along the floor of the nasal fossa, until it either drops out or can be grasped by the fingers. Sometimes it is necessary to use a nasal speculum and dilate the nares considerably before we can locate a foreign body or effect its removal. There are a number of instruments suitable for this purpose, and the choice may be left to the fancy of the operator. For the examination, and in the majority of cases for the operation for removing the body also, the ordinary speculum resembling an open-end thimble will suffice. They are made of German silver and come in "nests" of three, of different sizes. If one wishes a more elaborate operating instrument, I would recommend the self-retaining nasal speculum devised a few years ago by Dr. H. N. Spencer, of St. Louis, Mo. It is light, easy of manipulation, dilates perfectly and strongly, and is absolutely self-retaining.

Removing foreign bodies from the ear is usually more difficult, though the procedure is much the same as that just given. The child's head should be turned so as to bring the affected ear toward the operator, and held as directed above.

A syringe and warm water may be tried, taking care, however, not to use too much force and thereby rupture the drumhead, and also to dry the ear thoroughly afterward with a little absorbent cotton on a cotton carrier. In examining the ear the lobule is grasped between the index and middle fingers and gentle traction made upward and backward, while the thumb and index finger insinuate the speculum into the orifice with a slight rolling motion. The speculum most generally used resembles the one for the nose, except it is longer and more pointed. Like the others, they come in "nests" of three, and are made of German silver. The peculiarities of each case will suggest whether to use the syringe or the forceps in the ear and the forceps or the bent probe, etc., in the nose.

In the case of the ear great care must be exercised not to lacerate the walls of the auditory canal, as severe inflammation is apt to result from careless and rough manipulations. If the child becomes too unruly and its struggles interfere with the success of the operation, or are liable to cause the nose or ear to be injured by the instruments, it is best to administer a little chloroform. Children take chloroform easily and safely, and often only a few whiffs are enough to quiet the child sufficiently to allow the operator to proceed easily and without the danger of a sudden jerk doing considerable damage to the parts involved. It is well always to explain to the parents that you are only going to give a very little of the anæsthetic, and that it will do no harm and that there is no danger, for most persons have a great dread of chloroform and become frightened at its mere mention. But if they are rightly and positively assured that their fears are groundless, very few will continue to oppose its use in the manner and to the extent I have mentioned.

The following case, met with among others in a general practice in the country, illustrates well the points I have tried to present: One evening about dark I was hastily summned to see a child who was said to have something in her nose. On arriving at the house I found the family in a state of great excitement and alarm. The mother said that the patient, a little girl of about three and one-half years of age, while playing in the yard had put a pebble into her nose and it had slipped so far back that she could not get it out. I assured her that there was no occasion for any alarm: that it would be very easy to remove, and that even if it could not be removed at once it would do no harm should it be allowed to remain several days.

Then securing a good lamp, which I placed on the sewing-machine in lieu of a stand, I told the mother to take the child and seat herself in a chair, which I

placed in position, and to hold her in the manner I have already described. When the light from my head mirror was thrown into the nostril I could easily make out the pebble lying on the floor of the right nasal fossa, well back. I grasped it with a pair of forceps, but they slipped off of its smooth, round surface; so taking a flexible probe I made a small hook of it which I readily slipped past the pebble, then turned and pulled it forward until it protruded sufficiently to be grasped by the fingers, and removed. The child was but very little frightened, struggled some, but the mother held it firmly, and it was all done so easily and quickly that she hardly had time to cry before it was all over with. Of course all cases are not so easily managed as this one; on the contrary, many of them present difficulties that will tax the ingenuity and skill of the physician to the utmost, but with a little care and patience and plenty of tact in the management of the patient and assistants, almost every case will at the first trial have as successful and happy a termination, and the physician's reputation be added to thereby.

REPORT OF FIFTY-THREE CASES OF ANÆSTHESIA BY THE SCHLEICH METHOD.

By A. E. ENGZELIUS, M.D.,

ST. LUKE'S HOSPITAL, NEW BEDFORD, MASS.

Having administered Schleich's anæsthetic mixture in fifty-three cases during the months of February and March in St. Luke's Hospital, New Bedford, Mass., I desire to report the same, principally because of the remarkably small quantities of this mixture which in my experience have been required. This series of cases includes twenty-one laparotomies and a large number of various vaginal operations, among which one vaginal hysterectomy. Only eight of the operations were of less than one-half hour's duration. The average length of operation was fifty-three minutes. The mixture No. 1 was employed in thirty, No. 2 in six, and No. 3 in seventeen cases. The average total quantity of No. 1 used was one and seven-tenths ounces; of Nos. 2 and 3, one and six-tenths ounces. The longest operation in which No. 1 was used lasted two hours (cholecystotomy), requiring four ounces of the anæsthetic. The longest operation with mixture No. 2 lasted two hours and five minutes (for cystocele, rectocele, and prolapsus uteri), requiring two ounces of the anæsthetic. The longest operation with mixture No. 3 lasted two hours and ten minutes (operation for prolapse of the uterus and the vagina, followed by laparotomy and ventrofixation), requiring three ounces of the anæsthetic. The inhaler employed was the towel-and-paper cone. From one-fourth to one-half of an ounce was in most cases sufficient to induce anæsthesia within ten to twelve minutes. To maintain complete anæsthesia the cone is removed from the face at frequent intervals, and, a few drops of the mixture having been quickly dropped into it, the cone is immediately replaced over the face.

The stage of excitement was present to a slight degree in ten cases, and in marked degree in two cases, one of which was that of an alcoholic. In the remaining forty-one cases the excitement stage was entirely wanting. Vomiting from the anæsthetic occurred in fifteen cases. In eight of these the vomiting was very slight and insignificant. Of the seven cases of more decided vomiting, two had eaten breakfast some few hours before the operation. The majority of the patients experienced, however, some nausea after consciousness had been restored. In a few cases dry retching occurred during the operation, and in some cases actual vomiting took place while the patient was on the table, and often without being repeated after the operation. Slight cyanosis was present in six cases.

In one case, that of a robust woman, twenty-six years of age, cyanosis became quite pronounced and the respiration very shallow in the beginning of the anæsthesia after only three drachms of the mixture No. 2 had been used. Ether and oxygen were promptly substituted for the mixture, and the operation (laparotomy and ventrofixation) was carried on to an uneventful completion.

In a case of strangulated inguinal hernia in a man, sixty-six years old, and in a generally poor condition, oxygen was administered along with the anæsthetic for the latter half of the time, the entire length of the operation being one and one-half hours. Notwithstanding the simultaneous employment of oxygen in this case, only two ounces of the anæsthetic were required. The pulse at the end of the operation was 96, strong and good, and the patient regained consciousness in about fifteen minutes.

The youngest patient in the series was a boy, one and one-half years old, the operation being for the radical cure of hernia, lasting one and one-half hours, requiring two-thirds of an ounce of the mixture No. 1. The oldest patient was a man, seventy-six years old, upon whom external urethrotomy was performed, the operation lasting one hour, requiring one and one-half ounces of the mixture No. 3.

There is no case of heart lesion in the series, but in three cases albuminuria was present before the operation, with no aggravation of symptoms following the anæsthetic. In no case was a hypodermic injection given as preparatory to the operation. In a very few and exceptional cases, which I have not recorded, I found it desirable to give a hypodermic of strychnine either during or immediately after the operation.

Progress of Medical Science.

A New Method of Treatment for Pharyngeal and Laryngeal Affections.—Dr. Smester (*Revue de Thérapeutique*, January 1, 1898) suggests a new treatment for laryngeal and pharyngeal affections by means of medicated siphons. The apparatus resembles the siphon for seltzer water; it is portable and admits of medicated mixtures being used in all proportions. The author has employed for fifteen years the ordinary seltzer water and siphon, with which he has obtained mechanical and anæsthetic effects, for the jet projected into the back part of the throat cleanses the mucous membrane and the carbonic acid causes local anæsthesia. The medicated siphon is charged with sterilized water, but may also receive active substances, such as bicarbonate of sodium and chlorate of sodium. It is advisable to fit to the beak of the siphon a rubber tube, which may be directed toward the diseased parts. The patient rarely swallows the liquid; experience has shown that the jet ought to be directed with force at first and afterward gradually diminished.

Mechanical Treatment of Obesity.—Dr. Winternitz (*Therapeutische Wochenschrift*, December 5, 1897) objects to the dietetic treatment of obesity, whether the method employed is that of Harvey, Banting, or Ebstein, as these means establish inanition and are capable of producing gout, serious digestive troubles, and rebellious neurasthenic states. The recent agents, Pochl's spermin, thyroid extract, etc., favor intraorganic oxidation in a high degree, but have dangers which have been made the object of numerous communications, these troubles being especially circulatory and nervous. Muscular activity that has been so

widely advised is not always good, on account of the hyperthermia that this activity produces. In noticing the change in temperature in cases in which obese patients have undergone violent exercise, we find that it is sometimes of a febrile character and that the organic albumin loses its vitality. This process consequently causes nervous debility, anæmia, and albuminuria. It is necessary to invent a means of increasing oxidation and at the same time avoid hyperthermia, in such a way as to destroy the fat without affecting the albumin. To this end Winternitz advises lowering the temperature of the body before exercise. It is easy to do this by means of a bath of 12° or 14° C., lasting fifteen or twenty minutes; by this means one can take away five hundred calories from the organism. To recuperate these, fifty grams of fat must be consumed. In order that lowering of the temperature may not cause contraction of the cutaneous vessels, he proceeds as follows: In the morning submit the patient to an energetic rubbing with a towel wet in cold water; then place him for five or ten minutes in a steam room; on leaving this room he takes a bath at a low temperature, lasting from three to six minutes. Severe muscular exercise terminates the treatment. This may be repeated two or three times in twenty-four hours. It is useless with this method to prescribe a rigid diet; the results are rapid and are never accompanied by troubles similar to those observed with the other methods.

The Treatment of Epidemic Cerebro-Spinal Meningitis.—In a discourse on the above subject, delivered before the Society of Hospital Physicians on September 15, 1897, Dr. Béla Angyán (*Ung. med. Presse*, 1897) outlines its treatment with special reference to his employment of corrosive sublimate. As there is no specific remedy for this disease, treatment must be symptomatic. As antiphlogistics, venesection, local blood letting, ice applications, and finally mercurial inunctions are recommended. Leeches, according to the speaker's experience, lessen the headache and the nervous manifestations; he recommends blood letting only in the so-called hyperacute cases, and even then only in strong individuals and in the beginning of the disease. The patients do not bear cold baths well, and a resulting collapse is not infrequent. Cold douches applied to the head and back of the neck for several minutes every three or four hours is very beneficial, especially in attacks of soporous coma. Prolonged ice poultices produce a marked antiphlogistic effect; an ice bag should be applied to the head and nape of the neck, and the Chapman coil to the spine, but only so long as they are borne with comfort by the patient. The pain is lessened, the nervous manifestations are allayed, and often a quiet sleep supervenes. The mercurial treatment in the form of calomel or inunctions, which the French were first to recommend, continues at the present day to play an important rôle in the therapy of epidemic meningitis. Narcotics are to be used with great caution, and only in those cases marked by intense nervous excitability, by uncontrollable vomiting, or by marked wakefulness. They are contraindicated when somnolence, lethargy, or depression of the nervous system exists, or when collapse is to be feared. The indication for excitants and analeptics is restricted to a very narrow field, chiefly to cases in which narcotics are contraindicated. Vesicants and the like are not to be used. Since in epidemic meningitis the brain and cord are subjected to great pressure by the accumulation of cerebro-spinal fluid, it would seem *a priori* that Quincke's procedure—aspiration of the cerebro-spinal fluid by lumbar puncture, to relieve the pressure on the brain and cord—is a rational one. Warm baths, recommended by Aufrecht, seem to have a favorable influence on the heart's action, but no conclusions should be based on the small number of cases thus far treated. The speaker confines his treatment to the use of the ice bag and the subcutaneous injection of bichloride of mercury. The sublimate, given hypodermatically, is more rapid and energetic in its action; entering the circulation, it has an antimycotic effect on the toxic blood serum. Injections of one centigram in adults, and of from 0.005 to 0.05 gm. in children, are made daily along the course of the spinal column. In acute cases they are repeated as long as fever continues and the headache, backache, and stiffness of the neck remain; in subacute cases they are repeated as long as exacerbations exist. In this manner he has treated twenty-seven cases, acute and subacute—six females and twenty-one males, ranging in age from three to thirty years. Nineteen, or 70.3 per cent., recovered. As to the number of injections individual cases varied from four to twenty-four. The injections were well borne by the patients: in one case after the fourteenth injection there resulted slight salivation; in six others there was diarrhœa unaccompanied by salivation. The following results from the injections were observed: 1. In most cases after the second or third injection the mind became clearer, the excitability was allayed, the headache was less marked, and the patient could sleep. 2. After five or six injections clear cerebration usually reappeared, and sleep became quieter and was of longer duration. 3. After seven, eight, or nine injections the retraction of the head was less marked and gradually disappeared: the fever diminished and finally subsided. 4. The sublimate injections seem neither to lengthen nor to shorten the progress of the disease. 5. The sublimate seems, after employment for several days, to check the formation of products of inflammation. In confirmation of this are those cases seen at autopsy in which a small amount only of inflammatory product could be demonstrated; and even this was more often fibrinous than purulent in character.

Hydrocephalus Idiopathicus Acutus.—The *Wiener klinische Rundschau* (No. 36, 1897) briefly reviews Dr. Georg Boenninghaus' work on "Die Meningitis serosa acuta," in which he seeks to establish the existence of an acute idiopathic hydrocephalus, the result of an acute serous meningitis. The result of his studies may be summarized as follows: 1. An acute idiopathic hydrocephalus does exist. 2. It is the product of an acute serous meningitis. 3. The acute serous meningitis may have a malignant character and is then usually an acute serous meningo-encephalitis. This form has but little clinical significance. 4. Or it may have a benign character, and is then most often a meningitis serosa interna (ventricularis). This is always a sequel of a meningitis serosa externa, and develops in consequence an active (automatic) closure of the ventricle. This form is of considerable clinical importance. 5. The benign acute serous meningitis may run its course masked as a purulent meningitis, a tuberculous meningitis, a brain abscess, or a brain tumor. It may have a lethal termination or recovery may take place. 6. It can be recognized with certainty only when, after operative evacuation of the cerebro-spinal fluid, the symptoms of purulent meningitis, tuberculous meningitis, brain abscess, or brain tumor immediately, completely, and permanently disappear. 7. It is to be suspected when the symptoms indicative of purulent meningitis, tuberculous meningitis, brain abscess, or brain tumor disappear completely without operation. The more sudden the disappearance the greater is the probability that a meningitis serosa acuta benigna was present. 8. It can with certainty be cured by evacuation of the cerebro-spinal fluid.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE CONDITION OF THE VOLUNTEERS IN CAMP BLACK AND CAMP ALGER.

THE announcement has just been made that General Miles will probably recommend in his report to the government that three large permanent camps be established for the volunteer army. One of these will certainly be at Montauk Point, L. I., another at Chickamauga, and a third at some place in Florida not yet named. Consequently the three regiments which are still at Camp Black will shortly be moved. As yet their destination is not definitely known, for, although the general opinion is that Montauk Point will be the rendezvous, the impression prevails among both officers and men that they will be sent South or West and not to Montauk Point. However, it matters but little where they are stationed, provided that the location selected be suitable and healthy. Mount Black does not fulfil these requirements, and is not by any means an ideal spot for the encampment of a large body of men, and it is well that the authorities have seen fit to alter their first determination to establish there a permanent camp. True, the air of Hempstead Plains may be healthy and bracing, but the place itself is wofully lacking in some of the requirements usually considered necessary to keep men in sound bodily vigor. Cleanliness of both person and clothing is esteemed almost a *sine qua non* for the preservation of good health. Hempstead Plains is a treeless heath, and while the site of the encampment certainly possesses some natural advantages, it is wanting in what must be regarded as the most important and one that is indispensable to the health and comfort of a large body of men, especially when the majority of them are green recruits, and the remainder men who have not become hardened by exposure and hardships to the stern exigencies of a soldier's life. There is a great need of pure and wholesome water for drinking and cooking purposes, as well as for bathing and washing clothes. But perhaps the chief objection that can be urged against Camp Black is its proximity to New York. Owing to this fact, Hempstead has been overrun with a continuous stream of soldiers' relations and idle sightseers. Indeed, in many ways it more resembles a country fair than a military encampment. Men, and particularly untrained men, as a large proportion of the volunteers are, need all their time to learn their duties as soldiers, and the distraction of constantly seeing relations and friends does not tend to the attainment of that object. Viewed, too, from a medical standpoint, these visits have had a bad effect, for the visitors, out of the kindness of their hearts, would come and bring with them dainty articles of food and stimulating drinks for the behoof of the soldiers.

Montauk Point is a more desirable location in every respect. It is situated at the extreme eastern end of Long Island; is an elevated plateau surrounded on three sides by the sea, thus affording ample facilities for bathing. Again, it is a day's journey there and back from New York, which will virtually put an end to the visiting-nuisance.

The water supply at Camp Alger is being made the subject of serious complaint; it is stated that the water procurable is for the most part unfit for drinking or cooking purposes unless treated with greater care than raw and inexperienced soldiers are likely to employ. This is a defect which should be remedied in all the camps as quickly as is possible.

In the house of representatives the other day a question was asked concerning the food supplied to the volunteers. In most of the camps severe strictures have been passed on the food both as regards quality and quantity. In all probability these objections are due either to the fault of the commissary sergeant or to the too dainty stomachs of the men themselves, as the sum allowed for food is quite sufficient, if judiciously expended, to provide every volunteer with good and wholesome, although perhaps not luxurious food.

The last cause of dissatisfaction is the one not the least deserving of notice, viz., that the volunteer regiments are without many of the necessaries that would be needed in a campaign in Cuba. Many regiments have no uniforms, and many more have no shoes and underclothing. The report runs that fifty per cent. of the men are wearing unserviceable shoes, and that quite a large number are barefooted. Shoes, are, undoubtedly, the most important detail of an infantryman's outfit. Not only should he have stout and strong shoes, but they should also be easy and well-fitting. Napoleon, or some other distinguished French general, remarked that "the infantry proves its valor less in fighting than in walking so much." Therefore the foot soldier should be shod in such a way that he can walk with ease and comfort. Notwithstanding, however, these drawbacks, many of which under the circumstances are unavoidable, it is agreeable to notice that the health of the men in camp is on the whole good: in fact, considering the change of water, climate, and diet, better than might have been expected.

Resignations from Bellevue Hospital Medical College.—The following gentlemen have resigned from the faculty of the Bellevue Hospital Medical College: Drs. Austin Flint, professor of physiology; Frederic S. Dennis, professor of principles and practice of surgery; and Samuel Alexander, professor of genito-urinary surgery.

HEALTH OF THE ARMY.

Conflicting reports have appeared in the public press during the past week as to the actual physical condition of our regular and volunteer armies.

In a war which has thus far been so singularly free from casualties to our forces from shot and shell, it would be well if the end might come without great loss of life from disease. Excessive rains in one part of the country and the great heat in another, together with suspected water supply for the camps, have been blamed for an amount of sickness among the troops which has been thought by some writers excessive. While measles has appeared in several camps, as is often the case when large bodies of recruits are brought together, typhoid is the form of fever most dreaded in the home camp, because of the great mortality likely to attend its extended outbreak.

Fortunately, so far, there has been no alarming report concerning the prevalence of typhoid fever, and this we can surely attribute to the supervision and care of the water supply. We read that water pipes are laid throughout some camps just as for a small city. If now the supply source can be kept free from contamination, no great danger from typhoid should be looked for in the various camps. On the march, however, the same conditions will not prevail, and the utmost care in methods of sterilization or purification will have to be carried out to insure freedom from disease. Expense and trouble should not enter into the question. Let it not be said at the close of the war that more men succumbed to bacilli, which could have been guarded against, than to the enemy's bullets. There have undoubtedly been hardships which foresight might have averted and others which were unavoidable; but that sickness, the result of negligence, has prevailed to any great extent cannot be claimed, if we are to accept official reports. Colonel Pope, chief surgeon of the fifth army corps, is quoted to the effect that the sick list embraces but two per cent., while the normal army rate is four and a half per cent. If these figures hold good for the whole army, it is indeed a surprising and most satisfactory condition, and one which we may hope will continue to prevail.

USE OF QUININE IN LABOR.

The somewhat indiscriminate and unintelligent use of ergot which prevailed in midwifery practice but a comparatively short time ago is now a thing of the past. This custom was especially to be deprecated as resorted to by midwives, who often administered ergot with a too generous hand both during labor and after, with disastrous results, of course, in many cases. However, it seems probable that the reaction against the use of ergot is being carried too far, and that, like mercury, the drug will sooner or later be appreciated at its real worth. Dr. Owen C. Mackness, in an interesting paper contributed to the May number of the *Edinburgh Medical Journal*, recommends in some cases of labor the administration of quinine in the place of ergot. Ergot, he says, is contraindicated in all cases of labor in which its ecbolic action is desired, but for the arrest of hemorrhage from the uterus it is decidedly useful. When the hemorrhage occurs during labor, quinine, however, is of more avail, since the hæmostatic action of ergot is here of little use, while the regular contractions set up by quinine will do more for its arrest and more quickly effect delivery than the tetanic contractions set up by ergot. It is in post-partum hemorrhage that ergot finds its principal use. Here the hæmostatic action comes into play perhaps to some extent, while the tetanic contractions set up in the uterine muscles tend to close the gaping blood-vessels and arrest the hemorrhage. It must of course be administered in large doses. When abortion is threatened and there is bleeding, while pains are absent and the os uteri is closed, ergot in small doses is of great use—doses which will bring into play the hæmostatic action of the drug without being large enough to set up uterine contractions. In subinvolution of the uterus after delivery, ergot is of great use, more especially if there be much hemorrhage.

Finally, Dr. Mackness concludes that:

(1) Ergot is contraindicated during labor, but should post-partum hemorrhage occur it is useful in large doses.

(2) Ergot is useful in repeated small doses when abortion is threatened, hemorrhage occurring without pains and the os uteri being closed. Further, it is useful in small doses in subinvolution of the uterus.

(3) Quinine, eight grains, followed by four grains in an hour and repeated after another hour if required, should be given whenever there is delay in the labor due to exhaustion of the uterine muscles, provided the delay is not caused by obstruction in the passages or deviation from the normal in the fœtus. In these latter cases or when quinine fails to produce sufficient uterine contractions, forceps should be applied or other means of delivery resorted to.

A Bequest to the University of Michigan.—By the will of Dr. Elizabeth H. Bates, of Port Chester, N. Y., the University of Michigan will receive property which will yield about $6,000 a year, subject to an annuity of $1,200 to be paid to a friend of the testator. According to the will the bequest goes to the medical department, to be used in the support of a chair of diseases of women and children. Dr. Bates left property of the value of $200,000, said to have been made in the practice of her profession in Owego, N. Y. For a number of years she was secretary and treasurer of the Port Chester board of health.

The Woman's Hospital.—An appeal for funds for this institution has recently been issued. It says that all connected with the hospital are doing what they can to meet its needs, but with every effort on their part an annual deficiency of over $27,000 threatens. The appeal says that "these are hard times for hospitals." We may add that the hospitals have the remedy in their own hands, and this remedy does not consist in the opening of more private rooms for the reception of pay patients taken from the *clientèle* of physicians unconnected with the hospitals.

News of the Week.

Surgeons in the Volunteer Army. — President McKinley sent the following nominations to Congress May 20th: To be chief surgeons, with the rank of major—George Cook, of New Hampshire; William H. Daly, of Pennsylvania; Clayton Parkhill, of Colorado; James M. Jenne, of Vermont; Herbert W. Cardwell, of Oregon; James B. Hysell, of Ohio; Leonard B. Almy, of Connecticut; Charles B. Nancred, of Michigan; Henry F. White, of Minnesota; Thomas Earl Evans, of Alabama; Jefferson D. Griffith, of Missouri; R. Emmett Griffin, of Nebraska; and Edward Boeckman, of Minnesota. On June 4th the following additional nominations were sent: To be chief surgeons of divisions, with the rank of major—Captain William H. Arthur, assistant surgeon; Captain George E. Bushnell, assistant surgeon; Donald MacLean, of Michigan, and George R. Fowler, of New York.

The following assistant surgeons with the rank of captain, to be brigade surgeons with the rank of major: William C. Gargas, Henry P. Birmingham, Marlborough C. Wyeth, Richard W. Johnson, Edward C. Carter, William O. Owen, Peter R. Egan, William J. Wakeman, William Stephenson, Adrian S. Polhemus, John L. Phillips, William C. Borden, Edgar A. Mearns, Guy L. Edie, William D. Crosby, William L. Kneedler, Charles M. Gandy, James E. Pilcher, Charles B. Ewing, Walter D. McCaw, Jefferson R. Kean, Henry I. Raymond, Francis J. Ives, William P. Kendall, Edward R. Morris, Henry S. T. Harris, William B. Banister, Paul Clendenin, Charles E. Woodruff, Eugene L. Swift, Paul Shillock, Ogden Rafferty, Charles F. Mason, James D. Glennan, Alfred E. Bradley, Philip G. Wales, Samuel T. Armstrong, acting assistant surgeon, and George T. Vaughan of the Marine Hospital service; also the following from civil life: Willis G. MacDonald, of New York; Charles M. Drake, of Georgia; Joseph K. Weaver, of Pennsylvania; John Guitéras, of Pennsylvania; Charles E. Ruth, of Iowa; John W. Bayle, of the District of Columbia; Milo B. Ward, of Missouri; Schuyler C. Graves, of Michigan; Nathan S. Jarvis, of New York; William Devine, of Massachusetts; John C. Martin, of Ohio; Peter D. MacNaughton, of Michigan; John Patterson Dodge, of Ohio; John R. McDill, of Mississippi; Samuel O. L. Potter, of California; George A. Smith, of Iowa; Arthur Snowden, of Virginia; R. Stansbury Sutton, of Pennsylvania; and Frank Bruso, of New York.

Sir Lyon Playfair, the well-known chemist and publicist, the author of many addresses and articles on chemistry, state medicine, and political economy, died in London on May 30th, at the age of eighty years.

The Naval Hospital Ship "Solace" arrived in this port from the West Indies on Sunday, bringing fifty-four sick and wounded sailors from the fleet in Cuban waters. Among them were men who took part in the bombardment of San Juan, others who received their injuries while engaged in the perilous work of cutting cables from small boats within forty yards of the Cuban coast and under the fire of Spanish sharpshooters, and others who have been engaged in blockade duty off Havana. The *Solace* met Admiral Sampson's fleet two days after the San Juan bombardment of May 12th. They met about one hundred and eighty miles from Porto Rico, and three men from the *Iowa* and one from the *New York* were transferred to the hospital ship in small boats at night. The *Solace* got orders immediately afterward to proceed to Key West, and take on the sick and wounded there. She left Key West at four o'clock last Wednesday afternoon. The weather was very bad on Friday and Saturday, but the patients were little inconvenienced. The men were transferred to the Naval Hospital in Brooklyn.

Aid for Sick and Wounded Soldiers.—Surgeon-General Sternberg, in reply to numerous letters asking what articles would be most acceptable for the use of sick and wounded soldiers, has prepared the following memorandum: "Money may be sent to the surgeon-general of the army as a contribution to the hospital funds of the hospital ship *Relief* and of the United States general hospitals. This will be sent to the surgeons in charge, to be expended for delicacies for the sick, such as canned soups, jellies, lemons, oranges, etc. Those who prefer may contribute canned soups, clam broth, orange marmalade, ginger ale, biscuit, water crackers, and similar articles in hermetically sealed cans for use on the hospital ship *Relief* and at the United States general hospitals at Key West, Fla.; Fort McPherson, Ga.; Fort Thomas, Ky.; and Fort Myer, Va. Bandages, lint, and other surgical dressings are not desired, as these can now be obtained from the manufacturers, sterilized for use and of the quality which experience has shown to be best suited for our purposes. Shirts and drawers are provided by the government, but will be accepted and can be given convalescents upon their discharge from the hospital. Pajamas made of light gingham will be useful for the sick in hospital and on the hospital ship, as they can be worn by convalescents who are able to be out of bed. Long nightshirts of light muslin can also be utilized. Broad bandages of light flannel to protect the abdomen are highly recommended, and may be worn to advantage by our soldiers in the field. The articles mentioned may be sent direct to the surgeon-general of the army or to the surgeons in charge of the general hospitals named."

Medical Society of New Jersey.—The next annual meeting of this society will be held on June 28th, 29th, and 30th, and not on June 21st, as previously announced.

A Permanent Naval Hospital Corps.—Senator Hale recently reported a bill providing for the organization of a hospital corps for the navy, which has already passed the house. The naval committee recommends favorable action on the measure, but proposes to amend it by striking out the provision disbanding the corps at the expiration of the present war, thus making the corps permanent.

Dr. T. W. Cleaveland, who was recently arraigned before Judge McMahon to answer to an indictment, obtained by the district attorney, for manslaughter in causing the death of an infant, has been discharged from custody, the court holding that there was no evidence to warrant a trial.

The Hospital Ship "Relief."—Capt. William C. Gargas has been appointed assistant surgeon on the army hospital ship *Relief*. Seven trained nurses, graduates of the Mills Training-School for male nurses of Bellevue Hospital, have been ordered to the ship.

The American Dermatological Association has completed during the past week probably the most satisfactory meetings in its history. The meetings for the transaction of business and for the reading of papers were held at the Princeton Inn, while the third day was set apart for the clinical exhibition of rare and interesting cases, microscopic specimens, etc. One of the features of this day's programme was a gallery exhibition of photographs and paintings, to which visiting as well as local members freely contributed. The last day's session was held at the New York Academy of Medicine, whose rooms were generously placed at the disposal of the local committee. About fifty patients were shown, who presented lesions which were for the most part either rare or difficult of diagnosis. The success attending this practical form of exhibition makes it quite certain that it will be repeated whenever the future meetings are held in or near a large city. The German Dermatological Association, to which an invitation had been extended, met by a strange coincidence upon the very same dates in Strasburg. The next meeting will be held at some point near Philadelphia on or about the first Tuesday of June, 1899. Dr. Fordyce was elected president and Dr. Jackson secretary, both of New York.

"The Columbus Medical Journal."—A fire in the building of the printers of the *Columbus Medical Journal*, on the morning of May 12th, destroyed all the copy for the May issue of that journal, causing great inconvenience and some delay in the appearance of the number. We extend our sympathy to our excellent contemporary, and trust that its hope of securing duplicates of the papers destroyed will be speedily realized.

Dr. William Osler, professor of medicine at the Johns Hopkins University and physician in charge of the Johns Hopkins Hospital, is one of the fifteen scientists selected this year by the committee of the Royal Society to be recommended for membership in the Royal Society of England. The society embraces the most distinguished scientists of the world, and only a few Americans have received the high honor of recommendation.

A National Society for the Study of Epilepsy.—At a meeting held at the Academy of Medicine in New York City on the 24th of May, representatives from eight States were present to organize a "National Society for the Study of Epilepsy and the Care and Treatment of Epileptics." The society organized with forty-four members. The following officers were elected: *President*, Hon. William Pryor Letchworth, LL.D., New York; *First Vice-President*, Dr. Frederick Peterson, New York; *Second Vice-President*, Dr. William Osler, Maryland; *Secretary*, Dr. William P. Spratling, New York; *Treasurer*, Dr. H. C. Rutter, Ohio. Application for membership should be addressed to the secretary at Craig Colony, Sonyea, N. Y.

Dr. John J. Morrissy has been elected professor of Practice and Pathology at the New York School of Clinical Medicine.

American Gynæcological Society.—At the recent meeting of this Society at Boston the following officers were elected for the ensuing year: *President*, Joseph Taber Johnson, of Washington, D. C.; *Vice-Presidents*, Howard A. Kelly, of Baltimore, and Albert F. A. King, of Washington, D. C.; *Treasurer*, J. Montgomery Baldy, of Philadelphia; *Secretary*, J. Riddle Goffe, of New York. The next annual meeting will be held in Philadelphia.

Acting Assistant Surgeons of the Marine Hospital Service.—The United States civil service commission announces that on June 7, 1898, examination may be taken at any city in the United States where the commission has a competent board of examiners, for the grade of acting assistant surgeon in the Marine Hospital service, treasury department. There is at present a vacancy in this grade at Chicago, Ill., at a salary of $100 a month, which it is desired to fill. In filling this vacancy preference will be given to eligibles who are legal residents of Chicago or vicinity. Future vacancies will be filled by selections from eligibles who are legal residents of the cities or vicinity where vacanies occur. Applicants for this position must be at least twenty years of age, and must be competent physicians and surgeons, graduates of reputable medical colleges, and must furnish satisfactory certificates relative to their moral character and professional capacity. The examination will consist of the subjects named below, which will be rated as follows:

Letter-writing	5
Anatomy and physiology	15
Chemistry, materia medica, and therapeutics	10
Theory and practice of medicine, and general pathology	25
Surgery and surgical pathology	20
Bacteriology and hygiene	10
Obstetrics and gynæcology	15
	100

This examination is open to all reputable citizens of the United States. Persons desiring to enter this examination should at once write to the United States civil service commission, Washington, D. C., for application blanks, forms 304 and 375, which should be properly executed and promptly forwarded to the commission.

Dr. Andrew Manning, of Plainfield, N. J., died suddenly on May 19th, at the age of thirty-seven years. He was a graduate of the College of Physicians and Surgeons in this city in 1883. He leaves a widow and one daughter.

American Pediatric Society.—At the annual meeting, held in Cincinnati, Ohio, June 1–3, 1898, the following officers were elected: *President*, W. P. Northrup, New York; *First Vice-President*, G. N. Acker, Washington; *Second Vice-President*, Irving M. Snow, Buffalo; *Treasurer*, Edward M. Buckingham, Boston; *Secretary*, S. S. Adams, Washington; *Additional Member of the Council*, F. Forchheimer, Cincinnati; *Editor*, F. M. Crandall, New York. It was voted to hold the next meeting of the society at Deer Park, Md.

Making Game of the Medical Journals.—In an editorial note under the above caption we recently commented upon the apparent readiness of sundry medical journals to accept patent-medicine advertisements, and mentioned, among others that had signified their willingness to take the tempter's gold in a specific instance, the *Journal of the American Medical Association*. It gives us great pleasure to learn, however, that this statement, which we made on the authority of *Printers' Ink*, and the proprietor of the medicine, was incorrect. The letter of inquiry regarding the advertisement was addressed to the publisher of the *Journal*, and an affirmtive reply was sent to the writer. But our esteemed contemporary asserts that this reply was a clumsy forgery. It says that it did not answer the letter, owing to the fact that the advertisement had previously been declined, and later it makes its assertion even more forcible by affirming that the letter was never received. Either of these reasons is certainly a sufficient excuse for the seeming discourtesy of not replying to the would-be advertiser's inquiry, and the two together convince us absolutely that we were wrong in allowing the positive statement of *Printers' Ink* to outweigh the presumption of virtue and astuteness on the part of our esteemed contemporary. We trust that the *Journal's* search for the forger, which no doubt is being vigorously prosecuted, will be crowned with success.

Dr. W. B. Pritchard, editor of *The Polyclinic* of this city, writes that the advertisement may have been tentatively accepted by the business manager of that journal, "but such acceptance was by no means a guarantee that it would be published. As a matter of fact, we never saw or heard of the advertisement in question until reference to it appeared in the MEDICAL RECORD. The *New York Polyclinic* is not one of the 'I am holier than thou' type by any means, but we do claim a sufficient sense of ethical propriety to have preserved our grace in this instance, had the advertisement been submitted to us, as was necessary before it could have been published." We are glad to learn that the acceptance of this advertisement had not editorial sanction.

Practitioners in Great Britain.—According to the "Medical Register" for 1898, the total number of legal medical practitioners in the United Kingdom is 34,642. There were 1,066 names removed from the "Register," and 1,230 names were added to the list. This is nearly 200 less than the average number admitted annually during the past five years. The net gain in the number of medical practitioners is therefore only 164.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Forty-Ninth Annual Meeting. Held in Denver, Col., June 7, 8, 9, and 10, 1898.

(For Telegraph to the MEDICAL RECORD.)

GENERAL SESSION.

First Day—Tuesday, June 7th.

THE meeting was held in the Broadway Theatre, and was called to order by the first vice-president, DR. JOSEPH M. MATTHEWS, of Louisville. The session was opened with prayer by Chancellor W. F. McDOWELL. A telegram was read from the president of the association, Dr. George M. Sternberg, expressing his deep regret that imperative official duties prevented his attendance and offering his congratulations and best wishes for the success of the meeting.

The session opened with a very large attendance, as may be inferred from the statement that even at that early hour 1,100 members had already registered.

Addresses of welcome were delivered by DR. J. W. GRAHAM, chairman of the committee of arrangements; by His Excellency ALVA ADAMS, governor of Colorado; and by Hon. W. S. MCMURRAY, mayor of Denver.

President's Address.—In the absence of Surgeon-General George M. Sternberg, the president, his address was read by COL. WOODHULL. After expressing his high appreciation of the honor conferred upon him, the writer said that the day was perhaps not far distant when no reputable physician would be willing to confess that he did not belong to the American Medical Association. In order that every physician of good professional standing might enjoy the privileges of membership he thought it desirable that permanent members should be elected, upon application, without reference to their membership in State, county, or district medical societies, when they presented satisfactory evidence that they were graduates in medicine of reputable standing in the profession, and were willing to subscribe to the code of ethics of the American Medical Association. In other words, he would not exclude a reputable physician from membership because the State, county, or district medical society to which he belonged declined to adopt the code of ethics. A liberal and progressive spirit would do much toward promoting the growth and influence of the association. The medical profession in this country had suffered more, in his opinion, from the ignorance of some of its members who held diplomas from regular schools of medicine than from the attacks of those who were called irregulars or quacks.

Scientific medicine, being founded upon demonstrable truths, must in the end maintain itself and secure the confidence of the people. Reliance must be had, not upon diplomas, or membership in medical societies, but upon superior knowledge and skill. We were still often spoken of as "old-school" physicians, but that term was really applicable only to those who had fallen behind the rest. At the present time, the only distinctive name which was applicable was "the new school of scientific medicine." Positive denials of the well established achievements of scientific medicine were often made, unfortunately too often by men who were authorized to attach the letters M.D. to their signatures. This led to the frequent repetition of the old question as to "Who shall decide when doctors disagree?" No matter how well a fact might be established by repeated experiments or by the common experience of the profession, some doctor could be found who through ignorance or that obliquity of mental vision which characterized the

crank would deny its truth. Thus there were doctors who denied the value of vaccination; others who failed to recognize any value in results obtained by experiments on the lower animals; others who denied the etiological rôle to well-known pathogenic bacteria. As a result the antivaccination and antivivisection societies were able to fortify their position by quoting the opinion of medical men of more or less repute. But opinion was of no value when opposed to evidence, and it seemed to the writer that those familiar with the evidence would do well to give to the public concise and comprehensible statements suitable for publication in newspapers and popular magazines, setting forth the facts and the evidence upon which these facts were accepted by well-informed physicians. But in doing so great care should be taken not to make any assertions that were not based upon reliable data.

Speaking of the *x*-ray, Dr. Sternberg said that it was to have been expected the *x*-ray would already be made a source of revenue by more than one pseudo-scientist. The following account of the modus operandi of its supposed therapeutic action had recently been published in the newspapers: "After the Crookes tube is excited by the coil the magnetic lines of force are projected down in the same manner as they pass off from a magnet, and, traversing the intervening space, pass through the body down to the floor and back to the coil and tube again, completing the circuit. The *x*-ray is electrostatic in character and of a very high potential. With every discharge from the Crookes tube oxygen is liberated in the body as well as the surrounding atmosphere, which, combining with nascent oxygen, forms ozone. It is due to the electrolysis produced in the body that we are able to destroy the bacilli in contagious diseases, ozone being the most powerful germicide known."

In commenting upon this quotation Dr. Sternberg remarked that he did not fully understand why the magnetic lines of force were reflected back by the floor, completing the circuit, and, inasmuch as the *x*-rays pass through wood, this mysterious action of the floor appeared to call for some further explanation. Passing by the ingenious explanation of the formation of ozone as a result of the action of the *x*-ray, he called attention to the mistaken statement that ozone "is the most powerful germicide known." The experiments of Fraenkel, he said, showed that the aerobic bacteria grew abundantly in the presence of pure oxygen and some species even more so than in ordinary air. It was formerly supposed that ozone would prove to be a most valuable agent for disinfecting-purposes, but recent experiments had shown that it was not so active a germicide as had been anticipated, and that from a practical point of view it had comparatively little value. Lukaschewitsch found that one gram, in a space of a cubic metre, failed to kill anthrax spores in twenty-four hours. The cholera sporule in a moist state was killed in this time by the same amount, but fifteen hours' exposure failed to destroy it. The ozone for these experiments was developed by means of electricity. Again, Wyssokowicz had found that the presence of ozone in a culture medium restrained the development of the anthrax bacillus, the bacillus of typhoid fever, and others tested, but concluded that this was due rather to the oxidation of bases contained in the nutrient medium than to direct action upon the pathogenic bacteria. The conclusion reached by Nissen from his own experiments and careful consideration of those previously made by others was that ozone was of no practical value as a germicide in therapeutics or disinfection.

Dr. Sternberg said that unfortunately lack of information relating to the definite results of scientific investigations was not confined to the non-medical members of the community. With the progress of scientific medicine had come improved methods of teaching, and it was now generally recognized that reading medical books and listening to lectures were not a sufficient preparation for the practice of medicine, any more than the reading of books on navigation would be for the responsibility of the captain of an ocean steamer. It was for this reason that we insisted upon the study of anatomy in the dissecting-room, the teaching of methods of diagnosis and treatment at the bedside, and of chemistry, physiology, and pathology in the laboratory. The painstaking work and attention to details required of students engaged in chemical, physiological, bacteriological, or histological studies, and the failure in their attempts to repeat an experiment or demonstration if through haste or carelessness they neglected any step in the necessary technical process, constituted an invaluable lesson. Indeed, the scientific medicine of the present day could be taught only by such methods, and the scientific physician of the future must make his way to fame and fortune by travelling this somewhat difficult and time-consuming road.

Reference was made to Pasteur's treatment of hydrophobia. This in his opinion was one of the great and well-established achievements of scientific medicine. Scientific medicine must be founded upon an exact knowledge of the structure and functions of the human body in a healthy condition and of the changes in structure and function which resulted from various disease processes; of the causes, natural history, and regional distribution of the diseases which afflicted mankind and the lower animals; of the toxic action of various substances from the animal and vegetable kingdoms; of the use of these and of other non-toxic substances and physical agents in the treatment of disease; and of the prevention of disease by disinfection, quarantine, protective inoculations, etc.

Mention was made of the recent investigations of Loeffler and Frosch, relative to the etiology of foot-and-mouth disease of cattle. These observers had failed to demonstrate the specific organism in the lymph drawn from the infected cows. Nevertheless, experiments showed that this lymph was infectious, and that cows when inoculated with it invariably developed the disease. The inoculations were successful even after the lymph had been passed through a porcelain filter proved by experiment to be capable of filtering out the known varieties of bacteria. The very small dose required to produce this result proved that the infection was not due to a soluble constituent, but to an agent capable of self-multiplication. The smallest hitherto known bacterium was the influenza bacillus, and Professor Jena had calculated that a bacillus much smaller than this one would be beyond the power of our microscopes to detect. The importance of the observations was in showing the present limitation of microscopic investigations and the possibilities of future research in this field.

Recently several additions had been made to the list of specific therapeutic agents, and there was good reason for believing that further discoveries in this direction would follow as a result of investigations now being conducted in pathological laboratories in various parts of the world. Among the more important recent discoveries in this department of scientific medicine were mentioned the use of thyroid extract for the cure of myxœdema, and of the antitoxin of diphtheria. The discovery of the diphtheria antitoxin promised to be as important for therapeutics as the discovery of the anthrax bacillus was for etiology, and would no doubt henceforth be regarded as one of the most notable achievements of the century. While the practical results of this discovery had been notable in the case of diphtheria, some success had been attained in the specific treatment of tetanus, streptococcus in-

fection, pneumonia, and even in tuberculosis. A recent discovery, of considerable importance from several points of view, was the so-called Widal reaction. The curative action of thyroid extract in myxœdema was well established and some success appeared to have been attained in the treatment of Addison's disease by an extract from the suprarenal bodies. The active substance in the thyroid had been called iodothyrin. According to Professor Chittenden, this substance was a non-proteid cleavage product of a more complex body naturally present in the gland and characterized by containing both iodine and phosphorus. He considered it pretty thoroughly established that iodothyrin "possessed all the peculiarities associated with thyroid therapy."

The author next directed attention to prophylaxis, saying that here the progress of medical science had been even more prolific in practical results. Where thousands had been saved by the timely administration of suitable medicines, or by a skilfully performed operation on the part of the surgeon, tens of thousands had been rescued by preventive medicine. Preventive medicine was to-day established upon a strictly scientific foundation. The mortality from tuberculosis was constantly diminishing in our large cities, and the complete destruction of the infectious sputa of those suffering from pulmonary tuberculosis would no doubt go a long way toward the extermination of this fatal disease.

In conclusion Dr. Sternberg said that he thought enough had been presented to show that the medical profession as represented by this association was not made up of "old-school doctors" and that medicine was not behind other branches of science in establishing itself on a sound basis of facts demonstrated by observation and experiment with instruments of precision. It was evident that there was no room for creeds and pathies in medicine, any more than in astronomy, geology, or botany. Every man was entitled to his own opinions upon any settled problem, but if he entertained an opinion in conflict with ascertained facts he simply showed his ignorance. There was no restriction placed upon any physician who had graduated from a regular school as to the mode of treatment he should pursue in a given case. If he saw fit to prescribe a bread pill, or a one-hundredth trituration of carbo vegetabilis, there was no rule preventing him from doing so; but if the patient should die of diphtheria because of his failure to administer the proper remedy, or if he recklessly infected a wound with dirty fingers or instruments, or if he transferred pathogenic streptococci from a case of phlegmonous erysipelas to the interior of the uterus of a puerperal woman, it would appear that the courts should have something to say as to his fitness to practise medicine. There was, however, nothing in the code of ethics which would prevent him from associating with reputable practitioners of medicine; but, no matter where or when he obtained his medical degree, such a man could scarcely be said to belong to the profession of scientific medicine. We must not fail to recognize, however, that the progress of knowledge had been so rapid, that it was impossible for a busy practitioner to keep pace with it, and that even the requirement now generally adopted by our leading medical schools, of a four years' course of study, was inadequate for the attainment of such a degree of professional knowledge and practical skill in diagnosis and therapeutics as was desirable for one who intended to practise scientific medicine.

At the conclusion of the reading of the address, the association directed that a telegram be sent to Dr. Sternberg expressing its regret that circumstances national in character prevented his being present at the meeting in Denver, and thanking him for his very able address.

Report of the Rush Monument Committee.—Dr. A. L. Gihon, on behalf of this committee, reported that in spite of the fact that, at the last meeting of the association, held in Philadelphia, it had been decided that $100,000 should be raised for the erection of a fitting monument to America's great patriot physician, he had so far received only $162, or one-sixth of one per cent. of the amount pledged. This sum, together with the interest accruing on what was already on hand, had made the total increment $312, and the total amount of the fund $4,424.44. Colorado and New York then contributed $2,000 each to the fund. Pennsylvania signified its willingness to contribute $2,000 when the contract for the monument had been made; Maine added $100; Ohio, $336; California, $110 and $1,000 more at the time of commencing the actual work of erecting the monument; and Indiana reported about $500 already collected, but desired to do still better before reporting finally. These additions, counting those given both conditionally and unconditionally, bring the total sum to $12,460.44.

Treasurer's Report.—This report showed the receipts for 1897 to have been $32,200, and the balance on hand $14,092.85. In the year ending January 1, 1898, 1,500 members were added to the roll of the association.

Second Day—Wednesday, June 8th.

Dr. T. J. Hoppeloe, of Tennessee, presided.

Meetings of the Sections.—A resolution was adopted directing that the sections should not hold sessions during the hours set apart for the general sessions, and also making the hour for beginning of the general session 10 A.M. on the first day, and 11 A.M. on the succeeding days of the meeting of the association.

An Essential of the Art of Medicine.—Dr. J. H. Musser, of Philadelphia, then delivered the annual address on medicine. The closing years of the eighteenth century and the early years of the nineteenth century, he said, marked an epoch in medicine as transcendent for its welfare as the events of the past decades bespeak for the glory of the medicine of the future. The state of medicine in the eighteenth century was described as the result of deductive methods of reason, made possible because of the lack of instruments of precision. Elaborate classification of disease and refinements of symptomatology which served only to amuse and appall were the result. The sway of the imagination and the rule of theory were all-powerful. Speculative modes of treatment grew out of the specious pathology. These modes of treatment were referred to. Venesection, polypharmacy, and stimulation were followed by expectant treatment and nihilismus. The limitations of the inquiry in diagnosis were outlined. Diagnosis was an intuition and an art. Cullen said theory could control observation. But medicine as a science was no higher and no lower than were cognate departments of knowledge. The development of other sciences was also outlined. Science was not applied to industrial arts at this time, and so they were carried on by rule-of-thumb methods. Medicine had ceased to be deductive: its practice began to be scientific. Medicine had now grown to be a science—a department of the science of biology. Its history was the history of the application of scientific habits of thought to experiment, observation, and analysis. Medicine had grown to a science by the labors of physicians who were naturalists. The influence of inductive reason on other sciences was elaborated and its effect on theology, history, and sociology stated. Clinical medicine, as a science, embraced diagnosis and therapeutics. Methods of diagnosis of the present day required a scien-

tific habit of mind and skill in the use of instruments of precision. The scope and positivism of diagnosis were shown, as fifteen diseases could now be recognized positively, without any possibility of error. Diagnosis had grown to be scientific, precise, and positive. Error in method led to error in diagnosis. Therapeutics had grown to a science by the influence of various forces, all the outcome of the mode of thought of the naturalist. The science of statistics showed the fallacy of determining the value of a drug from a small number of cases. Analysis of 12,000 prescriptions showed that various drugs were called for about 31,000 times; preparations of nux vomica, iron, opium, mineral acids, cinchona and its salts, mercury, ipecac, bismuth, belladonna, arsenic, squills, hyoscyamus, and digitalis were called for in one-third of the total, or, if external remedies and excipients were excluded, in one-half. Scepticism arose because too much was claimed. The more incurable the disease the greater the number of drugs claimed to cure it. The more virtues a drug was said to have, the less its probable value. Polypharmacy had been assaulted in the past, but still held sway. The treatment of diphtheria by antitoxin was the only scientifically established mode of therapeusis. Drugs had no doubt an action in health and disease. Their use might be of advantage, but usually they were not necessary. We need not be sceptical about the power of the drug, but about its necessity. If robbed of the power of mental expectancy, drugs were not given. Such expectancy and hypnotism, for therapeutic purposes, could be secured by an honest examination of the patient. The "lie" was not required in medicine any more than in religion, as Zola had pointed out. Application of science to industrial art at the present time showed that in every department scientific methods were necessary. Brewing, iron making, leather making, were no longer an art—they were a science. Art had gone; science held sway. The large amounts of capital involved and great competition had forced out the element of chance as in art and instituted the element of certainty that was approached in science. As the science of medicine was essential to the art of healing, we must educate students to a scientific habit of thought. The truths of medical science and their practical application were cosmopolitan. Law was estimated by political barriers, religion by race and mental development; the promulgation of truths in medicine or the establishment of a method of its art affected for good the entire universe—not only man, but all animal creation. The labors of Mitchell in Philadelphia on snake poisoning touched the welfare of the entire population of India; the result of Lister's research was as valuable in China as in England; the words of Koch were as powerful in Japan as in Berlin. What greater reward was there than to be a humble fellow-worker in a field so broad, and what higher inspiration than the stimulus attending such labors? Let us then not be impatient. The adamantine position secured to the labors of Lister and Koch and Pasteur; the advanced state of preventive medicine at this day; the scientific method of the treatment of disease, as seen in that of diphtheria; the vistas that were opening with the advent of organo-therapy showed the dawn of a new science of medicine. Unfortunately we were to witness the dawn only; as to what the high noon of medicine would show, we only had the whisperings.

Officers.—The following were reported favorably by the nominating committee: *President*, Joseph M. Matthews, of Louisville; *First Vice-President*, W. W. Keen, of Philadelphia; *Second Vice-President*, J. W. Graham, of Denver; *Third Vice-President*, H. A. West, of Texas; *Fourth Vice-President*, J. E. Minney, of Topeka; *Treasurer*, Henry P. Newman, of Chicago; *Librarian*, George W. Webster, of Chicago; *Chairman of Committee of Arrangements*, Sterling Loving, of Columbus, Ohio.

Place of meeting, Columbus, Ohio.

(*To be Continued.*)

AMERICAN GYNÆCOLOGICAL SOCIETY.

Twenty-Third Annual Meeting, Held in Boston, May 24, 25, and 26, 1898.

PAUL F. MUNDÉ, M.D., PRESIDENT.

(*Concluded from page 836.*)

Third Day—Thursday, May 26th.

Patency of the Stump after Salpingectomy.—DR. J. WESLEY BOVÉE, of Washington, D. C., read this paper. He said that he had taken a special interest in this subject since 1892, and had found in five specimens from cases of salpingectomy that the stumps were still pervious. So far as he knew, only three well authenticated cases had previously been reported. The ligatures might become infected and slip in course of time, or "mass" ligatures might slip off after closure of the abdomen. He suggested that these stumps might be successfully occluded by cutting out the Fallopian tube by a wedge-shaped incision into the uterine wall at the tubo-uterine junction. If the muscle was approximated over it and well sutured, the occlusion would be complete. Care must be taken in the ligation of the uterine artery in this situation, and also not to pass the sutures through the mucosa.

DR. H. A. KELLY said that in practice the ovary was constantly sacrificed for some technical reason only. It had been his practice to free a cirrhotic ovary from adhesions and leave it, and the results had been most gratifying.

DR. W. GILL WYLIE said that he had not found many cases of uterine fibroids in which it had seemed to him such conservative operations as myomectomy were advisable.

DR. J. TABER JOHNSON, of Washington, D. C., said that he had practised Dr. Bovée's method of occluding the Fallopian tube, and had found it a useful procedure to prevent the outward spread of septic matter.

DR. MANN said he believed thoroughly in this conservative surgery, and had been pleased with its effect both on the general health and upon the occurrence of conception.

Discussion: The Surgical Treatment of Sterility; How Far is it Justifiable or Expedient?—DR. MATTHEW D. MANN, of Buffalo, opened this discussion. He said that deformity of the cervix and stenosis should be treated by forcible dilatation and packing with iodoform gauze, the uterus and cervical canal being curetted if there were sufficient indications. Endometritis could be cured by forcible dilatation and curettage and a sufficiently prolonged packing with iodoform gauze or gauze soaked in a ten-per-cent. solution of ichthyol in glycerin.

DR. W. GILL WYLIE was sceptical about the part played by mechanical conditions alone in producing sterility, believing that the chief cause was defective development of the genital organs and consequent endometritis. Much could be accomplished by the insertion of his hard-rubber cervical drainage, together with the use of an Albert Smith pessary.

Removal by Abdominal Incision of the Remains of an Extra-Uterine Fœtation of Fourteen Years' Duration.—DR. ANDREW F. CURRIER, of New York, reported such a case, and said it was interesting to note how quickly sepsis occurred after the thin dividing layer of new tissue had been broken.

Removal of Hairpins from the Bladder in Women.—Dr. Currier also read a paper on this subject. After reviewing the literature and citing many curious cases, he said that the vaginal incision was his preference in the effort at removal of the hairpin. In long-standing cases the bladder should be opened to secure drainage and to remove calculi, if any were present.

Dr. Mann said that he had followed one case of extra-uterine fœtation for eight years, during which time the woman had had three children.

Dr. Bovée also reported a case of eight years' duration presenting some very unusual features.

A Case of Endothelioma Lymphangiomatodes of the Cervix Uteri.—Dr. Hunter Robb, of Cleveland, in reporting this case, said that the condition must be very rare or quite generally overlooked, as he had been unable to find any other cases on record. He described the microscopical appearances of sections of the neoplasm, and stated that clinically it had presented the appearance of an ordinary cylindrical-cell carcinoma.

Postoperative Saline Infusions.—Dr. Eugene Boise, of Grand Rapids, read this paper. He said that the five post-operative conditions endangering life were hemorrhage, shock, sepsis, uræmia, and intestinal obstruction; and in all of these the intravenous use of a saline solution was indicated, and would be found a life-saving measure. The intravenous route should be given the preference: (1) because it was practically no more dangerous than the other methods; (2) because it supplied the fluid most quickly to the system; (3) because it brought heat to the cardiac and arterial ganglia; and (4) because the stimulating action of the saline solution on the heart muscle was more immediate and more marked. The solution should always be used at a temperature of about 116° F.

Dr. Robb said that he used saline solution not only in the veins, but in the cellular tissue, and left it in the abdominal cavity after abdominal section.

Dr. Bovée said that with intravenous injections there was danger of overdistention of the circulatory organs and resulting paralysis, a risk which did not attend the subcutaneous method.

Dr. S. C. Gordon remarked that in conjunction with the use of saline solution it would be found that most extraordinary doses of strychnine could be used with great advantage.

Dr. Chadwick said that if the salt solution was introduced into the cellular tissue it became serum by the time it reached the general circulation—an obvious advantage over the intravenous injections.

Dr. William Jones, of Rochester, remarked that the work of Dawbarn seemed to show certain advantages from arterial injections.

Dr. Noble replied that he knew of at least one case in which gangrene of the extremity had resulted from the intra-arterial injection of saline solution.

Dr. Mann and Dr. Reynolds both spoke at length of the very great advantages of giving laparotomy patients large quantities of water to drink.

Streptococcic Infection in Childbirth and the Application of Serum Therapy.—Dr. Henry D. Fry, of Washington, D. C., presented a paper on this subject. He said that the diagnosis must rest on the clinical appearances and on bacteriological examination. As a result of a circular letter that he had sent out in order to ascertain the views of leaders in the profession regarding the value of serum therapy, he had received 46 replies, representing all shades of opinion. Of this number, 30 stated that the writers had had no experience with it, 14 reported favorably, and 5 unfavorably. A total of 83 cases was reported. Of these 83, the result was said to be "good" in 10, in 8 it was decidedly negative, and in 65 it was considered to have been of doubtful utility. These wide differences in opinion were probably explained by the imperfections of bacteriology at the present time. The initial dose of Marmorek's serum should be five or ten cubic centimetres, repeated daily. Relapses were common. In the cases in which the fatal result had been attributed to the serum, the symptoms had been collapse, rapid pulse, low temperature, and uncontrollable vomiting. He had collected a total of one hundred and nineteen cases, in seventy-seven of which, or about thirty-five per cent., recovery ensued.

Dr. J. W. Williams said that the reports from Pinard's clinic show that the prophylactic value of the serum was much less than claimed by Marmorek. One great source of error was the extremely variable clinical history of cases of streptococcus infection. At present he was extremely sceptical regarding the value of the treatment.

Dr. Reynolds said that in only one case of pure streptococcus infection had he seen recovery, and that patient had been curetted and subjected to treatment within an hour after the first rise of temperature and before the initial chill. If used freely, Marmorek's serum seemed to him a dangerous remedy.

Dr. Richard C. Norris, of Philadelphia, said that success in this treatment would come only when the bacteriologists were able to separate the different species and knew more about their natural history. If it was essential to have a bacteriological diagnosis, the value of the treatment in the hands of the general practitioner would be almost nothing.

Committee on Treatment by Antistreptococcus Serum.—The following committee was appointed to study the subject and report at the next annual meeting: Drs. H. D. Fry, J. W. Williams, E. Reynolds, and W. R. Pryor.

Dr. J. Taber Johnson, of Washington, D. C., was elected president of the society for the ensuing year.

ILLINOIS STATE MEDICAL SOCIETY.

Forty-Eighth Annual Meeting, Held at Galesburg, May 17, 18, and 19, 1898.

SECTION ON THE PRACTICE OF MEDICINE.

Malnutrition in Infants.—Dr. Frank P. Norbury said that nearly all cases of malnutrition were the result of gastro-intestinal disorders incidental to errors of diet. The treatment had two main objects in view, namely, to arrest wasting and to repair the damage done by the disease.

Infantile Scurvy.—Dr. Isaac A. Abt, of Chicago, said the earliest cases reported were erroneously described as cases of acute rachitis. The diagnosis in well-marked cases was not difficult. With reference to the differential diagnosis, congenital syphilis could be excluded by the history of the case, by the absence of syphilitic lesions on the skin and mucous membranes. In congenital syphilis there was never a history of severe pain. The pseudo-paralyses of syphilis were limited nearly always to the upper extremities: the swelling was never so intense as in cases of infantile scurvy, and was more prone to occur on the epiphyses than on the diaphyses. Separation of the epiphyses occurred in both diseases. A spinal paralysis might be thought of, although in such cases there was neither tenderness nor swelling. As to the treatment, brilliant results were obtained by providing a suitable diet, such as fresh cow's milk, or mother's milk, beef juice, orange or lemon juice, fresh vegetables, mashed potatoes, etc. The child should be placed under the best possible hygienic conditions: good ventilation should be provided for, and under favorable conditions of weather the child should be out of doors. Cod-liver oil by mouth or inunction was especially indi-

cated, when the child recovered from the scorbutic condition, to aid nutrition.

Diagnosis of Pleurisy with Effusion, with Especial Reference to Misleading Physical Signs.—This was the title of a paper by Dr. James B. Herrick, of Chicago, in which he first spoke of the importance of careful inquiry into the history of the case, and dwelt upon the fact that in some cases there might be an absence of pain and a cough, the clinical symptoms resembling those of a mild typhoid. In other cases the severity of the symptoms and the explosive onset would remind one of pneumonia. Among the signs that might mislead, he mentioned the occasional inspiratory recession of interspaces and the decubitus upon the sound side. He regarded vocal fremitus as of relatively inferior value, because of the many conditions that might cause it to be retained, even though there was a large amount of fluid. With small amounts of fluid a careful examination should be made in the posterior axillary line just external to the angle of the scapula, for signs were often present here though absent elsewhere. Even with quite large effusions there was a triangular area of relative dulness above the line of flatness posteriorly. Here could frequently be heard quite pronounced bronchial breathing and well-transmitted voice sounds. The crucial test was exploratory puncture, but negative results should not lead to the exclusion of pleurisy with effusion until circumscribed collections of fluid had been ruled out. Palpatory puncture, to use Rosenbach's expression, might be of great value in the diagnosis of underlying tumor, and might be the only means of determining the presence of the thick fibrous plates that sometimes lined the chest.

Significance of Certain Signs and Symptoms in Heart Insufficiency.—Dr. B. W. Sippy, of Chicago, read a paper with this title. He dwelt upon the anatomy of the heart, considering briefly insufficiency of the left and right hearts respectively, and then at length total heart insufficiency. He spoke of how the heart might become crippled in various ways. The two sections of the heart sustained each other in their efforts to carry on the circulation. The passive congestion of the pulmonic vessels occasioned by the insufficient power of the left heart might be overcome by the right heart. As long as the right heart remained competent, the left heart was compensated, the systemic arteries were filled more or less adequately, and the systemic veins were emptied normally.

The Smegma Bacillus.—Dr. J. L. Miller, of Chicago, read a paper with the following conclusions: (1) Over the entire surface of the body and exposed mucous membrane, and especially on the genitals, bacilli were found which resembled the bacillus of tuberculosis. (2) From the external genitalia they frequently gained access to the urine, and might be a source of error in the examination of urine for tubercle bacilli. (3) The smegma bacillus presented wide variations in size and form, thus rendering morphological differentiation frequently impossible. (4) While most smegma bacilli were more readily decolorized by any of the solutions commonly employed, occasionally they possessed equal or even greater resistance than the bacillus of tuberculosis. (5) Methods of decolorization in which acids alone were employed were fallacious; acid alcohol or dilute alcohols, unless long continued, were equally unreliable. Better, but not free from error, was the use of absolute alcohol for at least five minutes. In ammoniacal urine, however, such prolonged use of alcohol might also remove the stain from the tubercle bacillus. (6) Attempts to remove the fat or fatty acids from the bacilli by ether, chloroform, or other solvents failed to furnish us with a means of differentiation. (7) We must rely on means of excluding the smegma bacillus from the urine. By cleansing the external meatus and withdrawing the urine with a catheter, we could exclude this possible source of error.

Treatment of Neurasthenia.—Dr. Hugh T. Patrick, of Chicago, said that for the production of neurasthenia, as for the production of nearly all disease, two conditions were essential: first, a noxious agent; and second, a relative vulnerability of the organism or of some part of it. The ratio of these two factors might be called the etiological index. In some cases the first named factor, *i.e.*, the extraneous agent, would be very prominent, the organism itself being considered as normal. In others the exciting agent would be exceedingly slight, the inherent susceptibility or instability of the patient being an essential causal condition. Each of these two classes of neurasthenia would naturally need radically different treatment. In the first, those in which the patient once possessed a normal nervous system, which had simply been overstrained and overdrained, the important features of treatment were rest and recuperation. In the second class of cases, those in which an unstable nervous system of the individual was at fault, the treatment was essentially mental, and the best way of administering it was by systematic education. For such patients isolation and an initial period of rest might be very useful, but for the further treatment gradually increasing physical exercise and mental occupation were necessary.

Observations on the Blood of Tuberculous Patients.—Dr. George W. Johnson, of Chicago, contributed a paper with this title. These observations were made on patients in the advanced stage of the disease, with cavities and at times hæmoptysis. The observations were made before meals, and no attacks of hæmoptysis occurred between the first and second examinations. Of the thirty-three cases, twenty-five were found to have leucocytosis; *i.e.*, the white cells ranged above seventy-five hundred per cubic millimetre. The twenty-five having leucocytosis also had cavities. Nine of the thirty-three showed a red-cell count of 5,000,000 or above, which, according to Cabot, was a normal basis. The remaining twenty-four showed a red-cell count in many instances far below 5,000,000, and in no case was the hæmoglobin up to normal. In only one case did it reach seventy-five per cent.

Advances in the Domain of Preventive Medicine.—Dr. J. M. G. Carter, of Waukegan, delivered the presidential address. The chief object of the address was to show that a responsibility existed in the field of preventive medicine, and that this responsibility rested upon the State. The speaker presented the following propositions as expressing his ideas of what was necessary: (1) The State or municipality should give men who could not secure other work some kind of employment which would afford them a living. (2) This might be done by introducing public improvements. (3) A minimum rate of wages should be paid, so that only those who could not find work elsewhere would seek such employment. (4) All able-bodied men without work, who had no visible means of support and who did not apply for such government employment, should be subject to draft for this labor. (5) The unfortunate and disabled poor should be cared for as wards of the State. (6) The State should see that the poor were properly or comfortably domiciled in houses provided with good ventilation, supplied with good water, and sufficiently warm. (7) Inspection of the homes of all the people should be conducted regularly and thoroughly, the object being to see that they were in good sanitary condition. (8) All meats, vegetables, fruits, dairy products, milk, and manufactured foods should be inspected as to their source, composition, and present condition. (9) Public baths should be established where the poor could have facilities for bathing free or at a nominal cost.

Intellectual Bacteriology.—In the absence of Dr. Nicholas Senn, of Chicago, who was to have delivered the address on surgery, Dr. John H. Finley delivered a humorous address. He referred to various kinds of germs, such as the micrococcus egotisticus—a germ which impelled one to look out for himself and get everything possible. The wool-gathering microbe often afflicted students, and brought about in them a revulsion to thoughts of labor. Another microbe was the bacillus bombasticus, and still another the micrococcus oratoricus. The spirillum Americanus abounded largely in the blood of such men as Admiral Dewey.

SECTION ON SURGERY.

Uræmia in Child Bearing.—Dr. Henry F. Lewis, of Chicago, read a paper on this subject. Uræmia was defined as a condition of the system resulting from the retention in the blood of toxic products which should normally be eliminated. Eclampsia was a frequent sequel of uræmic phenomena occurring in the course of child bearing. The author, in discussing the subject, included the eclampsias, neuroses, psychoses, and other symptoms due to the toxæmia accompanying or following pregnancy. He also included the albuminuria of pregnancy.

Operative Treatment of Carcinoma Uteri.—Dr. Franklin H. Martin, of Chicago, followed with a paper on this subject. He said that a microscopical examination of the tissue of the three portions of the uterus should be made whenever one of the well-known classical symptoms of carcinoma appeared. Carcinoma of the vaginal portion of the cervix should be treated by vaginal hysterectomy, the upper portion of the vagina and as much of the base of the broad ligament as it was possible to include being removed and the ureters being pushed well to the side of the pelvis. Carcinoma of the body of the cervix should be treated by vagino-abdominal hysterectomy, with thorough removal of the broad ligament and the deep iliac glands. Carcinoma of the body of the uterus should be treated by thorough removal of the uterus by vagina or abdomen, so as to include the tubes and ovaries. The iliac glands should be removed if involved. Neglected carcinoma should never be abandoned, but should be symptomatically relieved by curettage and cauterization, if the more radical procedure no longer seemed practicable, with the possible hope of permanent relief in a small percentage of cases.

Conservation of Tissue and Function in Pelvic Surgery.—Dr. Henry P. Newman, of Chicago, said that the object of his paper was to stimulate investigation along the line of greater conservatism of the genital health of women. This might be aided: (1) By a deeper study into the problems of cell nutrition and general metabolism, in order to determine the relative value of glandular and other structures, and the relation of the pelvic organs to the great systemic laws. (2) By seeking the habits and regimen of individual patients as to diet, dress, social and educational life, etc., for the causes of disease, remembering that these, if allowed to go uncorrected, might handicap the best efforts of medical science and effectually undo all that might be accomplished. (3) By giving to every definitely diseased structure the best opportunity to recover its function that science could devise, by prophylactic supervision of life and habits. By palliative treatment when it offered relief, and by prompt resort to surgical interference when it was called for in the interests of true conservatism.

Operations on the Anus.—Dr. Weller Van Hook, of Chicago, described a new device for facilitating operations about the anus. Starting from the proposition that existing technical methods failed to provide means of aseptic or even approximately aseptic operations, especially in view of Cohn's demonstration of the penetrability of fresh cautery eschars by pathogenic micro-organisms, he reasoned that we should seek means of operating upon hemorrhoids and other anal lesions by dissection and suture. The device, he said, consisted of a half-inch rubber drainage tube, perforated near one end, and drawn through a minute opening in a piece of medium-weight dentist's rubber-dam tissue, twelve inches square. It was essential to success that the bowels be prepared beforehand. The method recommended was: (1) laxatives thoroughly to evacuate the bowels, on one occasion only, four or five days before the operation; (2) daily colonic flushings thereafter; (3) after the laxatives had acted, one or two drachms of bismuth subnitrate daily in divided doses, to keep the colon empty. In operating upon hemorrhoids, the following technique was employed: The sphincters were stretched, the rectum was irrigated, and the tube with its covering was introduced by means of eight-inch forceps. To keep the umbrella-like device from slipping out and to keep the dam in contact with the rectal wall, some strips of gauze were pushed up into it, between the tube and the dam. The dam was then pushed aside; the tissues were washed again with antiseptics; then the hemorrhoids were excised and the wound was sutured. A piece of iodoform gauze saturated with compound tincture of benzoin was then inserted between the dam and the anal wall. The apparatus and dressing were left undisturbed for four or five days.

Treatment of Acute Abscess and Gangrene of the Lung.—Dr. A. E. Halstead, of Chicago, said it was only within the last few years that well-known surgical principles had been applied to intrathoracic suppurative conditions. The term abscess of the lung was employed in the paper to designate only acute suppurative inflammation, non-gangrenous, which had its seat within the lung tissue; therefore cavities filled with pus, formed either by a dilated bronchial tube or by destruction of lung tissue from tuberculous infection, were not considered. The causes of acute abscess of the lung were dwelt upon, the principal one being lobar pneumonia. The surgical treatment of lung abscess comprehended puncture of the abscess, aspiration, incision of the lung, and drainage. The author dwelt at length upon the technique of pneumotomy for abscess or gangrene of the lung.

Pathological Histology of Intestinal Union after the Use of the Bone Coupler.—Dr. Jacob Frank, of Chicago, read a paper with this title. From a microscopical study of the healing of intestinal wounds after the various suture methods and the employment of mechanical devices, he had arrived at the following conclusions: (1) No suture method insured an exact coaptation of the various layers. (2) In regard to the invagination suture method, he referred briefly to that of Harris, which he said would stand as a type for others. Union took place, but the different layers were not in juxtaposition and the lumen of the bowel was greatly encroached upon. (3) All suture methods left the subsequent lumen of the bowel more stenosed than did either the Murphy button or the author's coupler.

Plea for Early Operation for Lacerations of the Cervix Uteri.—Dr. Joseph B. Bacon, of Chicago, read a paper on this subject. After referring to the Emmet and Schröder operations for the repair of the cervix, he described a new adaptation of pathological facts, as recognized in the disease affecting non-striped muscles and fibrous tissues in other organs, and showed how like conditions might help to cause some of the serious results found in neglected cases of severe lacerations of the cervix. He claimed that the destructive changes found in both fibrous and muscular tissue of the cervix, and later in the body of the uterus, were

due to the persistent chronic inflammation, and that these changes could be avoided by an early operation. But if they were neglected, there was no limit to the destruction, and in time no operative procedure would more than relieve a part of the symptoms and could not remove the diseased tissue and cure the woman. He claimed that the same pathological laws that explained cicatricial strictures of the rectum, as advocated by Harrison Cripps, applied equally well to the cicatricial changes that were found in the cervix uteri, because there was a like anatomical make-up of the muscles, glands, and excessive fibrous tissue normally present in both—first, the tendency of fibrous tissue, subjected to chronic inflammation, to become both hypertrophied and contracted; second, the tendency of muscular fibre, when subjected to undue and persistent nerve irritation, to undergo fibroid degeneration with permanent atrophic contraction of its fibrous elements.

Officers.—The following officers were elected: *President*, T. J. Pitner, Jacksonville; *First Vice-President*, Harold N. Moyer, Chicago: *Second Vice-President*, J. T. McAnally, Carbondale; *Permanent Secretary*, Edmund W. Weis, Ottawa; *Assistant Secretary*, W. F. Grinstead, Cairo: *Treasurer*, George N. Kreider, Springfield.

The next meeting will be held in Cairo on the third Tuesday in May, 1899.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 23, 1898.

ARTHUR M. JACOBUS, M.D., PRESIDENT.

What We Find in Interval Appendicitis Specimens.—DR. ROBERT T. MORRIS discussed this topic. He said that he had found concretions in the lumen of the appendix in about twelve per cent. of his cases. He had excluded from this estimate cases in which soft fæcal matter was rolled up into a ball, but not hard enough to cause ulceration of the mucosa. It was impossible to draw a sharp line between these two classes of concretions. In about five per cent. of his interval cases he had found tuberculosis. Some had thought this percentage rather high, but further examination had proved to them that they had overlooked the tuberculous nature of the lesion in a number of their cases. The appendix, he said, began to degenerate shortly after birth, and the involution process was going on during the life of the individual. As a result, at the age of fifty very few appendices contained much mucosa or submucosa. This degenerative change was not observed in other parts of the body, and was due to the appendix being a rudimentary structure. Like other rudimentary structures, the appendix was quite liable to be affected by tuberculosis. Not infrequently the tuberculous inflammation extended to the peritoneum, or metastasis occurred to the lungs, giving rise to pulmonary tuberculosis. Tuberculosis of the appendix was much more apt to be overlooked than infection with the streptococcus, the staphylococcus, or the colon bacillus, because of its mild character and insidious development. In another class of interval cases the appendicitis was associated with an encapsulated abscess.

DR. JOHN F. ERDMANN said that he had recently had a case in which there were six enteroliths, none of them hard, and yet there were a number of points of ulceration. It seemed to him that prolapse of the appendix and the formation of a twist or kink were often the starting-point. He had met with concretions in the appendix in ten to fifteen per cent. of his interval cases, but this larger percentage was possibly due to the fact that a certain number of the softer concretions had been included in this count. He agreed with DR. MORRIS regarding the pathology, and particularly as to the occurrence of endarteritis obliterans.

DR. GEORGE M. EDEBOHLS referred to the cases which should be called chronic catarrhal rather than "interval" cases, because they could hardly be said to have an acute stage. These cases were diagnosticated by palpation. By this method it was found that the appendix was painful on pressure. In many of these cases the operation would show a hyperæmia in the neighborhood and on the surface of the appendix. There would also be found a hyperplasia of fat in the meso-appendix; which was quite characteristic, and which was the result of the increased blood supply to the inflamed appendix. The irregular thickenings in the wall of the appendix could readily be felt by the practised touch. These appendices contained coproliths, which were supposed to result from a "kink" in the appendix: but he had met with these so often when there was no constriction or twisting that he could not accept this theory of their causation. He attributed them to an uneven thickening of the wall, which allowed the coproliths to form behind it, and through interference with the normal muscular action they remained there. The danger from these coproliths was that they might be retained until they caused sufficient pressure to give rise to ulceration or inflammation.

DR. MORRIS, in closing the discussion, said that in four cases he had found ulceration of the mucosa as a result of the presence of entozoa. He accepted the explanation given by the last speaker of the formation of coproliths. He did not regard the cases that Dr. Edebohls had designated "chronic catarrhal appendicitis" as appendicitis. He frequently saw these cases, but did not operate upon them. The cases in which he operated were those in which a definite infective process had developed, marked by tension of the abdominal wall, tenderness at McBurney's point, and vomiting. He was willing to admit that there were circumstances in which it might be perfectly justifiable to operate in these chronic cases, but he had not made it a practice himself.

Clinical Contribution to Tubal Pregnancy.—DR. HERMAN J. BOLDT made the following report: Mrs. C. C——, thirty-three years of age, married nine years, had had one child eight years previously, after a normal labor. Her menstruation had been regular up to 1894. It then became irregular and the flow prolonged. She was subjected to a curettage by another physician, and in 1896 the speaker saw her for the first time. She was again curetted, and the scrapings revealed a hyperplastic endometritis. She was relieved of the dysmenorrhœa and irregular menstruation. On April 4, 1898, he had been again consulted, and was told that she had been perfectly well up to one week previously, when she began to bleed too freely. The color of the blood was dark, and it was slightly tenacious. She was positive that she had not gone a day beyond the regular time for her menstrual period, and she said that she had not suffered at all with menstruation. On examination, the uterus was found to be movable; it was not tender or enlarged. On the right side of the uterus there was slight tenderness to touch in the scar tissue left after an operation which he had done a year previously for the repair of lacerated cervix, and because of this tenderness no attempt was made to palpate the adnexa on this side with exactness. On the left side the tube and ovary were normal. It was therefore supposed that there was a return of the endometritis, and to relieve this a galvanic current of fifty milliamperes was applied for ten minutes, the intra-uterine electrode being the anode, and the cathode covering the whole hypogastrium. She returned for treatment on April 8th, and while waiting

was suddenly seized with pain in the abdomen, which caused her to faint. She had a small, rapid pulse, clammy perspiration, some nausea and vomiting, and appeared decidedly anæmic. Finding in the course of a few minutes that the anæmia was increasing and that the pulse was becoming smaller, the speaker made a diagnosis of internal hemorrhage. Half an hour later she was pulseless. On bimanual examination some pain was evinced on pressure on the lower part of the abdomen, despite the collapse. The right tube was felt to be slightly enlarged, but otherwise the result of this examination was the same as of that made at her first visit. The diagnosis was made of right tubal gestation, with rupture, and the patient was hurriedly taken to hospital. It became necessary to use large quantities of saline solution and to give oxygen in order to keep her alive. Meanwhile the extremities were bandaged and the abdomen was opened. The bleeding tube, which was not prolapsed and was non-adherent, was readily grasped and removed. The abdominal cavity must have contained about two quarts of blood. From the embryo found in the tube it was evident that the pregnancy had progressed to about the third or fourth week.

Successful Operation during Profound Shock.—Dr. Boldt said that he had reported this case in order to refute the idea that there were invariably present periodical attacks of pain in cases of tubal gestation. He had had two or three cases very similar in this respect. Another object in presenting the case was that he wished to retract a former statement, that he did not believe it possible to save life by operating while the patient was in profound shock. His reason for operating in this instance was that a very short time had elapsed since the occurrence of the rupture, and the patient's condition was growing rapidly worse.

Electrical Treatment Utterly Unreliable.—The embryo was not killed, or the rupture would not have taken place, so that this case served to emphasize once more the utter unreliability of the electric current in the treatment of ectopic gestation.

Tubal Pregnancy Twice in the Same Patient.—Dr. Boldt also reported this case. He said that in March, 1896, he had operated upon a woman for ruptured tubal pregnancy, and on September 15, 1897, he had again operated upon her for the same condition, conception having occurred about fifteen months after the first operation. At the time of the first operation he had noted that the unimpregnated tube was in a condition of mild catarrhal salpingitis, but had not considered it sufficiently serious to demand removal of the tube. This case showed that mild inflammation of the tubes predisposed to this deplorable form of gestation. The second time, after having confirmed the diagnosis by vaginal cœliotomy, he had done a hystero-salpingo-oöphorectomy.

Treatment.—He advised the vaginal route when the tube had not ruptured or when one tube had been previously removed. When rupture had taken place he earnestly advised the abdominal route, unless there was only one appendage in the pelvis, as in the case just reported. He said that he had operated seventy-three times for extra-uterine pregnancy under various circumstances, and it was his conviction that vaginal cœliotomy after the rupture of a tubal gestation made the manipulations of the surgeon too uncertain and did not provide sufficient drainage. To wash out the cavity from below was very tedious, and did not easily dislodge the blood clots. If no signs of suppuration presented themselves in cases of ruptured hæmatocele and no pressure symptoms were produced, the patient might be kept at rest, with ice over the abdomen. If, however, there was any indication that absorption was not taking place satisfactorily, the surgeon should not hesitate to open the abdomen and cleanse the cavity, packing it with nosophen gauze. The use of drainage tubes in such cases and the making of a small puncture into the blood tumor should be condemned. All tubal pregnancies should be treated as malignant neoplasms; they should be operated upon as soon as the diagnosis was made.

Double Extra-Uterine Pregnancy and Double Rupture.—Dr. Ralph Waldo said that he also favored abdominal section in preference to the vaginal route in operating in cases of extra-uterine pregnancy after rupture had taken place. He could not agree with the reader of the paper that the diagnosis was in many instances as easy as he seemed to think. He cited a case, seen last winter, in which the abdominal cavity had been opened, the patient being in collapse at the time. The interesting feature was that there was an extra-uterine pregnancy on each side, and both tumors had ruptured.

Rupture of Sac during Etherization.—Dr. C. B. Kelsey said that within the past year he had had a rather curious experience in two cases of extra-uterine pregnancy, in that rupture had occurred during the administration of ether. One of the patients was a hospital case, and subsequent investigation proved that there had evidently been a slight preliminary rupture while she was on her way to the hospital the day previous. At the operation, a fœtus of about six months was found floating in the abdominal cavity. In the other case the patient had been in excellent condition before the abdomen was opened, and there was no sign of collapse. Just before the operation was begun the anæsthetizer called attention to the fact that she was taking ether very badly and was nearly in collapse. On opening the abdomen and coming down to the peritoneum, he found what he at first took to be a piece of adherent intestine. This appearance was due to the fact that the peritoneum was dark with blood. After he discovered his mistake, the abdomen was opened and the clots were turned out. The woman appeared to be almost dead at the time, so no attempt was made to clean out the abdomen, but the cavity was packed with gauze. Provisional sutures only were inserted. She showed scarcely any signs of improvement for about twelve hours, but after that made a smooth recovery.

A Life-Saving Measure.—Dr. R. T. Morris said, regarding these cases seen when *in extremis* by the surgeon, that if the attending physician would make it a rule to use a fine pipette and the douche bag, and would give a liberal infusion of saline solution before the arrival of the surgeon, it would simplify matters a good deal and would undoubtedly save many lives.

Dr. Joseph E. Brettauer said that he was more careful now than formerly about operating until the patient had rallied from the first shock, and believed his results were better for so doing; but this did not mean, of course, that one should delay in the face of active bleeding. Regarding the diagnosis of tubal pregnancy before rupture, he said that the difficulty of making this increased rapidly with the time it was seen prior to rupture.

Dr. J. J. E. Maher referred to three interesting cases, the specimens from which were in his possession. They illustrated the difficulties of diagnosis, particularly as regarded the occurrence of abdominal hemorrhage and of rupture.

Very Early Rupture.—Dr. Theodore K. Tuthill said that he had been called upon as coroner to investigate three cases, all of which were very much alike. The autopsy showed that the right tube was ruptured three-fourths of an inch from its junction with the uterus. In each case the examination was made by Dr. George P. Biggs, and the presence of the chorionic villi had been demonstrated. In each instance the

mass could not have been larger than a small Lima bean, so early had the rupture taken place.

Dr. M. B. Feeny said that in every case he had seen the rupture had occurred while the mass was exceedingly small.

Dr. Boldt denied that he had said that the diagnosis of extra-uterine pregnancy was an easy matter; he had referred only to the diagnosis in typical cases. It was impossible to map out a distinct symptomatology prior to the occurrence of rupture. Intraperitoneal hemorrhage, of course, might occur irrespective of the existence of extra-uterine pregnancy.

Appointments to the City Hospitals.—Dr. N. E. Brill, on behalf of the committee on hospitals, stated that an effort had been made to get the present commissioners to right the wrong done two or three years ago, when the staffs of the various city hospitals had been unceremoniously turned out. The committee held consultations with the committees from the New York County Medical Association and from the New York Medical League, and it was decided to ask Commissioner Keller to give the joint committee an audience. This request was granted, and subsequently the views of the committee were presented in writing. It protested against the injustice done to the medical profession at large by reason of the manner in which the nominations and confirmations had been made, by placing them in the hands of those controlling the four divisions of Bellevue Hospital, and suggested that two-thirds of the vacancies occurring in the city hospitals should be filled from members of the profession at large, not connected with any teaching body, and that as the vacancies occurred this fact should be announced in some of the leading medical journals. Commissioner Keller, after giving the matter full consideration, promised that in the future he would pay no attention to the medical colleges in the matter of appointments, his object being to get the very best men to fill the vacancies, irrespective of their college connections, and that whenever vacancies occurred he would announce the fact in the Medical Record and in the *New York Medical Journal*. He promised to abrogate the rule of 1882, by virtue of which the colleges were placed in control of the hospitals.

Methylene Blue in the Malaria of Children.—Dr. N. Marini (*L'Indépendance Médicale*, August 18, 1897) sums up his experience as follows: 1. Methylene blue possesses a well-marked specific effect in malaria, particularly in children. 2. It is agreeable to take and is harmless. 3. It also works in small doses. Marini gives 0.25 in 40 gms. of water and a little syrup, six to eight hours before the anticipated attack. 4. It may entirely replace quinine, a fact which is of the greatest importance, because it does not possess the disagreeable by-effects of quinine. In adults it also appears to work very well.

Contraindications for the Bicycle.—1. In amenorrhœa connected with pulmonary phthisis, cancerous affections, diabetes, organic diseases of the heart, and diseases of the kidneys, such as albuminuria. 2. In metrorrhagia or excessive menstruation. 3. In inflammation of the uterus and its adnexa, acute metritis, chronic painful metritis, hemorrhagic endometritis, purulent endometritis, leucorrhœa connected with an inflammatory condition of the intra-uterine mucous membrane, inflammation of the adnexa, salpingitis, oöphoritis, salpingo-oöphoritis, perimetritis, pelvic cellulitis, and pelvic abscesses. 4. In pelvic hæmatocele and fibrous tumors during the hemorrhagic stage. 5. In inflammation of the vulva or vagina before complete recovery.—Fanquez, *Journal des Connaissances Médicales*, August 26, 1897.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

INTRAPLEURAL TENSION — MOVABLE LIVER — CARCINOMA OF FALLOPIAN TUBES—LIQUID HYDROGEN AND HELIUM—LONDON UNIVERSITY—THE NEW B. P. —THE LATE DEPUTY SURGEON-GENERAL PARTRIDGE.

London, May 20, 1898.

Intrapleural tension was the subject of discussion at the last meeting of the Medico-Chirurgical Society. It was introduced in an elaborate paper by Dr. S. West, who stated that it was written from a clinical standpoint. This standpoint, however, did not prevent the introduction of many statements which seem to have lent an indirect clinical aspect. Intrapleural tension is said to be for practical purposes equal in amount to the elastic contraction of the chest but opposite in direction. The respiratory movements of course give rise to constant variations of this tension, expressed by an oscillation of two inches of water. Normally the tension is negative both in inspiration and in expiration. The negative value is increased in forced inspiration, but in forced expiration it may become positive. Such positive pressure, while both layers of the pleura are in apposition, is supported by the chest walls and does not affect the pleura except theoretically. Under pathological conditions the effects produced by the pressure vary according as the pleura is occupied by incompressible fluid or by compressible air. Dr. West put forward arguments to show that lung contractility was not merely elasticity but partly muscular, and he seemed to think there may be such a condition as pulmonary tone. The methods of estimating intrapleural pressure were pointed out, and the results of many observations on the pressures in various conditions were stated in the paper.

Dr. Lazarus Barlow said that as to pulmonary tone histological work convinced him that there is no muscular tissue in human lung tissue apart from that in the vessel walls. Cohnheim found it impossible to increase the pressure of air in the pleura of dogs; the air was too quickly absorbed. From this it would seem that a pathological state of the pleural surfaces is probably the cause of the positive pressure noticed in some cases of pneumothorax. Dr. West had said that the lymphatics were the channel for absorption, but Starling's researches show that it takes place chiefly through the veins.

Dr. Norman Moore thought the paper valuable for directing attention to the mode of entrance and exit of air. It used to be thought that serous effusions after a time become purulent. Now, of course, the intervention of microbes is recognized. He thought more empyemata are tuberculous in origin than is generally recognized.

Dr. Calvert said his laboratory experiments showed that in effusion the lung contracted as a whole. It is not absolutely true, as it is often said, that a positive pressure in the pleura cannot be produced until the lung is completely collapsed. The pressure may vary in different parts of the cavity. In the cases in which the pressure is negative at the paracentesis and later on positive, possibly during the interval coughing has torn through adhesions limiting the expansion of the lung. When the lung expands the pressure will be affected.

Dr. Rose Bradford agreed with the last explanation of positive pressure. From a clinical point of view a localized pleural effusion resembles an empyema. If the effusion is localized the lung will not collapse,

but with a free effusion it would, and so the pressure be increased.

Mr. Pearce Gould had found marked positive pressure in a case of traumatic pneumothorax, when there was no evidence of liquid in the pleuræ.

Dr. West in his reply held that the rôle of the lymphatics in leading to absorption cannot be ignored, and as to complementary hypertrophy it is not *a priori* improbable, for it occurs in the kidney.

At the Medical Society Dr. Macnaughton Jones related a case of hæmatemesis recurring at intervals in a married woman, aged thirty-six years, mother of seven children. The abdomen was resonant except in the right hypochondriac, lumbar, and inguinal regions. Here there was a large movable mass, which felt like an enlarged spleen. Neither renal nor hepatic line of demarcation could be felt. Abdominal exploration by the incision for nephrectomy exposed the edge of the liver, the right lobe of which was in the iliac fossa. It was ascertained that both kidneys were normal. The liver rested on the right, was rather darker than normal, its surface somewhat injected. The stomach was then raised on to the wall and carefully examined, but nothing abnormal found. The wound was closed and the patient made an uninterrupted recovery, and is now reported to be better than she has been for years. The operation was done on September 17, 1897. Dr. Jones made a few remarks on the literature of movable liver, or hepatoptosis, as it has been called. Those interested in that or other points should refer to the "Twentieth Century Practice of Medicine," to which he acknowledges his indebtedness for much information.

Mr. Battle mentioned that he had now a patient presenting similar symptoms. This was a woman, aged forty-five years, with severe pains on the right side. The abdomen was pendulous and lax, and a mass thought to be the liver was felt lying transversely just below the umbilicus. This mass sank down to the level of Poupart's ligament when the patient stood upright. He applied a flannel bandage, which afforded relief to her symptoms, and she had since also greatly improved in her appearance.

Dr. Sansom remarked that the association of hæmatemesis with hepatoptosis is very unusual, and with so great displacement of the liver as that recorded in some cases; it is strange that ascites has not more frequently been present.

Primary carcinoma of the Fallopian tube is sufficiently rare to excite interest in any contribution to our knowledge of it. Only twenty-four cases have been recorded up to the present month, and of these in only three had the subjects borne as many as three children. This month, at the meeting on the 4th inst. of the Obstetrical Society Dr. Herbert Roberts read a paper on a case in a woman, aged forty-three years, who had been married seven years but had not been pregnant. In March, 1896, having up till then enjoyed good health, she was seized with violent abdominal pain and vaginal discharge. Similar attacks followed in July and November, and gushes of watery fluid were noticed. In February, 1897, she was thinner; the uterus was displaced to the left side by a fixed mass in the right fornix, about the size of a hen's egg. It was not tender. The right tube was removed by Mr. Meredith, and was found enlarged to the size of a Bologna sausage. It was full of a growth which on microscopic section proved to be carcinoma.

Mr. Alban Doran mentioned a case with similar symptoms, occurring in a woman who had been twelve times pregnant. On operation he found only tough, tortuous tubes with their canals undilated, closely adherent to the uterus and adjacent structures. He believed carcinoma to be more common than papilloma of the tubes, unless the latter was very liable to malignant degeneration. He thought removal through the vagina questionable on account of the difficulty of ascertaining the state of surrounding parts. The uterus had been removed with the tube, but when the uterine end is free from disease, the propriety of doing so is open to question. If the outer end has infected adjacent tissue, operation will be useless.

Dr. Horrocks said carcinoma often affected the cervix in parous women; more rarely the body of the uterus and usually in multiparæ; most rarely the tubes, and then generally in sterile women. He thought that used or damaged tissues were more prone to the disease, and suggested that the microbe might select a damaged part of the cervix, but if that was sound it might travel on toward the tube. Abdominal was better than vaginal operation.

Dr. A. Routh discussed the diagnosis. He thought continuous pelvic pain associated with sanious, often offensive discharge, together with tubal swelling, pointed to some new growth in the tube, especially if by preliminary dilatation the uterus could be excluded as the source of the discharge.

Dr. Addinsell remarked that in nearly all cases pain and watery discharge were prominent, but they could not decide the diagnosis, as they were met in some cases of hydrosalpinx.

Dr. Giles commented on the unfavorable prognosis. Only one operation could be called a cure, seven years having elapsed. In other cases the longest time without recurrence was only eighteen months.

Professor Dewar last week succeeded in producing a quantity of liquid hydrogen by a rapid process. I hear that though others have produced a few drops he obtained quite a wineglassful. The boiling-point is about 240° C. below zero; at this point it solidifies air. Using liquid hydrogen he has liquefied helium, and its boiling-point is not much above that of hydrogen. He has communicated his results in a preliminary paper to the Royal Society.

Lord Herschell made a significant speech at the presentation of degrees at the London University last week. He said there were a general conviction that a change was needed and a preponderating opinion that reorganization of this was preferable to creating a second university. He told the graduates that they must not suppose the present charter gave them rights which would be infringed by legislation. Parliament had a right to intervene in the public interest. He had every hope that the controversy would not be prolonged and that in the future the university would be even more potent for good than it had hitherto been.

The new pharmacopœia is freely talked of when doctors meet, but few of them seem to have digested the changes, and no date has been fixed on which it is to supplant its predecessor. Consequently prescribers feel some doubt as to how their prescriptions may be dispensed. Besides analyses in the journals, several booklets have appeared, professing to give a complete account of the changes. These are mostly by pharmacists, and I have not met with any by therapeutists. The latter authorities are certainly behindhand, though on the previous occasion they were first in the field. The new work is certainly much indebted to the pharmacists, who have exercised an almost preponderating influence in its production.

There are a number among us who think the United States formulary better than our new British Pharmacopœia.

Deputy Surgeon-General S. B. Partridge, C.I.E., Q.H.S., died on the 11th inst. He had a very distinguished Indian career. In due course he held several appointments in the University of Calcutta, including the professorship of surgery and the surgeoncy of the college hospital. He was also a member of the senate, and in turn an examiner and presi-

dent of the Medical Faculty. On returning to England, he was appointed a member of the Indian Medical Board, where his services were highly valued. Failure of sight compelled him to resign and he was made a C.I.E., various other honors and distinctions having been previously awarded him. He seems to have inspired all with whom he came into contact with profound respect and even affection.

THE LIMITATIONS OF THE ELECTROLYTIC METHOD OF TREATMENT.

To the Editor of the Medical Record.

Sir: In his criticism of my paper, Dr. Massey claims that modern electro-therapeutists are not in accord with the views therein expressed. I can well believe that these views are not acceptable to very many, but whether they are really at variance with the experience of men who thoroughly understand the subject—broad enough to know the truth when they see it, and honest enough to tell it—is another matter. No one will accuse me of not being a friend to electro-therapeutics. It has served us well in many ways, but what I contend for is that we should not ask of it more than it is capable of giving or abuse its powerful aid by gross exaggeration. I have been amazed at the many extravagant and utterly untenable claims for electricity in medicine and surgery.

Exaggerated laudation of any therapeutic method by those who claim proficiency in it does far more to hinder its progress and injure its status than all the destructive criticism of opponents who lack practical experience in its use. In saying that the "limitations of electrolysis are distinct and positive," to which objection is made, I had in mind more particularly its chemical formula—the fact that the elements evolved are definite in quantity and electro-chemical equivalents of each other; but at the same time I meant also to imply that, with our present knowledge and methods, the surgical powers of electrolysis are pretty well defined.

True, with adequate power it can reduce the body to its primal elements; but so can heat, which is simply a manifestation of electric energy. A morbid growth, no matter how large or dense, could be quickly destroyed by heat or by electricity of adequate strength; but in the mean time what would become of the other bodily structures under the application of such intense power? Unfortunately we shall never be able to utilize in applications to the human body more than a very small fraction of the illimitable chemical energy of electricity.

Dr. Massey refers to my old-time experiments in cancer, by which I claim to have demonstrated the utter futility of electricity as a curative agent in that disease, referring to them as of only historical value. "These experiments," he says, "must have been made in the dark ages of electricity, in total ignorance of the actual current employed, and are therefore on a par with our ancestors' inability to run cars, light streets, etc., with electricity; in other words, the technique was defective."

The parallel is utterly defective. The conditions in commerce, where we can make use of the almost limitless power of electricity, are vastly different from those of medicine, where the power used must be of necessity exceedingly limited.

The only appliance lacking in those early experiments was an instrument of precision for measuring the current. It is true that we could not then tell the number of milliamperes used; but from what we now know of the exact relation of electro-motive force, resistance, and current strength, and subsequent observations with the milliamperemeter, we can from our records approximately estimate the power then used. It measured up to hundreds of units of current strength, and the technique was not defective. Since then, with the experience of all these years (and I am old fashioned enough to believe that experience rightly guided is no great hindrance), I have experimented fully with Parsons' rapidly alternating method and with every modern appliance at command, but with no better result certainly than in former efforts.

Dr. Massey takes occasion again to speak of his recent successes in the treatment of cancer by the cataphoric method. I sincerely trust that success may crown these efforts, but very much fear that the near future will witness no startling results from the cataphoric action of the galvanic current in malignant tumors.

Of course I speak a good word for the Apostoli treatment of fibroids, notwithstanding the many absurd claims made along this line. It is a great thing by such a simple process to relieve distressing symptoms, when for any reason whatever the knife is not allowed.

Human testimony in general, it has been said, amounts to but little. There are too many sources of error connected with it, and I am not ready to acknowledge that the two cases to which Dr. Massey refers prove very much. Fibroids are said to have disappeared at the climacteric without treatment, but that does not alter the fact that such disappearance is an exceedingly rare occurrence, nor do his cases alter the fact that fibroids seldom disappear under electrolysis, however gratifying the symptomatic relief.

A. D. Rockwell, M.D.

New York

THE O'DYWER AND FISCHER TUBES.

To the Editor of the Medical Record.

Sir: In your issue of April 30, 1898, I find a communication from Dr. Walter Lester Carr, with the headline of "The O'Dwyer and Fischer Tubes." In this communication the writer calls Dr. Edwin Rosenthal, of Philadelphia, to account for having given me the credit of introducing hard-rubber tubes as a means of relieving laryngeal stenosis instead of using the metal tubes used and recommended by O'Dwyer.

The compliment of Dr. Rosenthal, wherein he states "that he has in his operating-bag a set of such tubes and they are the invention of Dr. Louis Fischer" (*vide* Medical Record, April 9, 1898), and further states that they "were presented in Philadelphia by the inventor during the meeting of the American Medical Association, June, 1897, before the section on diseases of children," requires a word of explanation.

Several years ago, when the writer saw a great many cases of laryngeal stenosis in consultation, many points were constantly noted, among them that after the removal of the O'Dwyer (metal) tube large quantities of lime salts were to be found deposited on the tube, requiring careful cleansing and frequently necessitating regilding in order thoroughly to cleanse and render the tube aseptic for the next patient. This was always an annoyance; moreover it frequently necessitated several sets of tubes, which was quite an expensive matter, and in addition it was unsatisfactory.

At that time, after looking over the literature of the subject, I found that Schroetter, inspired by the method of Bouchut, employed "tubes en caoutchouc," which were essentially rubber tubes. These tubes were introduced with the aid of a laryngoscope and electric illumination. Seeing this article, which I have in a text-book at my office, I spent considerable time trying to obtain these tubes, both at home and abroad. As I did not succeed in Europe, I turned my attention to Messrs. George Tiemann & Co. of this city. Not only did they help me look up all improve-

ments but they gave me all possible information leading thereto. They displayed great liberality in aiding my desires and made several models of instruments, which I have from time to time improved, discarded, retained, and in a few instances published. The above explanation, Mr. Editor, I feel is proper, in order that I may not be placed in a false position through the remarks of my learned critic. I have never claimed, nor do I now claim, to have invented "rubber tubes," any more than I claim to have invented rubber. It strikes me, however, that Dr. Carr has not given my first article, published in the MEDICAL RECORD of June 19, 1897, proper consideration, if he has ever done me the honor to read the article at all. Permit me, therefore, to quote therefrom, and thus I hope to relieve myself of the thought of having been placed in a false light. I commenced the article with the following words:

"The instruments herein described are merely improvements of the noble work for which the profession is indebted to the genius of Dr. Joseph O'Dwyer." Does this look like too much assumption? Further I say: "My improved tubes are constructed of vulcanized rubber, which is the purest and best kind of rubber." I do not state that I am the only man ever having used rubber tubes, and I defy Dr. Carr or any other physician to show me any such statement. In fact, I try to show how much I am personally indebted in my work to Dr. O'Dwyer, for on the same page I state: "As to the principle involved regarding the length of the tube, I have adhered strictly to the O'Dwyer teachings."

The statement made by Dr. Carr, that O'Dwyer's investigations and models were on anatomical lines, does not require any answer. On page 875 (article of June 19, 1897) of your esteemed journal, I record my gratitude to Dr. Gallaudet for permission in using anatomical material, and I also thank Dr. Phelps, of Bellevue Hospital, for recent courtesies; so it is reasonable to state that what little experience I have had on the living was aided by anatomical experience from the morgue. Since Dr. Carr is so well versed, however, in this special literature, may I trouble him to inform me who published the first announcement regarding corrugated rubber tubes, and when and where? This I ask, because it is only fair to have an absolute insight into all improvements, and that no credit should be stolen. It is, however, a very strange fact, and one that I note with considerable interest, that less than a few months ago one of my staff of assistants in the children's department of the German Poliklinik reported to me that advocating rubber tubes as a substitute for metallic tubes was ridiculed in a large children's hospital (the proof—written—I retain for the present), and that suddenly within a few weeks some rubber tubes were ordered and recommended. This decided change of front during a practical course of intubation in this city was certainly peculiar, and I leave it to your esteemed readers to form their own conclusions.

In the MEDICAL RECORD of December 19, 1896, O'Dwyer, referring to an article of Dr. Thomas J. Hillis, criticises the use of an intubation tube having an appliance to facilitate extraction. In this same article, page 910, O'Dwyer says: "Let those, therefore, who have inventive genius try to discover some such material as will take the place of metal." He also says in this same article: "No improvement has ever been made, and it requires no prophetic knowledge to say that none ever will be made, except possibly in the material of which the tubes are constructed." So, according to O'Dwyer, at this date no rubber tubes were made.

In the *Archives of Pediatrics* for July, 1897, appears the paper of O'Dwyer on the retained intubation tubes. In this same paper, page 486, O'Dwyer states that the "ideal treatment for these cases, and in fact for all cases requiring intubation, would be a tube constructed of some non-metallic substance not liable to calcareous deposits, which could be worn for a long time without change. Experiments that bid fair to be successful are now being made with hard-rubber tubes," etc.

My experiments, in fact some successful cases, were reported (wherein I had used the rubber tubes made for me by Messrs. George Tiemann & Co.) in the winter of 1896 97. On April 29, 1897, May 5 and May 21, 1897, I successfully intubated, and reported the patients, with names of physicians with whom I saw the cases. They were reported *in extenso* in the MEDICAL RECORD of June 19, 1897. Does this appear as though I had been guilty of adopting methods already in vogue and taking the credit to myself? Several months before my first report appeared in the MEDICAL RECORD, I demonstrated the rubber tubes to Dr. George F. Shrady while in that gentleman's office, and stated that I believed this new tube would do away with metallic tubes. The above statement, while rather lengthy, will explain my humble position, and I beg of you to give my views in full so that my position can be clearly understood.

LOUIS FISCHER, M.D.

187 SECOND AVENUE, NEW YORK.

New Instruments.

APPARATUS FOR STERILIZING DRESSINGS BY FORMALDEHYDE, WITH BACTERIOLOGICAL PROVINGS.[1]

BY CHARLES HARPER RICHARDSON, M.D.,

ALBANY, N. Y.

THE employment of formaldehyde, or its solution, formalin, as a chemical agent for the destruction of bacteria, is becoming of far wider application than its earlier use seemed to indicate. Originally its use was largely confined to household and quarantine disinfection, but its value soon appreciated. The simplicity of its application and its reliability soon commended it as a germicide. One certainly would not go so far as to advise the substitution of formaldehyde for heat, steam, or boiling water for the purposes of sterilization, but it is a useful and desirable substitute under certain conditions.

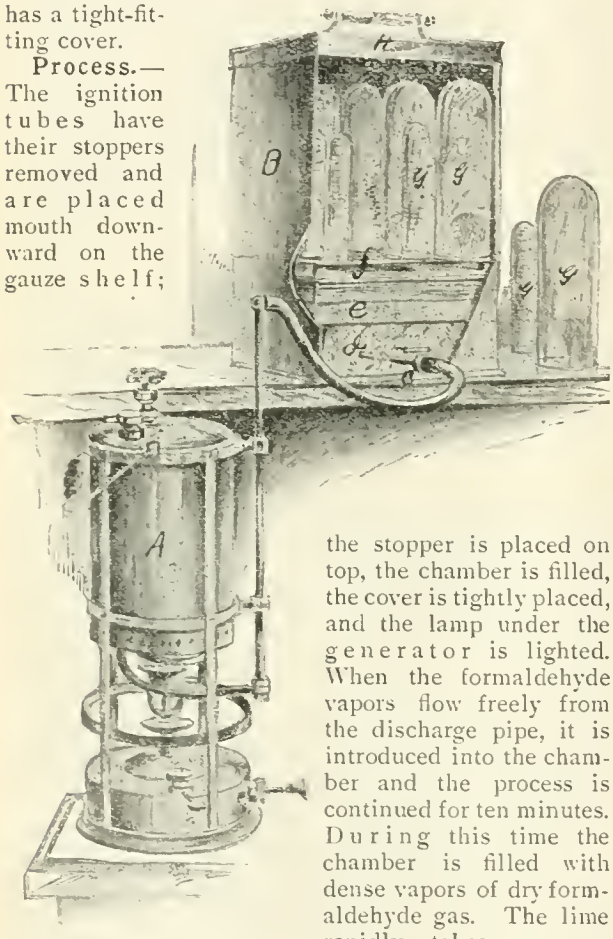
The repeated boiling of instruments, especially edged ones, soon injures them, while the unequal expansion of steel and nickel causes scaling of the plating of the other instruments. Drs. Reik and Watson, in the last bulletin of the Johns Hopkins Hospital, describe an apparatus for formaldehyde sterilization of instruments which has proved most satisfactory.

The apparatus to be subsequently described was primarily designed for the sterilization of iodoform gauze, a hitherto serious problem. It may be said that if the gauze as a finished product of the manufacturer was not sterile, it could not be absolutely sterilized without destroying its properties; *i.e.*, without decomposing the iodoform. Fractional sterilization at sufficiently low temperatures is a tedious and untrustworthy process. Iodoform gauze is a satisfactory and widely employed dressing, usually applied directly to wounded surfaces, or for the tamponade of cavities. No question of its asepsis should arise.

For the disinfection of iodoform gauze by formaldehyde, the following method is used: The gauze from the manufacturer is cut into the required lengths, properly folded, and lightly packed in ignition tubes, each tube containing the quantity likely to be required for

[1] A study from the surgical laboratory of Dr. W. G Macdonald.

a single dressing. The tubes are plugged with cotton as in the laboratory. The apparatus employed is very simple in construction, and completed costs a trifle. The one used for illustration consists of an empty tin box used for shipping quinine, and obtained from the pharmacy. It is fourteen inches square and sixteen inches high. Six inches from the bottom, four pieces of heavy tin turned at right angles were soldered in each corner to support the false bottom of coarse galvanized iron gauze. A small opening was made in the side at the bottom to admit the discharge tube of a household formaldehyde generator (*c*). This tube was protected by a hollow piece of wood, as far as the centre of the sterilizing-chamber. The space between the bottom and the gauze shelf was filled with a four-inch layer of fresh, unslaked lime, and covered with a few layers of plain absorbent gauze. The chamber has a tight-fitting cover.



Process.—The ignition tubes have their stoppers removed and are placed mouth downward on the gauze shelf; the stopper is placed on top, the chamber is filled, the cover is tightly placed, and the lamp under the generator is lighted. When the formaldehyde vapors flow freely from the discharge pipe, it is introduced into the chamber and the process is continued for ten minutes. During this time the chamber is filled with dense vapors of dry formaldehyde gas. The lime rapidly takes up any watery vapor from the generator. After the close of the process, the apparatus is left undisturbed for four hours, when the tubes are removed and restopped with sterilized forceps.

There remains about the apparatus or gauze very little of the disagreeable formaldehyde vapors, all of which can be removed by pouring down the side of the chamber into the lime a few drachms of household ammonia.

The lime will require changing after the apparatus has been in use a half-dozen times.

Clinically the process leaves nothing to be desired. No disagreeable symptoms have been observed, although the method has been employed for months. The only objection that might be raised is the absolute dryness of the gauze. This can be readily overcome by moistening at the time of use with sterilized decinormal salt solution.

Although in a general way we have made many bacteriological tests with formaldehyde, yet in order to make sure the following provings were made at the Bender Hygienic Laboratory by the assistant director, Dr. A. J. Lartigau. Eight ignition tubes were prepared, four with iodoform and four with plain gauze. One of each was kept for control, and the others were infected as follows:

One of each, iodoform and plain, with active bouillon cultures of staphylococcus pyogenes aureus, streptococcus pyogenes (virulent), and bacillus subtilis (hay bacillus). The bacillus subtilis was used on account of the extreme resistance of its spores to sterilization. All the tubes were sterilized in the manner already described and returned to the laboratory. Small portions of gauze were taken from the interior of each roll as removed from the ignition tubes, separated somewhat with sterilized forceps, and placed in bouillon cultures. These were placed in the thermostat for seventy-two hours. At this time, no evidence of growth appeared in any of the cultures. Subsequently these cultures were resown on solid media and returned to the thermostat. No growth was found in any of them.

The experimentation of many investigators shows that formaldehyde is, under ordinary conditions of pressure and moisture, a surface germicide. We have found that if materials are dry (as over quicklime) sterilization is uniformly assured after four hours. This apparatus, primarily devised for the sterilization of iodoform gauze, might find a far wider application in the preparation of dressings. In times of war or riot, conditions are such that it would be impossible for the surgeon to employ the more ponderous forms of apparatus now so successfully employed in our hospitals, but he would be compelled to use the simpler and lighter form or even improvise from materials at hand a sterilizing apparatus. It is not claimed that the method of introducing formaldehyde into the sterilizing chamber is the best one that could be devised; but, the other form of formaldehyde disinfector being at hand, it was utilized for the purpose.

EITHER A POCKET INHALER OR A MIDDLE-EAR INFLATER.

By EDWIN PYNCHON, M.D.,

CHICAGO,

PROFESSOR OF RHINO-LARYNGOLOGY AND OTOLOGY, CHICAGO EYE, EAR, NOSE, AND THROAT COLLEGE; LATE SENIOR ASSISTANT AURAL SURGEON, ILLINOIS CHARITABLE EYE AND EAR INFIRMARY, CHICAGO.

A POCKET inhaler appeals to popular fancy. The idea of absolute ownership, the convenience of portability permitting frequent employment, and, furthermore, the comparative cheapness in view of the service rendered, give a solution as to the reason why proprietary devices of this class are meeting with such commercial success. They are being liberally advertised, and their sales are proportionate.

There is no doubt but that much benefit may be derived from the frequent use of an efficient inhaler suitably medicated in cases wherein its use is indicated. Through such use, owing to the deep inhalations taken, the lungs are alternately distended and emptied far better than would otherwise be done, thus producing a sort of lung gymnastics. The medicament with which it is charged, be it either menthol, eucalyptol, or other volatile agent, produces a pleasantly stimulating and beneficial effect.

In place of the proprietary devices physicians frequently order the old-fashioned Buttles inhaler, it being the best available substitute, even though awkward in form for pocket use and far less inviting in design than are some of its proprietary rivals. With a desire to increase its simplicity and improve its efficiency for pocket use, I have designed the model herewith illustrated, which may be said to be the outgrowth of a

previous modification, the description of which I published under the title "The Evolution of the Buttles Inhaler."[1]

The conical end is for use in either nostril, and will be found to fit any nose. The opposite end is for mouth inhalation, the expanded portion being placed between the lips with the concavity against the teeth. When not being used, evaporation of the medicament can be prevented by stopping one of the openings with the hard-rubber plug shown.

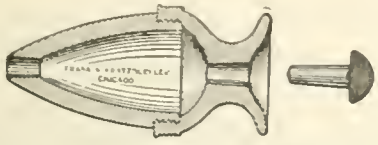


Fig. 1.—As a Pocket Inhaler (⅔ Size).

To prepare for use there should be placed in the interior of the medicine chamber a small piece of sponge of strong texture and of suitable size and shape, which may then be medicated with any fluid volatile medicine, a few drops of which should be dropped upon the sponge through the opening in the funnel-shaped end, and can thus at any time be renewed without taking the trouble to unscrew or open the medicine chamber.

Any remedy indicated can be ordered by the attending physician. As a pleasant inhalent, particularly in acute coryza, the following might be suggested:

℞ Guaiacol,
Oil of pine needles ..... āā ʒ i.
Camphor-menthol ..... ʒ ij.
Oil of eucalyptus ..... ʒ ss.
M.

The attending physician can give the patient a prescription for the inhalent required, and at the same time an order for the inhaler, which any druggist can easily supply.

Having now described the use of this device by the patient as a pocket inhaler, I will next consider its use by the physician, who will find it to be a perfect and improved substitute for any previously suggested modification of the Buttles instrument.

In this device it will be observed that the conical openings at either end are of the same size and are designed to fit a Davidson cut-off; hence the physician can employ it with compressed air of suitable pressure in different ways.

First, as an inhaler, for the administering of forced inhalations to produce alveolar expansion, insert the cut-off in the hole in the pointed end, and, after a full exhalation, place the expanded end between the patient's lips, meantime holding the nose closed; then operate the cut-off and have the patient inhale deeply and fully, when the greatest voluntary inspiration will be intensified by the air pressure employed, which may be as great as fifty or sixty pounds. In this way so-called "impaction" is produced,[2] which *en passant* gives all the advantages of the expensive pneumatic cabinet of bygone days.

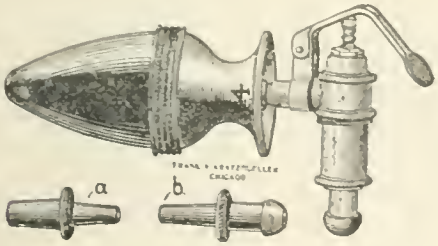


Fig. 2.—As a Middle-Ear Inflater (⅔ Size).

Second, by inserting the cut-off in hole in expanded collar end, as shown in Fig. 2, it can be used to do Politzerization by any of the usual methods which I have fully described in previously alluded to papers. A necessary requisite of efficient inflation by this method is that the outlet hole shall be large enough to permit of the escape of a sufficient volume of air current, as proper volume is of as much importance as is proper intensity.

In order to use this inflater with a Eustachian catheter, introduce the small extension (*a*) in the opening at the conical end. Its use will give less annoyance if the projecting tip be surrounded by a short piece of soft-rubber tubing, which will soften the contact when pressed against the catheter. In this way the instrument, after being prepared for use with the suitable remedy and attached to the cut-off, can be allowed to hang over the operator's knee, being supported by the tubing from the air tank, and thereby leaving both hands free for the proper adjustment of both the catheter and the auscultation tube. Of course it will be understood that when compressed air is used with the Eustachian catheter some means of absolutely limiting and controlling the air pressure must be employed. For this purpose I use an auxiliary tank of special design and provided with an independent meter, and can thus obtain when using the catheter any pressure desired, with either an intermitting or a constant current, and this latter I have in many cases found to be of special value.

In the use of this instrument with a cut-off, the expanded collar admits of its being securely held and easily operated. The expanded end also serves as a pedestal upon which the instrument can be set when not in use, so as to prevent its rolling off the treatment desk. The specialist will require several in his daily work, one for each remedy used, and can easily tell them apart by having them numbered, as shown in the cut. One of the set should be made of metal, which can be heated and with which chloroform can be used.

This inflater, as compared with its predecessors, has been made more simple and easy of manufacture, as the separate parts have been reduced in number from six to four pieces, and the screw fittings from three to one. The small union (*b*), such as is supplied with the Davidson No. 65 spray bottles, is designed for use with a hand ball and its short rubber tube, when the air tank and cut-off are not available.

This improved inflater-inhaler has been neatly constructed for me by Messrs. Frank and Kratzmueller, of Chicago.

Columbus Memorial Buildin..

Tuberculous Peritonitis.—Dr. H. E. Wright, before the Sacramento Society for Medical Improvement, October 19, 1897, concluded his paper as follows: "1. Simple abdominal section, properly performed, sufficiently early, cures all cases of primary tuberculosis of the peritoneum without implication of other organs. 2. Cœliotomy in chronic peritonitis due to tuberculosis of the female pelvic organs may rarely cure if the primary focus is not too far advanced for extirpation; but death usually occurs sooner or later, in spite of operation. 3. Operation is a justifiable but merely palliative measure when the chronic peritonitis is dependent upon tuberculous enteritis. 4. Irrigation of the abdomen in tuberculous peritonitis, secondary to pulmonary disease, may cure a considerable percentage of cases, and gives temporary improvement in the remainder; hence is advisable in all cases not too weak to stand operation."

[1] The Laryngoscope, April, 1897, p. 225.

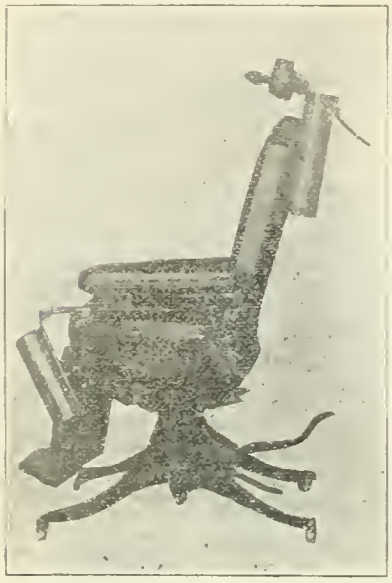
[2] Pynchon: "A New Nebulizing Device," Annals of Oph., Rhin. and Laryng., May, 1897, p. 158.

A WASTE COTTON HOLDER.

By J. A. PRATT, M.D.,

AURORA, ILL.

In this advanced age of medical science, we are apt to forget the appearance and comfort of the office. A most favorable and beneficial impression is made upon those seeking our aid, to find it well kept and inviting. Many a physician has lost patients by keeping an untidy office, due to waste cotton, soiled dressings, etc.



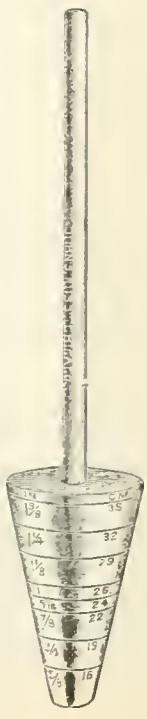
The accompanying illustration shows a simple device to hold waste cotton and the odds and ends accumulating in office practice. It consists of a copper, nickel-plated vessel, ten inches high, four inches in diameter, with the bottom closed and a hook at the top. It can be placed on the floor or table, while the hook allows it to be hung on almost any part of a chair. The mouth is always toward the physician to receive waste material, and, as it drops from view within the vessel, a good appearance is always maintained. The size makes it convenient for cleansing, while it will hold sufficient for emptying once a day. The receptacle was made for me by Karl Brothers, Aurora, Ill.

THE ENTEROMETER. A NEW INSTRUMENT FOR MEASURING THE CALIBRE OF INTESTINAL LUMEN BEFORE INTRODUCING THE ABSORBABLE BONE COUPLER IN INTESTINAL APPROXIMATION.

By JACOB FRANK, M.D.,

SURGEON TO THE ST. ELIZABETH AND GERMAN HOSPITALS, CHICAGO, ILL.

The first question that confronts the surgeon in using my bone coupler, or any other mechanical device for intestinal approximation, is, What size of coupler am I to use in order to perform a successful approximation? This is, indeed, a more important question than we at first realize, as the use of too large a coupler in a small-calibred intestine adds greatly to the many failures that are obtained, and the use of a coupler too small encourages stenosis. These are very important points; for the neglect on the part of the surgeon to select the proper sizes, of which there are eight of my couplers (1⅜, 1¼, 1⅛, 1, 15/16, ⅞, ¾, and ⅝ inches) and different sizes in other mechanical appliances, leads very often to unpleasant results.



The importance attached to this subject, from the standpoint of practical experience, has led me to devise an instrument enterometer, which will do away with all obstacles and enable the surgeon, before introducing any mechanical appliance, first to ascertain the exact calibre of the lumen into which the coupler is to be introduced, and then to select the proper size as ascertained by the enterometer. By doing this, the operator not only obviates unnecessary injury to tissues to be approximated, thereby reducing their vitality and lessening successful results, but also avoids shutting off the circulation of the area occupied by the coupler after being introduced, by putting the gut on the stretch; thus suffering the consequences of seeing the failure of union of approximated ends and claiming such failures to be due to the device.

The enterometer is a cone-shaped graduated instrument with a straight handle. The scale of graduation is in the French and English systems—in the French up to 35 cm., and in the English up to 1⅜ inches. The instrument is nickel-plated, and can readily be sterilized. Each cut end of the bowel should be measured by introducing the enterometer into the lumen without putting the bowel too much on the stretch; the smaller end determines the size of coupler to be used.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending June 4, 1898:

	Cases.	Deaths.
Tuberculosis	154	127
Typhoid fever	11	4
Scarlet fever	176	24
Measles	392	13
Diphtheria	159	23
Laryngeal diphtheria (croup)	7	3
Chicken-pox	22	0
Cerebro-spinal meningitis	0	12

Health Reports.—The following statistics concerning small-pox, cholera, yellow fever, and plague, have been received in the office of the supervising surgeon-general of the Marine Hospital service during the week ending June 4, 1898:

SMALL-POX—UNITED STATES.

		Cases.	Deaths.
Alabama, Hurricane Bayou	May 14th to 28th	2	
Mobile	May 14th to 28th	2	
Florida, Pensacola	May 15th	1	
Georgia, Macon	January 25th to June 1st	100	3
Mississippi, Laurel	May 28th	3	
Shubuta	May 28th	40	
North Carolina, Wilson County	May 28th	1	

SMALL-POX—FOREIGN.

Belgium, Ghent	May 7th to 14th	..	1
Bohemia, Prague	May 7th to 14th	2	
Brazil, Sao Paulo	March 1st to 31st	43	9
Canada, Halifax	May 14th to 28th	6	
China, Hong Kong	April 2d to 23d	11	5
England, Newcastle on Tyne	May 7th to 14th	1	
Germany, Bremen	May 7th to 14th	1	
India, Calcutta	April 9th to 23d	..	8
Madras	April 16th to 29th	..	5
Norway, Christiania	May 1st to 14th	5	
Russia, Moscow	May 1st to 7th	16	3
Odessa	May 1st to 16th	10	3
Riga	March 1st to 31st	..	5
St. Petersburg	May 1st to 7th	20	4
Warsaw	May 2d to 9th	..	8
Venezuela, Puerto Cabello	March 23d to April 28th	45	15

CHOLERA.

India, Calcutta	April 9th to 23d	..	66
Madras	April 16th to 29th	..	6

YELLOW FEVER.

Brazil, Araraguara	March 1st to 31st	4	3
Jaboticabal	March 1st to 31st	35	16*
Ribeirao	March 1st to 31st	21	3
Rio Clara	March 1st to 31st	9	4
Rio de Janeiro	April 8th to 15th	96	74
Santos	March 1st to 31st	32	13
Sao Carlos	March 1st to 31st	177	47
Sao Paulo	March 1st to 31st	2	
Santo Domingo, Santo Domingo	May 7th to 14th	1	1

PLAGUE.

China, Shanghai	April 21st, 1 case on board S.S. Glenturret from Hong Kong.		
India, Bombay	April 26th to May 3d	..	263

Medical Record

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Original Articles.

THE SERUM EXANTHEMATA OBSERVED IN THE ANTITOXIN TREATMENT OF DIPHTHERIA: THEIR PATHOGENESIS AND POSSIBLE PREVENTION.[1]

BY HENRY W. BERG, M.D.,
NEW YORK,
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THE convincing results obtained from the antitoxin serum in the treatment of diphtheria having removed all doubt as to the vast superiority of this treatment over all other methods heretofore known, it is unnecessary that much more statistical evidences of the diminished mortality rate should be published. Those of us, therefore, who were early impressed with the utility of this remedy, may turn our attention to a closer study of the epiphenomena which occasionally appear in the course of the progress of cases of diphtheria which have been treated by this remedy.

Among the most interesting of these adventitious symptoms on account of its frequency, and because, being a cutaneous lesion, it admits of ocular demonstration, is the so-called "antitoxin rash."

It is with the desire of adding to the knowledge of this lesion the data to be obtained from the wards of a diphtheria hospital in which the antitoxin treatment has been conscientiously carried out that I have studied a large number of these rashes, from which I present thirty-three selected cases, as being representative of all the cutaneous lesions of this kind that I have seen.

Although the chief manifestation of this complication consists in a more or less well-marked cutaneous eruption, this eruption has not, as is the case in the acute infectious diseases, a constant and characteristic appearance. At one time it resembles scarlet fever, in another case urticaria; in one erythema, in another measles. Its distribution as regards the extent of skin involved is not constant. It does not appear on one portion of the cutaneous surface rather than upon another. The eruption has no fixed duration, being in one case evanescent, in another lasting for days and weeks. Frequently in the same patient and at the same time, one portion of the body may be affected with an urticarial eruption, while in other portions of the body it may be, for example, scarlatiniform in character.

To him who treats diphtheria in private practice and sees comparatively few cases, making but few antitoxin injections, it will appear a stretching of the truth to say that the cutaneous eruptions following the injections of diphtheria antitoxin are of extreme importance, owing to the frequency of their occurrence. But that they are frequent is evidenced by the fact that eruptions from diphtheria antitoxin have been reported by observers of large numbers of cases in all parts of the world. Thus C. Hartung[2] reports 2,183 cases of diphtheria injected with antitoxin, of which 253 developed exanthemata. The table is as follows:

	Eruptions.	Injections.	Per Cent.
Heubner (Berlin cases)	54	298	18
Heubner	22	77	28
Baginsky	49	525	9.4
Soltmann	5	89	5.5
v. Ranke	5	118	4.2
Seitz	20	140	14.3
	4	180	2.22
Förster	7	73	
Schucolty	4	38	
Günther	3	33	
Bokai	11	120	9
	30	147	20
Moizard, Paris	33	231	14
Risel, Halle	6	114	5.2

To this he adds from other various observers sufficient cases to make 2,661 injections, of which 294 developed rashes, or 11.4 per cent. in all. The report of the imperial health board of Germany for January to July, 1895, showed 4,358 cases injected, 354 exanthemata, or 8.1 per cent. That the reports of cases from hospitals are more reliable than those from domestic practice, is due to the fact that in many of these cases reported by health boards and private physicians the eruption may appear, but remains only a very short time, and escapes observation by the medical attendant. It follows therefore that the percentage of eruptions in cases thus reported from domestic practice is only 8.1 per cent., while the percentage in cases seen in hospitals is 11.4 per cent.

In the Willard Parker Hospital in four months the number of cases injected was as follows:

	Cases.	Rash.	Per Cent.
May	107	18	17
June	103	23	23
July	62	19	33
August	65	22	33
Total	337	82	24

In all about twenty-four per cent. of cases injected during those four months developed antitoxin exanthemata. The fact that these rashes have been observed to a greater or less extent in the practice of all observers, in all parts of the world and with every variety of serum, would seem to prove their dependence upon causes inherent in the serum itself, or some circumstances connected with the manufacture or application of all serums.

The frequency with which various observers have met with these eruptions varies markedly, however, as already noted. Thus Monti, of Vienna, found this eruption to occur in fifty-two per cent. of one series of his cases, while Hager[1] did not have a single case of serum exanthema in a series of sixty-one cases. Furthermore, individual observers find a smaller or larger percentage of rashes following various serums of the same manufacture. That is to say, a serum

[1] Read before the New York Academy of Medicine, May 19, 1898.

[2] "Die Serum Exantheme bei Diphtherie," Jahrbuch für Kinderheilkunde, 1896, vol. xlii., p. 75.

[1] "Beitrag zur Anwendung des Heilserums gegen Diphtherie," S. 19.

[2] Centralblatt für innere Medicin, 1894, No. 48.

obtained from a given horse may be found to give rise to a relatively large proportion of serum rashes: while that taken from other horses belonging to the same laboratory and subjected to the same technique in its preparation may give rise to eruptions in a much smaller percentage of cases. This fact was noted by Hartung in his paper on this subject.[1] Hartung went so far as to believe that the serum of certain well-known laboratories was less liable to be followed by antitoxin rashes and other adventitious sequelæ of serum injections than that supplied by other laboratories equally well and favorably known for the careful technique observed in the preparation of the serum. My own experience has been limited to the use of the Behring serum and Aronson's serum in private practice, and the serum supplied by the board of health in hospital work. I have observed rashes in private practice and in hospital work, and, while my impression is that I have rashes less frequently in private practice than in the hospital, it must not be forgotten that a temporary rash might occur and fade away before my next visit in private practice: while in a hospital ward the nurses, being on the *qui vive* for all eruptions, would scarcely overlook the most evanescent rash. The two most violent rashes, when measured by the gravity of the symptoms which they caused, were seen by me in private practice after the use of a most reliable foreign serum.

It has been claimed by some authorities that any increase in the bulk of antitoxin serum injected does not increase the frequency of the occurrence of eruptions. In other words, that a larger quantity of a weak serum does not produce eruptions more frequently than the same antitoxic strength of a strong serum, but smaller in quantity. This has not been the experience of Hartung.[2] Hartung found that in 40 cases injected with 600 units 25 per cent. of the cases had rashes, while in 34 cases injected with 1,500 to 3,500 units, 30 per cent. of the cases had rashes. I believe these eruptions are comparatively more frequent after multiple injections than after single injections of the serum.

Other considerations apart from their frequency make the study of these eruptions important. In the wards of a hospital devoted to diphtheria, these eruptions assume a diagnostic importance entirely out of proportion to their relative innocuousness; for so closely do they simulate scarlet fever, or more rarely measles, of which the foregoing diphtheria might be considered a co-ordinate condition, that it is only by careful differentiation, and in cases of doubt careful isolation until time has proved the diagnosis, that we can prevent the infection of our wards by the creeping in of cases of the infectious diseases above mentioned into a pure diphtheria ward.

Rarely the advent of the eruption is contemporary with a decided increase in the general gravity of the disease affecting the patient. The clinical picture, which may have been that of a mild case of diphtheria up to the time of the eruption and its prodromal fever, etc., assumes in exceptional cases a far more serious type. Complicating affections of important vital organs begin to show themselves, and sometimes the fever and other symptoms accompanying the eruption put an additional burden upon the overtaxed vital resources of the patient and retard the recovery. In very many cases the eruption, if at all general, is at least a discomfort.

Clinical Description.—It is uniformly characteristic of these eruptions that they belong to the congestive or hyperæmic class of skin lesions. I would group them under the following heads:

I. Cases which resemble a simple erythema.

II. Cases which resemble erythema scarlatiniforme: (*a*) without desquamation; (*b*) with desquamation.

III. Cases which resemble erythema morbilliforme: (*a*) without desquamation; (*b*) with desquamation.

IV. Cases resembling for the most part erythema multiforme. In this group I class those cases in which the eruption resembles that of urticaria, although differing in many respects from the lesions ordinarily termed urticarial.

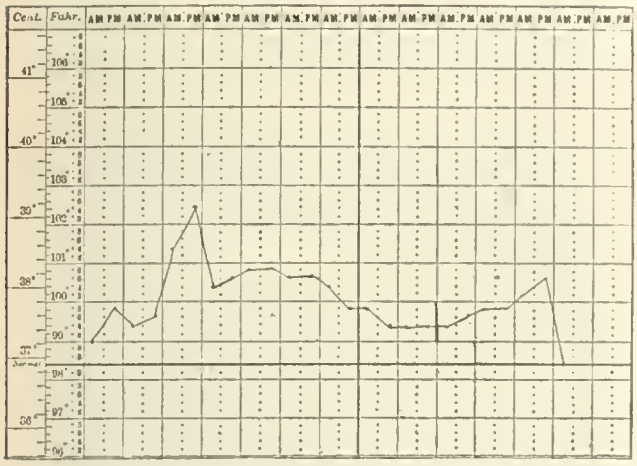
In all the groups there may be cases in which the eruption is localized or general. Some examples of "antitoxin rash" belong to one class in one stage of the eruption, and to another class at another stage. Occasionally an eruption disappears after remaining only a short time, and is followed often after an interval of hours or days by an eruption of a totally different character. It is difficult to say which variety of these eruptions is the most frequent, although the rash which resembles that of pronounced measles or scarlet fever is the least frequent. In my fourth group I have included all those more irregular eruptions resembling urticaria, and the various skin lesions classified clinically as erythema multiforme. This group therefore is necessarily the largest. Of thirty-three consecutive cases of eruption that occurred at the Willard Parker Hospital twelve were of the first group or erythema; four were of the second group or scarlatiniform; four were of the third group or morbilliform; and thirteen belonged to the last group, or erythema multiforme. As I have already said, some of these patients presented skin lesions properly classified under two or even more groups.

Some clinical factors are common to all of these varieties of eruptions. Thus prodromal symptoms may be present in all of the cases of whatever class, while in other instances the eruption appears, runs its course, and fades without in any way modifying the clinical course of the diphtheria. By far more frequently, however, a sharp rise of temperature precedes and ushers in the appearance of the eruption. As a rule this increased temperature rapidly declines as soon as the eruption has reached its full development. In other cases the increased temperature continues to a greater or less degree throughout the continuance of the rash, and even after the rash has disappeared. The cases in which the erythema is of the simpler variety or of the first group, and those in which the erythema belongs to the fourth group, or erythema multiforme, show the least febrile disturbance. Those cases in which a marked scarlatiniform or measles eruption develops are apt to be far more feverish preceding and during the progress of the eruption, while its disappearance is not marked by a subsidence of the fever. The latter continues and frequently is found to be due to complications of an inflammatory character involving organs which previous to the appearance of the rash were free from disease. Thus I have seen a nephritis, broncho-pneumonia, otitis media, and other complications show themselves during the continuance or immediately after the subsidence of the rash. Especially is this true of the polyarthritis so frequently complicating these rashes. These joint pains and inflammations often precede the appearance of the rash, and remain during its development and after its subsidence. The cases in which the rash has the appearance of an erythema morbilliforme are apt to be especially seriously affected as far as the temperature is concerned, and are frequently accompanied or followed by serious inflammatory disturbances. Indeed the appearance of a morbilliform rash has in my experience been a factor in cases in which the prognosis was bad.

[1] "Die Serum Exantheme bei Diphtherie." Jahrbuch für Kinderheilkunde, 1896, vol. xliii., p. 75.

[2] Jahresbericht der Gesellschaft für Natur- und Heil-Kunde. Dresden, 1894, 1895, p. 12.

The following temperature curve is the composite curve of ten consecutive cases of antitoxin rash. As to whether the fever accompanying these rashes is ever due to the rash is proved by the experiments of Dr. A. Johannessen, who found that in forty-one individuals not suffering from diphtheria or any febrile disease, whom he injected with diphtheria antitoxin for immunization purposes, thirty-one developed rashes, and in many of these fever occurred. We can therefore positively ascribe the increased temperature accompanying the appearance of the eruption to this lesion.



Composite Temperature Curve of Ten Cases of Antitoxin Rash. Three cases lasted 2 days; 2, 4 days; 3, 5 days; 1 case, 7 days; 1, 10 days.

These rashes may be localized or general, covering the whole body as thoroughly as a scarlet fever or measles. The partial eruptions are very much more frequent. These are apt to be around the site of the injection, although not uniformly so. In some cases a partial eruption may appear on any portion of the trunk, even farthest away from the site of the injection. These localized eruptions are so common as to be frequently overlooked; and when they occur a few hours after and at the site of the injection they are evidently due to the local irritant effect of the serum. These rarely produce any constitutional disturbances, and are altogether of so little importance that, in making up the number of cases that developed a rash after injection of the serum, I have not taken into account those in which a temporary localized rash appeared at the site of the injection.

The simple erythematous rashes are apt to be localized, although sometimes general. The scarlatiniform and morbilliform rashes, especially the latter, are apt to be more general in their distribution.

The rashes of the urticarial or erythema-multiforme character may be localized or general. Frequently in these cases there are large areas of normal skin, emphasizing the urticarial eruption over the rest of the cutaneous surface. Sometimes the whole body may be affected while one or more extremities are left clear, and *vice versa*. When the rare morbilliform eruption occurs, it is often quite general in its distribution.

The exanthema following injections of antitoxin serum may occur within a few hours after an antitoxin injection, while in other cases several weeks may elapse before an eruption appears. I have seen a typical antitoxin rash of the morbilliform variety appear as late as sixteen days after the injection of the serum. In most of the cases, however, the eruption appears within a few days, and frequently within twenty-four hours after the injection has been made. It sometimes happens that the patient has recovered from a mild diphtheria, membrane having disappeared and the bacilli no longer being present when the rash appears. On the other hand, in severe septic cases of diphtheria in which death occurs early, the rash may not have appeared, owing to there being no time for its development. It follows therefore that the rashes are probably a more frequent sequel of antitoxin injections than is generally supposed. When the exanthema occurs very early, it is apt to be of the simple erythema or erythema-multiforme variety. If it occurs within three to five days, it is apt to be of the scarlatinal or erythema-multiforme variety. Cases in which the morbilliform eruption appears, occur generally in my experience in from nine to fourteen days after the injection. Curiously enough this corresponds with the incubation period of true measles. I have seen a morbilliform eruption occur at the fifth and also at the seventh day after the injection of the serum.

The time during which the eruption persists varies. It may disappear a few hours after it has appeared, while on the other hand it may persist for many days. As a rule it reaches its maximum distribution within one or two days and then rapidly subsides. The morbilliform and scarlatiniform cases rarely follow the well-known duration period of the eruptive disease which they simulate. Frequently after the skin returns to its normal appearance a second eruption occurs. This second rash has not always the clinical character of the first. I have seen a third rash occur in one case. Such a repetition of the rash is more common in cases of diphtheria that are very severe.

The question as to whether these rashes are ever followed by desquamation is an extremely interesting one, chiefly on account of its diagnostic importance.

Some authorities believe that desquamation never occurs. I have seen it frequently after these rashes. When it occurs it generally resembles the desquamation following measles, even if the eruption has simulated scarlet fever. The importance of the differential diagnosis in hospital wards is evident. When the rash resembles a pityriasis rubra, which is rare, the desquamation will be abundant and in large flakes. While I do not consider the occurrence of the desquamation a proof that the rash is not an antitoxin rash, desquamation after these rashes is exceptional.

All of these varieties of rash disappear more or less completely under the pressure of the finger, which simply signifies that the skin lesion is a congestive one, not accompanied by the products of inflammation. Some rare exceptions to this are long-persisting rashes belonging to the erythema-multiforme group, in which the presence of some exudation is shown by the fact

Fig. 1.—Antitoxin Rash (Scarlatiniform).

that the lesion does not disappear entirely upon pressure. Most of these cases suffer more or less from pruritus. In many cases the itching is very severe. In others it is almost entirely absent. It is most apt to be present in the urticarial cases.

The individual groups of these rashes, as classified above, present a clinical appearance resembling more

or less nearly that of the systematic skin diseases after which they have been named.

The cases belonging to the fourth group, erythema multiforme, include many varieties of eruptions generally classed under this head in works on skin diseases. Thus the eruption may be papular, slightly raised, and red, or it may be annular, consisting of circular patches with a depressed centre. Occasionally these circular patches coalesce with one another, forming

Fig. 2.—Antitoxin Rash (Erythema Multiforme).

large, slightly elevated, diffused patches with a scalloped margin, resembling cases described by Fox as erythema marginatum. True urticaria-like wheals are very rare, but these cases of erythema multiforme marginatum are described by some who have studied

Fig. 3.—Antitoxin Rash (Erythema Multiforme Marginatum).

these rashes as urticarial. They differ from these in their greater duration, deeper red color, and above all in the fact that the rash does not appear and disappear at intervals, as true urticaria does (Figs. 1, 2, 3, and 4).

Fig. 4.—Antitoxin Rash (Erythema Multiforme).

Although the appearance of these antitoxin rashes enables one readily to place them in the groups under which I have classified them, the close resemblance of two of these groups to the most common of the acute exanthemata renders it highly important to study the points for differential diagosis.

They are as follows:

Antitoxin Rash (Morbilliform).	*True Measles.*
Prodromal catarrh of conjunctival, nasal, pharyngeal, buccal, and bronchial mucous membranes generally absent. Rash does not appear on face and chest first, but may begin anywhere	Prodromal catarrhal inflammation. Deep red papular eruption on mucous membranes of soft and hard palate and inside of cheeks.
Rash is not uniformly morbilliform over the affected area of skin, but is apt to show a variety of patches of erythema multiforme.	Rash appears on face, neck, and chest first. Uniformly morbilliform, although varying in degree over various portions of body.
Eruption disappears after one or more days, and may return after having disappeared entirely.	Duration of rash four or five days, then gradual disappearance.
Desquamation not the rule. When it does occur, apt to be coarser than after true measles.	Characteristic desquamation always follows.

Some cases of antitoxin rash of this variety, however, do have the various catarrhal prodromal symptoms. By far the greatest reliance should be placed upon the lack of uniformity in the eruption and its irregular distribution.

Scarlatiniform antitoxin rash is far more difficult to differentiate from real scarlet fever than is the case with the morbilliform rashes from measles. This is all the more to be regretted, inasmuch as scarlatiniform antitoxin rashes are very much more frequent than the morbilliform variety. The difficulty of differentiation is enhanced by the presence of diphtheritic manifestations in the throat, particularly when the membrane has disappeared as a result of treatment. It is just this appearance that characterizes the palate and fauces in opening stages of true scarlatina. So difficult is the differential diagnosis in some cases that the most expert are deceived. The points upon which I am accustomed to rely are as follows:

Antitoxin Rash (Scarlatiniform).	*True Scarlatina.*
Vomiting rarely preceding the rash. More or less partial distribution of the eruption. The presence of a non-scarlatiniform eruption, erythema multiforme in character, at isolated areas of skin; frequent disappearance and reappearance of the rash; joint pains early.	Vomiting preceding rash. Eruption much more even, of a uniform character although varying in degree; duration more than three days; no joint pains at beginning. Does not disappear and reappear at irregular intervals; joint pains late, if any.
Duration generally shorter than true scarlatinal rash.	
Desquamation rare, and when it occurs much finer than in true scarlatina.	Desquamation in strips.

The presence of diphtheria prevents the throat and tongue symptoms from being of any value in the differential diagnosis.

The form of erythema (?) known as pityriasis rubra I have seen in a rash following the injection of antitoxin. Here the duration of the desquamation was as marked as in that well-known skin lesion. Its differentiation from scarlet fever should not be difficult. It is proper to speak here of the exanthema which is so frequently present in toxic diphtheria. I do not refer to the petechial eruption consisting of isolated petechiæ scattered through the skin, and due to small extravasations of blood into the superficial layers of the skin. I mean the irregularly distributed reddish-purple, mottled, macular eruption which spreads over the integument in septic forms of diphtheria. It resembles some forms of erythema multiforme, and when it occurs remains until a fatal result has taken place. The spots are irregular in shape, of a deep red color in the centre, and fading toward the periphery. This eruption occurs as a manifestation of the weakening effect of the diphtheria poison upon the heart, causing a slowing of the capillary circulation. The localized congestion of the cutaneous capillaries is the

result. It is apt to occur in some cases of septic diphtheria, whether they have been treated with antitoxin or not, and is not an antitoxin rash. It can be differentiated from such rashes by the fact that it increases in extent and depth of color as the heart becomes weaker. In its final stages the skin, especially about the face and extremities, becomes congested and swollen. It is further contradistinguished from the antitoxin rash in that the maculæ have a general resemblance to each other, while in the antitoxin rash the eruption is apt to be an erythema in one part of the body and erythema multiforme in another. Furthermore, this eruption does not disappear and reappear as do the rashes following antitoxin injection, but is progressive and generally persists until a fatal result occurs.

In some cases of diphtheria, even those that are mild but in which the onset is accompanied by high temperature, an erythematous blush is sometimes seen over the neck and face at the beginning of the disease. This rash, if it may be so called, disappears in a short time, and will not be diagnosticated as an antitoxin rash, inasmuch as it is present before the antitoxin is injected.

Pathology.—There is but little to say concerning the pathology of these eruptions as such. The chief fact to be noted is that all of the varieties of these rashes which I have described are primarily a disturbance of the circulation of the skin. As to whether these disturbances go on to produce the lesions characteristic of true inflammation or do not progress further than a simple hyperæmia, as in the simple erythematous rashes, is only a question of the degree and extent of the circulatory disturbance. Unna says that in toxic erythemas the majority of the cases show as pathological changes hypertrophic changes around the blood-vessels and dilatation of the lymphatics of the skin. Certainly in those cases in which the eruption resembles scarlet fever and measles there is an acute inflammation extending from the capillaries of the skin more or less widely into the epidermis.

The one important point to remember is that the lesion is primarily a lesion of the blood-vessels of the skin.

Pathogenesis.—If we may hope to obviate the occurrence of the rashes which follow the injection of antitoxin serum, it is evident that it becomes a matter of the highest importance to understand the *rationale* of their production. This portion of the subject is the more obscure in that it involves problems of great complexity, for the solution of many of which the data are insufficient. It is evident, however, that the cause of these rashes is the introduction of antitoxic serum into the circulation. This acts as matter foreign to the blood.

Diphtheria antitoxic serum may be said to consist, for our purposes, of horse serum charged with a material known as diphtheria antitoxin.

It is proper to inquire:

1. Is the horse's blood serum as such the irritating cause of these eruptions?

2. Is it the antitoxin which it contains?

3. Is the product which results from the action of the diphtheria antitoxin upon the diphtheria toxin present in the blood of the patient the irritating cause of these eruptions?

To these three questions we can give answers depending for their truth upon reliable observations by competent observers.

It has long been known that when blood serum of an animal of one species is injected into the blood of another it exerts a toxic action. This toxic action depends upon the quantity of blood serum injected. Rumno,[1] who investigated this subject, termed blood serum of animals of the same species "homogeneous blood serum;" that of animals of different species "heterogeneous blood serum." He found that the injection of homogeneous blood serum was less toxic than the injection of heterogeneous blood serum. Rumno thinks that the toxic action of blood serum depends on the action of special toxalbumins. Alexander Schmid believes that this toxic action depends upon the soluble fibrin ferment of one blood serum when injected into the blood of other animals. Rumno found that this toxic action of blood serum is very decidedly lessened by passing the serum through the Chamberland filter. Rumno claims that it is not due to the fibrinogen of the blood causing minute emboli, for the reason that the toxic power of homogeneous blood serum is very much less than that of heterogeneous blood serum.

Bertin[2] injected non-immunized horse serum into children suffering from diphtheria, and found that in three of the patients erythema developed. Sevestre[3] injected four children suffering from ordinary angina with serum of non-immunized horses and observed erythema in all of them.

Finally Johannessen, of the University of Christiania,[3] injected twenty-three individuals not suffering from diphtheria with from two to fifteen cubic centimetres of pure blood serum of a healthy non-immunized horse. Nineteen of the individuals had the serum filtered. In four patients the serum was injected unfiltered. A more or less general erythema occurred in twelve of these twenty-three cases from the first to the eleventh day after the injections. The unfiltered serum produced greater disturbance than the filtered.

I could multiply authorities who can be quoted to prove the same facts. From these experiments we can derive the fact, that pure blood serum of the horse does produce eruptions in a large percentage of cases. 2d. The antitoxin present in the diphtheria antitoxin serum does not add to the frequency with which these eruptions result. 3d. That such erythemas occur after the injection of non-immunized horse's serum into healthy human beings. Furthermore filtering normal horse's serum by passing it through a Chamberland filter diminishes the frequency of the eruptions very much.

Having thus determined that the active factor in the production of these rashes is the horse's serum as such, it becomes a matter for inquiry how this foreign material, horse's serum, when injected into human beings, produces these eruptions.

Behrend, in his works on skin diseases, advocated views with regard to the method of the production of the toxic erythemata which have the support of Unna, Kaposi, and others. Applying his views to such erythemata following injections of antitoxic serum I deduce:

1st. Such serum when injected can exert a direct irritating effect upon the vasomotor nerves and blood-vessels at the site of the injections, thus producing local congestion and dilatation of blood-vessels, *i.e.*, a local rash.

2d. It may, when absorbed into the circulation, affect the vasomotor centres in an irritative or paralytic manner, so as to cause a general cutaneous eruption.

3d. When excreted from the circulation by the capillaries of the skin and sweat glands, it may exercise a direct irritant and paralytic action upon these peripheral capillaries and adjacent tissues, so that exanthemata are developed.

The local rashes, generally simple erythema, occur-

[1] "Ueber die Giftigkeit des Blutserums," Wiener medizinische Wochenschrift, 1891, No. 19.

[1] Gazette Medicale de Nantes, 1895. "Traitement de la Diphthérie par le Sérum du Cheval non Immunisé."

[2] Semaine Medicale, 1895, No. 15, p. 142.

[3] Deutsche med. Wochenschrift, December 19, 1895, No.

ring at the site of the injection and spreading from there over the adjacent areas of skin, are evidently produced in the manner first stated, *i.e.*, by direct local irritation. All the other rashes I have described, partial or general, are either the secondary result of the irritation of the vasomotor centres, or are produced in the process of excretion of the serum from the body by the capillaries of the skin and sweat glands. This last method of production is by far the most frequent. I am led to this conclusion by the study of a very interesting and valuable contribution concerning the mode of excretion of diphtheria antitoxin from the body, by S. Dziergowski, of St. Petersburg.[1] This investigator's experiments and studies were to ascertain the amount of antitoxin contained in the different organs and fluids of the bodies of immunized horses. He found that of the excretory fluids the urine and sweat contained by far the largest amount of antitoxin, and practically it is through the urine and sweat that the antitoxin is gradually excreted from the system. Now we have already seen how probable it is that the "heterogeneous" (horse's) blood serum is the cause of the occasional eruptions. And it is very likely that the irritating elements of this, the carrier of the antitoxin, are excreted in the same manner as it is and with it by the urine and sweat. It is well known that increased activity of a gland causes increased circulation and dilatation of its inherent and surrounding capillaries. That, in itself, would cause an eruption. Further, the sweat which carries these irritating elements would exert a direct irritant or paralytic action upon the cutaneous capillaries. While most of the sweat is secreted by the sweat glands, "some fluid," as M. Foster says, "must pass by simple transudation through the ordinary epidermis of the portion of the skin intervening between the mouths of the glands." The same physiologist further says: "The secreting activity of the skin, like that of the other glands, is usually accompanied and aided by vascular dilatation." Where the injected serum is especially irritating, this vascular dilatation surrounds not only the sweat glands and their ducts but the whole epidermis, giving rise to the scarlatiniform or the various erythema-multiforme eruptions. With an increased degree of irritation in the serum there is even a greater strain placed upon the sweat glands to get rid of the irritant; the vessels around these dilate to an excessive degree and the erythematous rash becomes a morbilliform eruption. In by far the greater number of cases, however, the ordinary exercise of the transudative and perspiratory functions of the skin is sufficient without any exaltation to rid the circulation of the foreign serum, so that by far the larger number of patients treated with antitoxin do not suffer from rashes as a sequence of such treatment.

It appears possible that in a somewhat similar manner the eruptions of the acute infectious diseases, like measles, varicella, variola, scarlet fever, and others, may be produced. It would appear possible that in these diseases the characteristic germs, having gained access to the blood, develop there, during the period of incubation, their toxic products. Every effort is made by the excretory functions of the body to get rid of these toxic agents. The excretory power of the skin, the kidneys, and mucous membranes is brought into play, hence the characteristic manifestation in all of these organs in the course of these diseases; thus the eruption and catarrhal inflammation of the mucous membranes, characteristic of measles, the eruption and characteristic inflammation of the throat and later on of the kidneys in scarlet fever, etc. I recognize readily that this the eliminative theory of the production of the cutaneous manifestations of the acute eruptive diseases does not explain why the eruptions uniformly differ clinically in their appearance in the different diseases. Yet a further inquiry into the pathological anatomy of these skin lesions that is proper in the limits of this paper, devoted to an entirely different subject, would render many of these points less inexplicable.

This paper, upon the eruptions frequently following the injection of antitoxic serum, would be incomplete, did we not attempt by the light of the facts gleaned to indicate possible improvements in diphtheritic antitoxic serums, so that the eruptions should become less frequent.

But first, lest any enthusiastic opponent of the antitoxic treatment of diphtheria should hope to find in the preparation of a paper on serum rashes even slight encouragement for his tottering views, I would here reiterate that it is because of my enthusiastic appreciation of the vast improvement in the treatment of diphtheria which has resulted from the use of the antitoxic serum that I devote this feeble effort to add to the perfection of a remedy which is one of the most marvellously successful therapeutic procedures of the century. We have no longer to establish the beneficent nature of this treatment. That is established beyond question. It is for all of us to improve it and obviate any of its disadvantages. As far as these rashes are concerned, it will appear from what has been said that the inherent cause of their appearance lies in the serum as such, and not in the antitoxin. I will ask pardon therefore for giving here a short *résumé* of methods followed in the production of this serum in the body of the horse, in order that it may be better understood how it may be improved, with a view to diminishing or even preventing these rashes.

A horse is immunized to the toxin of virulent Klebs-Loeffler bacilli by injecting into the animal gradually increasing doses of the poison until the largest possible dose of the toxin no longer serves to produce any rise of temperature or other signs of sickness in the animal. The horse is not very susceptible to the diphtheria poison. An initial dose of 2.5 c.c. of strong toxin often causes but very little fever and very slight local œdema. As a rule, however, a dose of 0.25 c.c. of strong diphtheria toxin is sufficient for an initial dose. The dose is increased with every successive injection, until after two or three months 250 c.c. or more of the strong toxin can be injected without causing any irritation or increase of temperature. The blood serum of an animal thus immunized contains an antitoxin of great protective and curative power. The strength of any given sample of an antitoxin serum varies directly with the virulence and dose of toxin to which the horse from which such blood has been drawn has been immunized. A horse that has been immunized up to a dose of the maximum quantity of the strongest obtainable toxin yields a more potent antitoxin serum than one that has been immunized to an equal quantity of a weaker diphtheria toxin. Thus, while some animals yield a serum of the strength of 50, 100, or 200 antitoxin units to the cubic centimetre, others yield a serum of the strength of 1,000 units to the cubic centimetre. It will readily be seen that, when a given dose of antitoxic serum is to be injected into the patient, the volume of the serum to be injected will be inversely as the antitoxic strength of the antitoxic serum. Thus, while a dose of 1,000 units would mean 10 c.c. of a 100 unit serum, it would require but 2 c.c. of a 500 unit serum to give the said dose. The importance of the volume of serum injected, as far as the antitoxic rashes are concerned, will presently appear. The blood of horses thus immunized to diphtheria and containing the antitoxin is drawn from the jugular, with every antiseptic precaution, into a perfectly sterilized flask, with

[1] Archiv für experimentelle Pathologie und Pharmakologie, 1896–97, xxxviii., pp. 186–214.

a broad base and long neck, the mouth of which is closed by cotton as soon as the flask is about one-third full (Figs. 5, 6, 7) The bottle is then placed on a stand, so arranged that the former lies at an angle of about forty-five degrees. This tilted position is prefered, because in this manner the blood serum which separates after clot-

Fig. 5.—Injecting the Toxin.

ting can be most readily withdrawn. The slow clotting of horse blood is further aided by placing the bottles containing this freshly drawn blood into the refrigerator. The result is a very well-marked "buffy coat." The red blood globules, having had time to fall to the

Fig. 6.—Incision for Inserting Cannula into Vein.

bottom before the clot has become firm, leave a comparatively colorless layer on the top. Clotting under these conditions gives a firm and hard clot, with the largest possible amount of serum (Fig. 8). The serum surrounding the clot which has formed in the flask is

Fig. 7.—Drawing the Blood from the Vein.

withdrawn by means of a tube passing into another bottle, the tube being connected with an air pump. These bottles are permitted to stand in the refrigerator in the upright position. After the antitoxic strength of a given drawing of serum has been tested, the serum is ready for distribution into the small bottles in which it comes to the physician. This transferring of the serum from the large bottles into the small sterilized bottles is accomplished with the strictest precautions for the maintenance of the absolute sterile condition of the serum. It is important here to call attention to the fact that in the large bottles containing the antitoxic serum, if allowed to stand for a time, a more or less dense whitish cloud of flaky material gradually forms at the bottom. This material disappears if the contents of the bottle be subject to slight shaking. It probably consists of the fibrinous constit-

Fig. 8.—Flasks Filled with Antitoxin Serum and Clot (to left). Sterilizer for Flasks to Right.

uents suspended in the blood serum and not included in the clot proper.

This short *résumé* of important steps in the process of the manufacture of diphtheria antitoxic serum is to enable us to appreciate some practical recommendations in the making and use of the serum, with the object of diminishing the frequency with which antitoxin injections are followed by rashes.

It was seen that these exanthemata are not the result of the antitoxin element of the serum, but are rather the effect of the serum itself, irrespective of the antitoxin which it contains. It would therefore commend itself to the most superficial investigator that it is important to give the necessary quantity of antitoxin in the smallest quantity of serum. In other words, it is advisable to use a serum of the greatest antitoxic strength. The health board laboratory has manufactured serum of the strength of one thousand units to the cubic centimetre. This is as strong as any manu-

Fig. 9.—Separating Serum from Clot.

factured. The difficulties in the way of manufacturing this serum are the large dose of toxin to which the animal must become immunized, which presupposes a strong animal and the obtaining of toxins of extraordinary virulence, for upon this even more than the strength of the dose of toxin does the strength of the resulting antitoxin depend.

Another important factor in the production of these rashes was found to be the irritating effect of the "heterogeneous" horse serum upon human blood serum. It is evidently impossible to remedy this

defect, but it is found in practice that a "heterogeneous" serum, obtained from a given individual of a species, is more irritating than the serum from another individual of the same species. It follows that when a particular "drawing" of serum has shown itself to be especially irritating, causing frequent rashes, such a serum should be discarded, while the serum of a horse which has shown itself to be less irritating should be preferred.

Fig. 10.—Filtering Serum.

Finally we come to discuss a very important means of preventing or diminishing the occurrence of these exanthemata. The experiments of Rumno, Johannessen, and others show that while pure horse's serum, non-immunized, produces when injected into the human body rashes such as I have described, with as great frequency as the serum from horses immunized to diphtheria, the number of cases in which rashes occur is very much diminished if the serum be *filtered*. This was shown to be true of the serum from immunized as well as non-immunized horses. It is important, therefore, that the antitoxic serum used in the treatment of diphtheria should be thoroughly filtered by passing through a fine Chamberland filter before injected (Fig. 10). Through the courtesy of Dr. William H. Park, of the bacteriological laboratory of the health board, I was enabled to test this subject thoroughly. During the past six months a portion of the antitoxin used in the Willard Parker Hospital was, at my instance, passed through a Chamberland filter, and a considerable proportion of the cases was treated with filtered antitoxin, while others were treated with unfiltered antitoxin. Two varieties of filter were used. One was a porcelain filter of fine porcelain, through which the antitoxic serum filtered very slowly, even when filtered into a vacuum. Later on, in order to filter more antitoxin, a very much larger and coarser filter was used, through which the antitoxin passed quite readily. When thus filtered, however, the antitoxin did not yield as favorable results as were obtained from that passed through

Fig. 11.—Making an "Antitoxin Injection" upon a Patient.

the fine filter. The serum that passed through the coarse filter was hardly less irritating than that which was unfiltered. But let me give you the figures:

September, October, and November, 1897. Cases treated with antitoxic serum filtered through a fine Chamberland filter. Number of cases, 24. Developed a rash, 4, or 16 per cent. Of the 20 that did not develop rashes 9 cases were under observation less than ten days.

Cases treated with same antitoxic serum unfiltered. Number of cases, 15. Developed a rash, 7, or 46 per cent. Of the eight that did not develop rashes 6 were under observation less than ten days.

Total number of other cases treated during the time of observation with other antitoxic serum than the bleedings under test, 95. Developed a rash, 30, or 31 per cent.

It is seen that the filtered serum caused only a little more than one-third as many rashes as the unfiltered serum, and only about one-half as many rashes as serum of all other bleedings used during the time of test.

So favorably was I impressed by this showing that it was determined to use the filtered antitoxin more extensively. This made the demands upon the laboratory for filtering the antitoxin greater. As I have said, the filtering through a fine filter is extremely slow. A very much larger and coarser filter was therefore substituted, which filtered more serum. Furthermore the resident physicians of the hospital, Drs. Somerset and Poore to whom I owe thanks for invaluable aid in observing and recording these rashes—being desirous to use in the worst cases the serum which would give the best results, used the filtered serum which was furnished almost exclusively upon severe cases, while mild cases were treated with unfiltered serum. I mention this because in severe cases, remaining in the hospital a longer time, a rash could not fail to be observed if it occurred, while the mild cases, being cured and discharged many of them before the tenth day, might develop a rash, which we could not count because we did not see it in the hospital. The figures are as follows:

December, 1897, January and February, 1898. Cases treated with antitoxic serum filtered through a coarse filter, 30. Developed a rash, 13—8 severe, 5 slight—or 43⅓ per cent.

Cases treated with same antitoxic serum unfiltered, mostly mild cases, 60. Developed a rash, 19—10 severe, 9 slight—or 31⅔ per cent.

Finding, as I stated above, that the resident staff was using the limited amount of filtered antitoxin which could be obtained, even with the use of the large filter, upon the severe cases, I asked Dr. Poore to use the antitoxin thus filtered by the coarse filter upon cases of about equal severity with those upon which the unfiltered antitoxin was used. The results thus obtained during March and April were as follows: Cases treated with filtered antitoxic serum (coarse filter), 49. Developed a rash, 13, or 26 per cent.

Cases treated with same antitoxic serum unfiltered, 58. Developed a rash, 15, or 26 per cent.

These latter cases prove that passing the serum through a coarse filter is equivalent to not filtering it. So firmly have I been impressed by the experiments of Rumno, Johannessen, and others which I have cited, that filtered horse serum when injected into human beings produces serum exanthemata less frequently than unfiltered serum; so thoroughly has this favorable impression been fortified by the results obtained in those of my cases treated by antitoxic serum properly filtered through a fine Chamberland filter, as in the cases given in the first group, that it appears to me highly desirable that all horse's serum which is to be used in serum therapy of disease should be carefully filtered through the finest possible Chamberland porcelain filter. I recognize the difficulties connected with filtering antitoxic serum. The maintenance of absolute sterility presupposes the least possible manipulation of the serum in the process of manufacture. But filtering does not necessitate an additional step in

the technique of manufacture, for the filtering could be accomplished directly from the vessel into which the serum is drawn from the bottle containing the clotted blood. The filtering surface can be increased by substituting for the single porcelain candle a number of candles all opening into one central tube, to which the air pump is connected. In this way a very much larger quantity of serum can be filtered.

The antitoxin thus filtered was tested in the laboratory, with the object of determining whether the serum had lost any of its antitoxic strength in the process of filtering. Dr. Park tells me that in every case the serum retained after filtering the same antitoxic strength which it possessed before filtering. It is an interesting question as to what the filter removes from the serum. Rumno[1] thinks that the toxic action of blood serum depends on the action of special toxalbumins, and it is probably these toxalbumins which are separated out of the serum when passed through a filter. The white flaky deposit which I have observed at the bottom of the bottles of unfiltered antitoxic serum which have stood for some time, and which consists for the most part of coagulated fibrin, disappears when the serum is filtered. When it shall be possible to extract the antitoxic principle from antitoxic blood serum and inject the antitoxin in sterilized solution, the ideal aim of removing the irritant effect of the "heterogeneous" animal blood serum will have been attained. Until this is practicable, thorough filtering of the serum should be practised.

I do not think that the agents used to preserve the antitoxic serum from decomposition have any influence in the production of these rashes, for the following reasons: 1st. The quantity of the preservative added is too small to have a deleterious effect. 2d. Antitoxic serums preserved by carbolic acid, terkresol, and camphor, as well as those that have no preservative added, produce the eruptions with about equal frequency when the other factors which I have mentioned remain equal.

I have thus attempted to describe and classify clinically the exanthemata which occur after antitoxin injections. It has been shown also, first, that these eruptions are due for the most part to the animal blood serum as such and not to the antitoxin which it contains; secondly, that the cutaneous manifestations are the result of the excretion of the irritant elements of the blood serum by the sweat glands and blood-vessels of the skin; and finally, that the careful filtering of the serum is apt to be followed by diminution in the frequency of these exanthemata.

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ON THE TREATMENT OF CARBUNCLE.[2]

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It is well known that felons, erysipelas, and carbuncle are most commonly observed during the spring and early summer. They all present many features in common, although the clinical distinction is clear enough. They often appear to be aroused into activity by some local change in the tissues, produced and maintained by what we vaguely designate "constitutional disturbances," but of which we certainly know very little.

Carbuncle.—Meredith defines a carbuncle as "a local specific inflammation of the subcutaneous areolar tissues, rapidly leading to sloughing of the deeper and more compact parts; followed by destruction of the skin, the whole of the dead tissues finally separating in the form of a slough."[3]

[1] *Op. cit.*

[2] Read before Society of Medical Progress, New York, March 20, 1898.

[3] Quain's "Dictionary," second edition, p. 275.

Carbuncle is a lesion which presents many very puzzling features. In all of its phases, as a rule, it is a very painful affection, in most instances commencing as a papule with an indurated base, assuming an intense inflammation, finally running into suppuration and gangrene, with later granulation and cicatrization of the ulcer. In this respect it is identical with whitlow. In other more aggravated phases the extent of constitutional disturbance is considerable; bodily strength rapidly fails and well-marked evidence of infection of the circulation is present.

In many cases of this class carbuncle kills. Meredith says that "death may come from exhaustion, which is sometimes aggravated by *hemorrhage, the result of free incision* [italics mine], but the most frequent cause of a fatal termination is pyæmia."

Local Changes in the Parts.—Carbuncle kills, then, by the protracted, agonizing distress it occasions, which racks the system and cripples the vital powers; and by the toxic effects of resorbed dead tissues, ichor, pus, and bacteria. This lesion gives issue to grave symptoms only when certain local pathological changes set in.

How may these be aborted or rendered innocuous, or is either result possible? This brings us to the consideration of treatment.

Treatment: Constitutional or Local, Prophylactic, Palliative, or Radical.—Within the past year two notable essays on the therapy of carbuncle have been contributed by two distinguished members of the medical profession of New York: the first by Dr. L. Duncan Bulkley, and the second by my colleague, Prof. Carl Beck. Both of these contributions are noteworthy because of the extreme tendencies inculcated in each; by the former in the direction of conservatism and palliation, and by the latter in recommending early and complete excision.

Early Excision.—Beck says: "As the infiltrated tissue must be eliminated at all hazards, be it infected by whatever bacteria, it is better to sacrifice it at once and to remove it with its disastrous inhabitants."[1]

Theoretically this position cannot be assailed: *i.e.*, a limited focus of virulent infection of any description, wherever found, should be eradicated. But practically this is often either injudicious or impossible.

Anthrax, although its favorite site is along the lateral areas of the vertebral column, may develop on any part of the cutaneous surface of the face, the trunk, or the extremities. From our experience in excising chancres or buboes, it is well known that before the stages of suppuration or ulceration it is impossible to determine just how wide the limit of invasion is; and, hence, quite in spite of a free dissection, suppuration will invariably follow, with a large, open breach in the tissues, left to heal by granulations. Again at times a wide area is involved by an infiltration which extends deeply into the neighboring parts, so that a free division of important and highly vascular structures will be necessary in excising the indurated parts.

In the incipient or papillary stages of carbuncle, excision affords us a simple means of at once and radically dislodging it, though we may have to repeat the procedure with each eruption of a fresh papule.

Finally, the most cogent objection one can bring against excision is that it may involve an operation requiring the employment of pulmonary anæsthetics, although when the area invaded is of limited dimensions a local analgesic will suffice; but in any event the tissues must be divided with loss of blood. It goes without saying that in carbuncle of huge proportions extending deeply into important structures it is quite

[1] "Radical Treatment of Carbuncle," The Medical Record, January 1, 1898.

impracticable. If anything like an extensive dissection be required, our patient must remain quiet until at least repair is well begun.

Conservative Treatment.—At the late meeting of the British Medical Association in Montreal, Dr. Bulkley, of New York, submitted a somewhat remarkable essay on the treatment of felons, boils, and carbuncles, which, coming from one so well and widely known, must work incalculable mischief.

He begins by saying that "the knife has long been associated in the minds of both the laity and profession with the treatment of boils, felons, and carbuncles, and incision is the recognized treatment on all sides." He declares that he has not incised a carbuncle in fifteen years, and adds that "if others will carefully and intelligently carry out the details in treatment, they will have equally as good results as himself." He advises the same general plan for felons and carbuncles. Now, it certainly would be an enormous gain to medical science if surgery could be dispensed with in a class of cases which practitioners have always regarded with serious apprehension, and which are sometimes a source of terrible torture and even danger to life.

Let us see what this innovation consists in. First, internal medication; the sulphate of calcium for its supposed controlling action on suppuration, purgatives, tonics, etc. Secondly, something locally, of a protecting, soothing, and antiseptic character. The doctor quotes Paget as condemning the incision of carbuncle under all circumstances. It is true that this celebrated surgeon severely criticised the indiscriminate cutting of carbuncles—the deep crucial incision—unless one was certain of deep-seated suppuration; but that was nearly twenty-five years ago, long before the first days of Listerism had flashed on the horizon, and hence principles of treatment regarded as orthodox then are now effete and antiquated.[1]

Kaposi declares that "treatment of carbuncle in its direct sense is almost powerless, as it cannot be cut short by ice, heat, or early incision."[2] Gottheil advises "free and early incision followed by thorough curetting as of benefit in some cases, but complete extirpation is better."[3]

Sulphide of calcium in my own hands has invariably proven inert as a pus destroyer; but what is of vital importance to bear in mind right here is that in the early stages of both felons or carbuncles there is no pus whatever. Several years ago the last phalanx of my little finger (left hand) was the seat of a felon. For three days and nights the agony was something dreadful. In the mean time various local remedies were tried, without the slightest relief. On the fourth day the physician was permitted to do what he wished to do on the first, viz., to sink the blade of a strong bistoury down deeply to the bare bone. The effect was instantaneous, but not a drop of pus escaped. Several times in the early and always the most painful stages of felons have I opened them with the same result. My experience has been that when the pain ceases gangrene has begun, or the bone is necrosed. In genuine felon, true paronychia, which does not early abort of itself, penetration to or destruction of the diseased process beneath the periosteum alone will save the affected joint or cut short the inflammatory changes.

It is inconceivable and contrary to all experience that any oleaginous, impermeable, or antiseptic substance can penetrate through the unbroken derma to reach the seat of disease. In fact, there are but very few medicaments which the skin can absorb at all.

That the constitution is involved in these cases is undoubted, and that bracing reconstructives are sometimes needed is certainly correct. In advanced cases, however, the grave enfeeblement of the vital powers with marked evidence of pyæmic absorption is a consequence and not a cause. That glycosuria is anything more than a coincidence occasionally in carbuncle is by no means proven.

Sir James Paget is the authority for the statement that carbuncles sometimes spontaneously abort early. I have never seen one do so, and the probabilities are that the local induration described by him as carbuncle was some simple form of papillary intumescence. The tendency of unchecked carbuncle is toward progressive destruction of tissue, suppuration, necrosis, and sloughing of tissue, with the great dangers superadded of septic infection, pneumonia, meningitis, etc. To dally with a lesion of such a serious character is, to put it mildly, a grave error. In the remote past, before the days of anæsthetics or antiseptics, we did well to spare our patients the terrors of the blade for whitlow or carbuncle, until every possibility of mistake in diagnosis was eliminated and the thing was "ripe;" but that won't pass for up-to-date surgery in our time; for it may be, and it should be, stated in the most emphatic terms that at the present, in both anthrax and felon, surgical interference must be prompt and radical, though, happily for the poor sufferer now, it may in the former spare him mutilation or the loss of even a single drop of blood.

Potential Cautery.—Moty reports a case of anthrax affecting the lower lip, with secondary foci on the breast, the forearm, and the shoulder, treated by puncture with Paquelin's cautery at each suppurating orifice and subsequent dressing with carbolic acid. In some of the smaller foci the disease was checked at once by the puncture, and no more pus was formed. As for the deep-seated ones, the author remarks that the patient's sensations are the best guide to their situation, for at first they do not betray themselves by physical signs; yet it is of importance to treat them promptly, whether pus has formed or not. The part may be cocainized before the cautery is applied.[1]

In the early stages both of paronychia and anthrax they may be so effectively benumbed with cocaine as to admit of all necessary manipulation. The potential cautery, Paquelin's, or the electro-cautery, may be used with great satisfaction on many types of carbuncle not calling for total eradication and which are easy of access.

Direct, Immediate, and Total Destruction of the Carbuncular Tissue by the Deep or Hypodermic Injection of Pure Carbolic Acid.—Five years ago I commenced the treatment of carbuncle by the injection of pure carbolic acid. I am assured now that this method is simple, safe, and durable in its results. To inject concentrated carbolic acid directly into the living tissues, however, may strike one as a measure fraught with danger, and is a measure which must be exceedingly painful. The first case of carbuncle which I tried it on came under my care in its acute inflammatory stages. It was the source of the most intense pain, with marked constitutional disturbance. The pulse was 116 a minute, the temperature 103° F. Through loss of sleep and appetite my patient was reduced to great weakness. He had delayed professional aid till late, because of his fear of an operation.

In this instance the carbuncle was large, with several openings, lying over the midcervical region of the spine. In this instance the effects of carbolic-acid injection were most extraordinary. Since then I have treated in both sexes more than fifty cases of carbuncle. About three-fourths of my patients were in hospital and dispensary practice. Five were physicians and three physicians' wives. There was no mortality, and in no

[1] Paget's work appeared in 1875.
[2] Kaposi: "Skin Diseases," p. 217, vol. i.
[3] Gottheil: "Illustrated Skin Diseases," p. 176.

[1] The Indian Medical Record, February 17, 1898.

single instance was there protracted delay in repair, except in those which came under my care late. Without exception when employed early this method arrested the advance of the boil, nipped it in the bud, so to speak, destroyed it root and branch, and, what is an enormous gain under these circumstances, permitted the afflicted to continue with comfort their ordinary occupations. Crocker in his work on skin diseases notes that "it is said that a one to ten per cent. hypodermic injection of carbolic acid will abort carbuncles." He does not appear to have had any experience with it himself.

Local and Constitutional Effects of the Deep Injections.—The first sensation the patient experiences after the needle is deeply lodged is a burning heat from the crude acid. This is quickly followed by an immediate loss of all pain. The acid in places when it issues up blanches and chars the tissues, coagulates and destroys the purulent foci over a wide area. In the diminutive inital papule it also at once numbs all pain and stamps it out. The relief is so prompt and the destruction of infective spread so decisive, that the suffering patient again enjoys his unbroken sleep and recovers his appetite. And in this procedure we have an illustration of just the reverse of what is promised through constitutional measures, demonstrating as it does that the *fons et origo* of all the distressing and grave systemic disturbances of carbuncles are entirely dependent on a most virulent local septic process—a process which, if left undisturbed, proceeds to the total death of all the tissues invaded. In no instance in which I have employed these injections has there been any evidence of toxic effects on the system through absorption by the circulation, although it is possible that some of the salutary effects resulting may depend on the phenic elements acting on the system. This view derives some support from the interesting case recently reported by G. Scott Jackson, M.D., of Glasgow.[1] His patient had an anthrax, resulting from an infection of a sore on a sheep. The sore on the arm having attained great proportions, the whole limb being enormously swollen, Jackson cut deeply down through the infiltrated mass, and then mopped the divided surfaces with pure carbolic acid. Besides, he immediately placed his patient on carbolic acid and iron internally, ten grains of the acid and ten of ferric tincture. From a desperate condition his patient was immediately relieved, with a subsidence of all the symptoms and rapid recovery. The writer believed the satisfactory result was attributable to the loss of blood after incision and the large doses of carbolic acid.

Technique.—Before describing the details of the phenic injections for virulent abscess it is necessary to state that they must be modified to meet the requirements of the various stages and types of the lesion. It may be well to bear in mind also that when utilized late their most precious value is lost. The time for prevention, prophylaxis, has passed, and dead tissues cannot be recalled to life; but even when utilized in the advanced stages of the malady their value is infinite in arresting pain and checking the farther advance of disintegrating processes.

In employing this powerful agent let us be quite certain that we are dealing with a genuine anthrax, in order not needlessly to subject our patient to such heroic treatment for, perchance, an innocuous transient papule. Before we proceed to inject the fluid acid it is necessary first to carefully cleanse the surface, and then spray with ethyl chloride the part about to be punctured.

In my early experience I used the pure dissolved crystals of carbolic acid for injections, but later it was found that an eighty or ninety per cent. solution answered equally well. In all cases it is necessary to have a long and strong hypodermic needle, as the tissues are sclerosed and very resistant.

When an injection is made into a carbuncle in its early papillary stage, before extensive infiltration has set in, not more than from one to three drops are necessary. In all these cases, however insignificant the papule, after the acid has penetrated its base, coagulated pus will well up through its centre. Care should always be observed that the surrounding integument be protected against the corrosive effects of the escaping fluid. Quite generally for small undeveloped carbuncles one injection will suffice; but, as we may miss the central "core," or infective focus, the first time, it may be necessary to repeat it once or twice, although this is unusual.

Carbuncle in the Suppurative Stages.—After the multiple pustules of a large carbuncle have opened, its surface is raised high, and a wide-reaching, deeply inflamed zone surrounds it; the phenic-acid injection entirely dispenses with the need of incisions for the relief of tension and for drainage, as it totally destroys the imprisoned pus and the pyogenic bacteria which produce it. Pyogenic action extinguished, pain ceases and resolution begins.

In this class the acid must be injected with a free hand. In one case of a most aggravated description in the wife of a physician, into the enormous mass over her back I repeatedly injected as much as thirty drops each time. In carbuncle of massive proportions or great depth the fluid must be sent in to the base.

Here caution must be observed, if we are operating over vascular areas, not to pierce the walls of a vessel and send the toxic charge into the general circulation. It is equally important to clear the large nerve trunks.

In most ordinary cases in this suppurating stage from fifteen to thirty drops are ample completely to destroy all purulent foci. But one needle puncture is needed through the integument. After a few drops are deposited at one point, the needle is partly withdrawn, to be sent in again in a different radius after being turned on its axis. This is repeated until the whole base is thoroughly cauterized.

After-Treatment.—When this method is employed as a prophylactic early, there is practically nothing further to do other than to keep the surface protected until the charred centre, the slough, is detached and thrown off, when complete healing quickly follows.

In large suppurating anthrax carbolization stays its progress only; the extensive gangrenous sloughs must be thrown off by a slow process of ulceration. At times a large hiatus is left to close in by granulation. Here complete cicatrization is sometimes very tedious because of the septic state of the system and want of plasticity in the blood. During the separation of the slough the patient should be freely stimulated and strengthened by the bitter tonics, iron, etc., conjoined with nourishing food. In severe cases the heavy wines and malted liquors are highly useful.

Types of Carbuncles Not Calling for Active Surgical Measures.—Sir James Paget pointed out two very important features of carbuncles which it is well carefully to bear in mind when radical measures of treatment are being contemplated: 1st, that heavy carbuncles tend to spontaneous disappearance in their early stages; and 2d, that many do equally as well without the incision as with it, although he did not deny that the scalpel has a place in all deep-seated suppurating cases.

And so would my experience lead me to advise nothing other than palliative measures in any instance when there is absence of pain; but pain is an essential clinical constituent of any true carbuncle. If it be but transient and trivial, the sore should be let alone, or treated by simple measures; certainly by no

[1] Lancet, March 5, 1898.

aggressive surgery. Such a case I lately saw in the sister of a physician. The carbuncle was situated on the buttock; though freely suppurating, it was quite painless. With moist dressings and compression repair was quite rapid and complete.

Cases Suitable for Conservative or Non-Operative Treatment.—Pseudo-furuncle or carbuncle, those painless papillary projections from the cutaneous surface which occasion no inconvenience and make no impression on the system, should be treated with placebos or simple remedies.

For some reason, yet a mystery, even a malignant ulcer may continue its ravages without any pain; and so sometimes one may resolutely convince himself that he has no severe injury, though the head of a bone is luxated or a shaft sundered, because he endures no sufferings. In certain individuals a suppurating, sloughing carbuncle causes no pain or marked soreness. Generally with this class there is but little if any severe constitutional disturbance.

With the above class Dr. Bulkley's line of treatment may be adopted with advantage, because it obviates mutilation and seeks to eliminate the *materies morbi* from the system. As between excision and phenic congelation, for reasons set forth, the painless mummification should be quite generally adopted.

MIDDLE MENINGEAL HEMORRHAGE IN A WOMAN, SIXTY-NINE YEARS OLD: OPERATION; RECOVERY.

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M. A. B——, sixty-nine years old, a spinster, was brought to the accident room of the Massachusetts General Hospital at about 10:30 P.M., with a history of having fallen one and one-half hours previously, upon being struck by a coasting-sled.

Examination: She does not know of the accident which has befallen her, nor why she is at the hospital. She talks coherently. She recognizes her sister. There is slight shock. The pulse is 64 and of fair strength; the respiration is 16; the temperature is 97.5° F. There is bleeding from the right ear. There is some dry blood about the nostrils. There is no visible external injury. There is no paralysis. All the superficial reflexes are present. The pupils are contracted equally and react to light. The patient is not very restless, although she talks considerably and affirms again and again that she is not hurt.

The ears were washed out carefully and treated antiseptically.

She vomited two or three times during the night. She was quite restless, moving and turning in bed. She slept two or three hours altogether. There were no evidences of intracranial pressure in the morning. At about noon of the second day she talked a little incoherently. She did not answer questions as readily as in the morning.

At 3 o'clock in the afternoon examination finds the pupils equal and reacting to light. She understands what is said to her, but does not talk coherently or distinctly. There is almost complete paralysis of the right arm. There is paresis of the right leg. The face is not paralyzed. The pulse has increased in rate to 85, is now particularly full and bounding. The knee jerk is much less active upon the right side than upon the left side.

At 4:30 P.M., one and one-half hours after the previous observation, all the symptoms were considerably intensified. The face was uneven, the wrinkles being most marked on the left. The breathing was becoming labored and almost stertorous. It was hard to arouse the woman. She moved the left arm freely. The right arm she moved slightly or not at all. There were no abdominal reflexes active. Bleeding from the right ear continued to a slight extent all day.

A diagnosis of middle meningeal hemorrhage on the left side was made.

At 5 o'clock that same afternoon Dr. J. J. Putnam saw the patient in consultation. He agreeing in the diagnosis, it was thought wise to operate at once.

At 6:15 o'clock, under ether anæsthesia, an elliptical incision was made upon the left side of the head, beginning just in front of the ear, and was carried up across the temporal muscle and down to the zygoma of the same side. A quarter-inch trephine was used (see Fig. 1). The hemorrhage was from a branch of

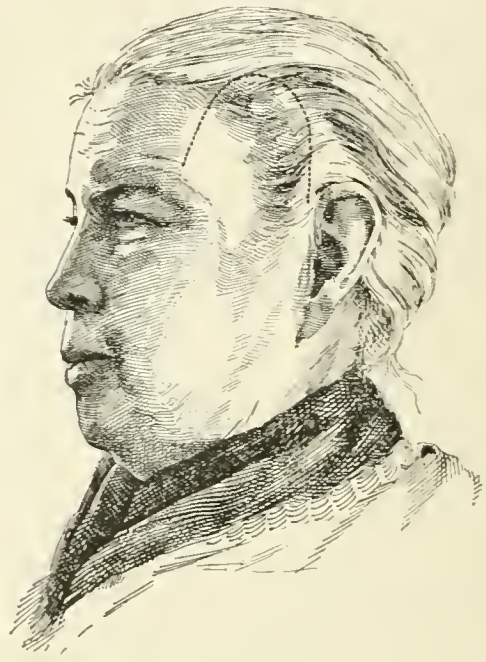

FIG. 1.

the middle meningeal artery, and from within the dura, which was found lacerated. A large clot and much fresh blood were found lying over the temporal and parietal regions. This blood was carefully sponged out. The middle meningeal branch was tied with a silk ligature. Gauze wicks were placed well down deep toward the base of the skull. The dura was not sutured. The bleeding vessels of the diploe were stopped with wax. The skin flap was replaced and sutured, leaving a small gauze drain down to the dura.

The pulse was poor and there was evidence of considerable shock at the conclusion of the operation. Proper stimulation with strychnine and enemata of salt solution and brandy had a good effect. The temperature rose to 110° F. during the night, but dropped immediately and gradually came to normal.

The following day unconsciousness was present, the paralysis was unrelieved, the breathing was stertorous and puffing.

The second day after the operation the gauze drain was removed and two smaller gauze drains were replaced. Some signs of consciousness appear. She takes notice of people coming into the room.

The fifth day following the operation she notices friends. The paralysis is still present.

The sixth day after the operation she moves the right leg a little. No articulate speech is present. Understands questions and grunts in answer to all questions. She can express no idea in words.

The tenth day after the operation she moves the right arm. The mental condition is clearer.

On the eighteenth day she moves the leg, and the arm has some power.

The thirtieth day was an important one for the patient. She walked alone for the first time since the accident. She left the hospital at this time.

One year after the accident the patient is found to be having occasional attacks of dizziness, accompanied by "falling-fits." She is perfectly sane, and talks, often very well; then there come times of difficulty in talking, when she can't find the right word to express herself. Just after one of these attacks of fainting, etc., talking is less easy.

Three years after the operation the following examination was made, Dr. Putnam again seeing the patient in consultation: The speech is thick, slow, and with effort. The facial muscles of the left side are stiff and slightly drawn; they do not move so well as on the right side. The left nasolabial fold is more accentuated than the right. The left eyebrow is lower than the right. The patient thinks that she can hear better with the right ear than with the left. The right hand gets cold "and does not look natural." The right forefinger is often whiter than the other fingers of the right hand. It is difficult to pick up needles or pins with the fingers of the right hand. There is no increase in the wrist jerks. The knee jerk is slightly greater on the right side than on the left.

The patient says she is enjoying excellent health, eats and sleeps well, and is out of doors much of the time. She is taking bromide of potassium regularly once a day in small doses. About once a month she has a fainting or "weak spell." These attacks are growing less pronounced and less frequent.

This case illustrates the important fact that after a severe head injury with almost no external visible sign, the patient should be kept under very careful observation through the hours immediately succeeding the accident. Relative symptoms are of far greater importance in head injuries than isolated observations. Bleeding from the ear as a symptom in head injuries does not necessarily imply fracture of the petrous portion of the temporal bone. Rupture of the tympanum may cause bleeding from the ear. There was no fracture of the skull detected after careful examination in this case.

The interval of consciousness in this case was a somewhat short and hazy one. Immediately after the accident the woman was dazed, and at no time was she herself mentally. It is to be remembered in this connection that the interval of clear consciousness may be so masked by the symptoms of concussion as to be completely overlooked.

NEGLECTED POINTS IN PHTHISIS.

By HENRY H. STONE, M.D.,

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After several seasons passed in the Adirondacks and in the South at resorts frequented by patients afflicted with tuberculous troubles, and coming in contact with them socially, a desire to note with what regularity the importance of diet and exercise had been impressed upon the mind of each individual by the physician previous to departure from home led me to propound the question.

In some instances it had not been mentioned; in most it had been considered but not thoroughly; while in some every phase had been considered and gone into in detail. This apparent neglect so impressed me that surely I am "in order" in calling attention to the fact. I am now speaking of the class of cases which are in the incipient stages, when the chances of recovery are good, and not of the second and third stage cases. In all of our institutions in the North and South, especially directed to the treatment of this malady, the greatest care in detail follows upon these two points; and especially so as to out-door exercise. Numberless patients have I seen who were on the "express for eternity," who had received no instructions; had only been told they would better go to the "Adirondacks" or the "South," as the case might be. These patients were in the habit of remaining up at night as long as they had any one to talk to, and were so tired by that time they could scarcely reach their rooms. The result was coughing and a restless night. With the appearance of morning they were exhausted; they breakfasted in their room, got up for luncheon, took a little walk in the afternoon, and in the evening —a repetition of the night before. This was the usual routine with occasional variation.

What are we to expect from such procedures as I have related? A rapid decline and death, and this in cases in which we might reasonably expect cures. Should we not then be very careful to give explicit instructions, and, when necessary, written ones?

After we have decided upon the locality (my observations have led me to believe that an altitude of from seventeen hundred and fifty to two thousand feet is the proper one for the early stages), then we should go into the details, impressing upon the patients the importance of exercise—not to the point of fatigue—in the open air, frequent walks, deep breathing, etc.; a tent for their siesta; careful attention to the skin. Add then the diet, its great importance, one selected for the case; for without proper assimilation of food the most favorable cases will go down, and with proper assimilation the most unfavorable cases will advance to recovery. To the above more could be added, but such is not the intent of this paper. If I have succeeded in impressing upon the profession the importance of being careful in the future in these cases, I have attained my object; for surely we have not so many means at our command to combat with that we can afford to lose sight of or neglect any one of them.

A New Method of Skin Grafting. — Dr. George T. Doolittle (*The Journal of the American Medical Association*, March 26, 1898) summarizes as follows: 1. With the use of the safety razor any physician can easily obtain large uniform grafts. 2. By the use of large grafts we have little or no contraction of tissue, and the work of covering a large denuded surface is greatly hastened. 3. Where there is a granular surface without ulceration, it is not necessary, in preparatory treatment, to freshen the granulations by scraping; neither is a protective necessary in dressing the surface—it only sweats and softens the grafts. A few words are necessary in regard to the razor. Set the blade forward to about the edge of the guard. Grasp the razor between the thumb and first and second fingers, thumb at the front of the razor and the first and second fingers pressed firmly against the back of the blade to keep it from slipping. With the left hand hold the skin tight just back of where you begin to cut; hold the blade at an angle of about 45° with the skin surface; cut toward you and against the grain; do not be afraid to bear down until you feel the blade taking hold of the skin, which will roll up on the blade as it is cut. After a little practice a strip six or eight inches long can be cut if necessary. Remove the blade and the skin will be found gathered up and the upper surface ready to spread, which is done by placing the blade flat on the granulations, holding down the last cut edge of the skin with some light instrument and withdrawing the blade. The skin will readily spread evenly over the granular surface.

Clinical Department.

FLOATING KIDNEYS.

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The recent perusal of two or three short clinical articles on this condition leads me to offer, as a slight contribution to the literature of the subject, some brief notes on nine cases. As an illustration of the saying that "cases of a kind flock together," five of these presented in two months, and two of them on the same day.

The patients considered comprise a variety of nationalities—a matter of possible interest as indicating a widespread tendency to the condition. Seven of the nine can trace their trouble to traumatism, but the history of the other two is indefinite. In four of the seven the loosening of the kidney was brought about by undue strain in lifting heavy weights, while in three it was due to violent falls. It will be noticed that the cases are almost equally divided between the two kidneys, there being five of the right and four of the left. Again, all of the patients are women, and with two exceptions all are young, the ages of the seven younger averaging twenty-four years.

The authors of the articles referred to seem still to regard loose kidneys as of rare occurrence, but I am becoming more and more convinced of the soundness of the proposition advanced a few years since, that loose kidneys in women are much more common than has been formerly suspected, and am making a search for such a condition a routine part of my physical examinations. Indeed, these notes are intended as a testimony to the frequency of the condition, rather than as an attempt to advance new ideas of pathology or treatment. Whether the increased frequency of finding loose kidneys is due to more careful searching for the condition, or whether loose kidneys are a by-product of our modern civilization, is a query. That seven out of my nine cases were in young women might suggest the latter view, but it is palpably unsafe to theorize from so short a series. It must be also borne in mind that the older generations of women, through prudish reasons, are more reluctant to seek medical advice in regard to lesser and chronic ailments when a physical examination would be necessary.

In examining, the standing position has been usually employed, the patient leaning slightly forward and toward the side to be examined, thus relaxing the abdominal muscles. With the fingers of one hand laid on the abdomen, well up toward the ribs, just external to the rectus muscle, and the other in the same position relative to the quadratus lumborum, the location of the kidney can be mapped out perhaps more satisfactorily than if the patient were lying down. A normal kidney is almost or quite beyond reach of the fingers, but even a slight laxity of the attachments brings the lower border within touch. The contour, and the fact that replacing upward brings instant relief from pain and dragging sensations, are prominent proofs of a correct diagnosis.

In my cases the symptoms most complained of have been more or less definite pains and dragging sensations in the side, together with disturbances of alimentation in almost every instance. In one or two of the cases there have been nervous symptoms, referable to the loose kidneys, in so far as they ceased with the remedying of the latter difficulty.

The treatment has been with pads and bandages, or abdominal supporters, for holding the kidneys in place, although nephrorrhaphy will probably be required in Cases I. and V. to bring about complete relief. Massage and electricity have not been employed.

So far I have been unable to learn of a recorded instance of an actual cure of a floating kidney by the pad-and-bandage method, so that the kidney permanently retained its position on removal of the bandage, but my second case seems to merit the distinction. As it was seen when the lesion was only a few hours old, all circumstances were in favor of the torn attachments reuniting and producing a physiological cure.

Case I.—Miss C——, American, stenographer, aged twenty; seen December 10, 1895. History: Three years previous, while lifting an invalid, the patient had felt "something give way" within her. Symptoms: General weakness and nervousness; frequent attacks of indigestion and flatulence; more or less constant dull ache and dragging sensation on the right side, with occasional throbbing or palpitation in the abdomen, probably due to the kidney pressing on the right common iliac. The right kidney was found very movable. Replacing the kidney, with the patient lying on the back, and maintaining it with pad and bandage, gave immediate relief. Later an abdominal supporter and pad were worn, but the kidney showed a constant tendency to slip down. Operation was refused. On one occasion, in August, 1896, when I was called after the patient had taken a serious "header" down a hillside during a bicycle ride, the kidney was found in the left hypogastrium, and replaced with great difficulty and pain after half an hour's taxis. Through change of residence the patient is no longer under observation, but by long-continued wearing of a snugly fitting supporter and pad has become more comfortable, although an operation probably will be eventually required.

Case II.—Mrs. J——, colored, servant, aged forty; seen February 15, 1896. History: The day before, while lifting a heavy scuttle of coal, the patient had felt a sudden tearing sensation on the right side, immediately and continuously followed by acute abdominal pain. Hernia and uterine prolapse were excluded by examination, and then an ovoid tumor was felt in the right inguinal region. Floating kidney being suspected, this was gradually pushed upward, with moderate ease, when it suddenly slipped away and into the normal kidney position, with instant relief from pain, to the patient's great surprise. A pad and bandage were applied, and rest on the back was enjoined. The patient disobeyed to the extent of doing the family washing, with the result that by evening the kidney had again slipped down and the patient was once more writhing with agony. Replacement was more difficult, but relief just as complete. The bandage was readjusted and the patient kept in bed six or seven days, an abdominal supporter being applied quite tightly on the second day. No urinary or other disturbing symptoms were present. The patient did light housekeeping for three or four weeks, with no trouble from the kidney, and then returned to service. Two months after the injury examination failed to find the kidney out of place, and all inflammation had subsided. In May, after three months, the patient ceased wearing a supporter, against advice, but up to September, when she passed from under observation, seven months after the injury, the kidney had remained in place and the trouble was apparently completely cured. In this case the prompt replacing of the kidney brought about a readjustment of the torn areolar tissues, and the retention by means of bandaging resulted in a reunion, or else the formation of new adhesion bands, by which the kidney was retained in its proper position.

Case III.—Mrs. S——, German, housewife, aged

fifty-four; seen August 21, 1897. History: The patient had been under treatment for complete uterine prolapse of thirty-three years' standing, accompanied of late by cystocele and extensive enteroptosis. The inflammation had been improved, and the uterus and cystocele held up by pessary, when one day the patient asked for relief from a dragging pain on the right side, that had been gradually increasing for three weeks. At this time the patient was unable to lie down, the attempt to do so causing her to scream with the increased pain, so that she had had little sleep for three nights. There were extensive flatulence and constipation, and the urine was diminished about one-half in quantity and very high colored. Examination showed an extremely sensitive kidney that had dropped as low as the umbilicus. Replacement was difficult and painful, but gave prompt relief, although bandages failed to hold the kidney up for more than a few hours. An abdominal supporter and pad, applied a few days later, held the kidney up perfectly; all dragging sensations and tenderness promptly disappeared, the urine cleared, and flatulence vanished. At present the patient expresses herself as being more comfortable than for many years, and performs with ease ordinary household duties. The supporter, by holding up the pendulous abdomen, serves a double purpose: that of affording a support of intestines for the kidney, and that of relieving pressure from above on the uterus, thus lessening its tendency to descend. No history of sudden traumatism could be elicited, and it seems likely that in this case the enteroptosis had some effect in producing the loose kidney, through depriving it of the normal intestinal support.

Case IV.—Miss B——, English, medical student, aged twenty-two; seen August 26, 1897. History: Two years previous, while assisting to move a stove, the patient had felt a "giving away" on the left side, and ever since, at intervals varying from a few weeks to a few months, had had more or less severe pain on the left side, always commencing suddenly—"as if something slipped"—and lasting from a few hours to a couple of days. The pain was worse on walking, and final disappearance usually took place at night, while she was lying down. The left kidney was found to have dropped four or five inches, but was easily replaced, with instant relief. A temporary bandage and pad were applied, and an abdominal supporter was adjusted snugly on the second day, since which time the kidney has continuously remained in position. No flatulence, constipation, or any symptoms other than the dragging pain were noticed.

Case V.—Miss G——, German, factory girl, aged eighteen; seen October 21, 1897. History: After recovery from an attack of peritonitis the patient called attention to a "stitch" in her left side, that had troubled her intermittently for about two years, and which now seemed accompanied by an area of tenderness. The left kidney was found movable about three and one-half or four inches; it was easily replaced, with relief from dragging sensations, but quickly slipped down again. Wearing a supporter and pad gives temporary relief, but the kidney slips down during the day, as the patient's work requires her frequently to stoop and lift heavy trays of condensed-milk cans from the floor to tables. This labor probably induced the displacement. The peritonitis had been ascribed to colonic fæcal impaction, but it is possible that the loose kidney also was a causative agent, to a greater or less degree.

Case VI.—Mrs. H——, American, housewife, aged thirty-three; seen October 25, 1897. History: For three years the patient had suffered with occasional dragging pain on the left side. When the pain was most severe, irregular heart action accompanied it. Indigestion, with intestinal fermentation and constipation, was frequent. The left kidney was found movable about two inches. No history of traumatism could be obtained. Application of bandage and pad gave relief, but the patient is not at present under observation.

Case VII.—Mrs. S——, Irish, housewife, aged twenty-seven; seen October 25, 1897. History: Two years previous, when six months pregnant, the patient had experienced a severe fall while attempting to enter a room through a transom. Miscarriage followed, and since that time there has been increasing pain on the left side—at first an occasional dull ache, but now almost constant and frequently changing to sharp pain. There were some digestive disorders, with flatulence and constipation. No urinary symptoms were noticed. Examination showed the left kidney to be movable about three inches. Relief was afforded by application of a bandage and pad, but the patient, as in the last dispensary case, has not been seen of late.

Case VIII.—Miss S——, American, restaurant cashier, aged nineteen; seen December 24, 1897. History: Five months before, while bicycling, the patient had had a severe fall, the wheel and another rider falling upon her. This was followed by pain and tenderness in the right side for some weeks. Since then there have been intermittent sharp and dragging pains. Some slight digestive disturbances were complained of, although no flatulence or constipation presented. The patient was rather nervous and easily excitable. The right kidney was found dropped about three and one-half inches, and replacement was quite painful. Present treatment of any kind was declined, but the nervous symptoms have lessened with a knowledge of the true condition.

Case IX.—Mrs. L——, German, housewife, aged twenty-eight; seen January 6, 1898. History: Five years previous the patient had been thrown from a buggy, since which time at intervals she experienced peculiar aches and pains on the right side. The right kidney was found movable about five and one-half or six inches, and usually lying at the lower limit of its motion, in the lower lumbar region, where it could be easily felt and the contour plainly mapped out. Replacement was easy, with disappearance of dragging sensations, but the patient objected to the retaining bandage, on account of stomach tenderness, which was accompanied by excessive flatulence and constipation. Incidentally it may be stated that the patient was just convalescing from an attack of exophthalmic goitre, of six years' standing, and was in a very neurasthenic condition. Further attention to the kidney was declined for the present.

404 Indiana Avenue.

AN UNUSUAL CONDITION OF THE ARTERIES OF THE FOREARM.

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Though variations in the normal distribution of the arteries are quite common, especially in the arm, yet the following condition is worthy of notice.

In a male subject the brachial artery divided just opposite the elbow-joint into the radial and ulnar arteries. The ulnar artery passed downward and inward, resting upon the pronator radii teres and flexor carpi radialis muscles, till it reached the muscular body of the palmaris longus muscle. Passing under this muscle and partly covered by it, it coursed well over to the ulnar side of the forearm, being covered in the upper part of its course by the flexor carpi ulnaris. It then descended the forearm to the hand, forming the super-

ficial palmar arch. In most of its course this artery was covered only by skin and fascia. Instead of passing below the common origin of the superficial flexor group of muscles, it passed superficial to all except the palmaris longus and flexor carpi ulnaris. The anterior and posterior ulnar recurrent and a few small muscular branches were the only ones given off from the ulnar artery.

The radial artery occupied its normal position. About two and one-half inches below its origin a large branch was given off and passed inward and downward. This branch, about two inches in length, divided into two terminal arteries—one passing down the forearm anterior to the anterior interosseous membrane and forming the anterior interosseous artery; the other passing through the membrane and then down posteriorly to it, becoming the posterior interosseous artery. Just before the common interosseous artery divided a small branch was given off, forming the radial recurrent artery.

The common interosseous artery finding its origin from the radial is quite unusual.

Another condition noted in another male subject, not so unusual, was division of the brachial artery two inches below the axilla. In one arm the inner division of the artery passed outward and downward over the other division and median nerve, and passed down the forearm to become the radial artery; the other division passed to its inner side and formed the ulnar. In the other arm the division occurred high up, but there was no crossing of the arteries.

CASE OF DIFFUSE SYMMETRICAL SCLERODERMA WITH MARKED MUSCULAR ATROPHY.[1]

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The peculiar condition of the skin characterized by induration, rigidity, and subsequent atrophy was first described by Curcio in 1752. Gintrac in 1847 applied to it the name scleroderma.

Briefly described, the malady presents itself first as a firm symmetrical œdema involving the subcutaneous tissue, pitting under pressure, but soon becoming tense and hard. The surface of the skin over the affected area is smooth, shiny, waxy, or mottled, and deeply pigmented, usually on a level with the surrounding parts. Rheumatic pains may precede the outbreak, but it may make its appearance so insidiously that the patient is unaware of its occurrence till there is well-marked induration. The integument cannot be pinched up into folds or moved over the deeper structures. Sensibility is in time impaired; later the skin becomes tightly stretched over the underlying parts, and atrophy of the cuticle and muscles may be marked. The contraction of the skin causes pseudo-ankylosis, so that the fingers are flexed on the hands, the forearms on the arms, and from lack of nutrition ulcerations over the bony prominences frequently occur. Though the general health may remain good for years, marasmus frequently supervenes, which sooner or later terminates in death.

As to the cause of the malady but little is known. Like that of most other cutaneous disorders, the etiology is very obscure. Rheumatism has been mentioned as a predisposing cause, but the generally accepted idea is that the changes in the skin are due to some disorder of the nervous system. According to Heller's statistics, only fifty-two cases had appeared in literature previous to 1873, and probably twice as many more in the following ten years. In this country in 1894 the returns of the American Dermatological Association show 24,321 cases of skin disease; eleven of these were reported to be scleroderma. Returns from the same source, from June, 1878, to January, 1893, give eighty-five cases of the disease in 204,866 cases of cutaneous maladies. So it would seem that in this country there is about one example in every twenty-five hundred cases of skin diseases.

The disease is therefore sufficiently uncommon to make the report of the following case of some interest:

B. K——, seventeen years of age, a well-developed, intelligent mulatto girl. Her father died some years ago of pneumonia; the mother is a strong, robust woman, who has seldom had a day's sickness. The patient states that some years ago while attending school she began to suffer from rheumatic pains, loss of appetite, and general debility. Though she had been strong and was well developed for her age and capable of doing as much work as her mother, she now had to leave school, remain at home, and, to use her own expression, was "absolutely good for nothing." In a short time the joints began to swell and became so stiff she could not extend the arms or fingers. At first the swelling was soft and pitted on pressure, but it soon extended along the arms, forearms, and thighs, and became hard and unyielding. Two years ago she first noticed that the limbs were shrunken and as hard and unyielding as stiff leather. She entered a hospital and was there treated for progressive muscular atrophy. Receiving no benefit, she came to this city a year ago. October 1st she presented herself at my office for treatment. Dark pigmentations irregular in outline, from a pinhead to the palm of the hand in size, were scattered over the surface of the skin; the arms were reduced very much in circumference; the muscles were so much atrophied that the skin seemed to be almost in contact with the periosteum, with the exception of longitudinal ridges of muscles that extended the full length of the arm, and were as hard as wood. The arms could not be lifted above the shoulders nor could the fingers be fully extended. The thighs also were much reduced in size; on the inner part of the left thigh, just below the groin, was a distinct swelling of about the size of an egg. The ankles were much swollen, firm pressure causing some pain. About the right buttock was a subcutaneous tumor, of the size and shape of a small saucer, and, though the skin was firmly attached to it, the tumor was freely movable on the parts beneath. The integument of the arms, thighs, and legs felt cold and hard to the touch. Sensation was unimpaired. Two small ulcerations were seen on the right elbow. The face was much swollen. The eyelids were œdematous and covered with a reddish papular rash; though red and looking like a papular eczema, the condition has lasted without change for two years. There were no pruritus and no history of moisture about the parts. The skin in this situation was not bound down, but felt rough, dry, and unyielding. The integument about the lower jaw was hard and smooth, could not be pinched up into folds. Except for the general weakness, the patient did not complain.

From a clinical standpoint the case is of interest, on account of the excessive muscular atrophy, the very large and peculiar-shaped subcutaneous tumors, and the non-inflammatory papular eruption.

When first seen the patient was given a generous diet, with cod-liver oil and iron; locally salicylic-acid ointment and massage, combined with inunctions of cod-liver oil and occasional Turkish baths. The galvanic current was applied twice a week over the region of the spine. At the present time the patient declares that she is feeling better in every way, except for periodical pains extending along the limbs. The skin lesions have changed but little in appearance.

[1] Read before the District of Columbia Medical Society, February 2, 1898.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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CLIMATES OF CUBA AND MANILA.

CUBA is to a great extent an unknown land; her forests alone are estimated to occupy no less than 13,000,000 acres, and are said to be so dense as to be almost impenetrable. But perhaps the most extraordinary feature in regard to this general ignorance concerning that island is the lack of exact knowledge of the climate. Pessimists contend that it is in a high degree deadly to the white man, while optimists are as strenuous in asserting that, provided needful precautions are taken, the air is quite salubrious. We have always been of the opinion that the climate of the island, at least on the coast and in the lowlands, during the wet season from May to October, is decidedly unhealthy. Certain it is that its effects on the Spanish soldiery have been most disastrous, although, as we pointed out in a late number of the MEDICAL RECORD, much of this excessive rate of mortality has been due to the inefficient system of hygiene, to bad diet, unsuitable clothing, and the carelessness universally prevailing among the military authorities with regard to the health of the rank and file of the army. However, there is no evading the fact that the landing of a large body of more or less raw, unacclimatized men in the lowlands of a reputed unhealthy coast at the beginning of the rainy season is an experiment that must from the very nature of things be attended with much risk. Therefore any accurate information on the subject is both apropos and welcome. A pamphlet has recently been issued by the weather bureau of the United States department of agriculture, prepared from information collected by W. F. R. Phillips, in charge of the section of climatology, and which contains in its pages all that is at present known concerning the climates of Cuba and Manila. Mr. Phillips says: "Ramon de la Sagra, in his 'Histoire Physique de Cuba,' quotes as the earliest record he had consulted a year's observations of the barometer and thermometer made in Havana in 1794. The thermometer readings, however, appeared to be in error from some cause or other not known, and were considered too inaccurate to use. At only one station have systematic meteorological observations been made and published for any considerable time, and that is at the observatory of Belen College, Havana. . . . The climate of the West Indies presents, with respect to both temperature and rainfall, considerable variations from the generally conceived idea of tropical uniformity. These variations are largely, if not entirely, caused by differences in altitude and position with respect to the prevailing winds of the zone. . . . The average annual temperature of Havana, as determined from the observations at Belen College, made during the decennium 1888–1897 may be stated in round numbers as 77° F. In this decennium the highest annual temperature was 77.2° F., and this occurred upon three occasions; and the lowest annual temperature was 76.1° F., and happened upon only one occasion, showing in the ten years an extreme range in annual averages of but 1.1 degrees. It would therefore seem probable that the mean temperature for the decennial period 1888–1897 is about a true average for Havana for any long period. The warmest month at Havana is July, with an average temperature of 82.4° F. The coldest month is January, with an average temperature of 70.3° F. The highest temperature recorded was 100.6° F., in July, 1891, and the lowest 49.6° F., in February, 1896. For Matanzas, on the coast about fifty miles east of Havana, there is a record for two years. From this the mean annual temperature at Matanzas appears to be about 78° F. At Santiago it is apparently higher than on the northern and western coasts, and from the meagre data available appears to be about 80° F. . . . The relative humidity of the atmosphere appears to be fairly constant, as far as can be determined from the observations available, and averages about seventy-five per cent. of saturation. . . . The absolute humidity is very great. At Havana the average is about 7.5 grains of vapor to the cubic foot of air. The average rainfall for Havana is about sixty-two inches for the year. On an average the greatest rainfall occurs in October and the next greatest in June. The description of the rainfall of Cuba virtually resolves itself, so far as present information goes, into that of rainfall at Havana. The number of days on which rain falls is upon the whole considerable, about one day out of three at Havana. The prevailing winds of the West Indies are the 'northeast trades.' The average velocity of the wind at Havana is about 7.5 miles an hour. In climates having such high temperatures and humidities as shown for the West Indies, the velocity of the wind and its constancy are of the greatest importance to both comfort and health." As may be gathered from the portions quoted, Mr. Phillips' report is highly interesting, and should serve to remove certain misapprehensions which now exist respecting the temperature and rainfall of Cuba. The belief is widespread that the heat and rainfall are infinitely greater than in any part of this country; whereas in reality, the average summer temperature of Havana is but little higher than that of New Orleans, while its rainfall is actually less. The climate of the low coast lands of Cuba is that of the torrid zone, and in the rainy seasons doubtless exercises a pernicious effect upon the health of unacclimatized white men. The higher interior of the island enjoys a more temperate atmosphere. The average temperature of Manila is 80° F. The months of April, May, and June are the hottest part of the year. May, with an average temperature of

84° F., is the hottest of the three. The highest thermometer reading recorded is 100° F.; this was observed in May. The average relative humidity is seventy-eight per cent. The average absolute humidity is 8.75 grains in a cubic foot. The average rainfall is 75.43 inches, of which 43.69 inches, more than fifty-seven per cent., fall during the month of July.

SHOES FOR THE TROOPS.

A CONSIDERABLE amount of dissatisfaction continues to exist on account of the failure of the contractors to supply with shoes with a desirable degree of alacrity the men now in camp. Some of the troops are said to be barefooted, while many are the possessors of footgear alleged to be unserviceable. It is also reported in some of the journals that cheapness rather than quality has entered somewhat largely into the question of the shoe supply. If such be the case, it may be taken for granted that the proceeding is one of false economy and will assuredly in the long run be a matter for repentance. Shoes have often been a stumbling-block with army authorities. In the campaign recently undertaken by Great Britain in the Soudan, bitter complaints were made by the British soldiers with regard to the ineffectiveness of their shoes; indeed, so much bad feeling was evoked that the secretary of state for war made it his business, on the first convenient opportunity, to deliver himself of a public apology and to explain as well as he was able the cause of the defective shoes. Dr. A. C. Girard, U. S. A., in May, last year, said that he considered that some of the bad results following the use of ill-fitting shoes were in many instances the fault of the men themselves, who selected them so short as often to cause ingrowing toenails and inflamed corns. He suggested that the footwear of the men be under the personal supervision of company commanders. On the enlistment of a man the company shoemaker should measure the man's foot and a record be kept of this measurement, and in drawing shoes this measure should be adhered to. Commenting on this, Colonel Woodhull, chief surgeon of the department, remarked: "The action recommended in relation to shoes is both wise and important. An infantry officer should take the same care of his men's feet that a cavalry officer does of his horse's feet; but generally the men's feet are neglected and the results described follow."

"AMERICAN WOMEN AND WAR."

THE above is the title of an article which appeared in a recent number of the *Hospital Mirror*, and which highly praises the work done by American women in war. The following are some of the writer's remarks: "It may be interesting at the present time to recall a few facts with reference to the noble part played by American women in the civil war. Now that the United States are at war with Spain, there is no question that they are in a position to make their nursing and hospital arrangements on a scale of perfection never before equalled in the war of nations. So far back as 1861 the Americans were able to equip their field service and various agencies for giving 'first aid' to the wounded in battle in an admirable manner, which has served as a pattern to every other country. And the nursing-service at that time, it must be remembered, was largely the work of amateurs. To-day the United States army possesses a vast force of skilled and efficient nurses, who can and will be put into action in a few days." After referring in the most complimentary terms to the work of the women throughout the Civil War, the *Hospital Mirror* ends its article thus: "Of the devotion of nurses and amateurs who went through a hurried training of a few weeks in order to qualify for posts in the military hospitals, it is impossible to speak, for whole volumes might be written of the heroism and self-sacrifice displayed by the women of the civil war. With such examples before us of what has been accomplished by American women in time of war, it is quite safe to predict, now that an outbreak of war has occurred between the United States and Spain, that the trained nurses of the former country will show themselves second to none in bravery and devotion to duty." The above panegyric should be very gratifying to the American *amour propre*, and is in addition on the whole true. Certainly that part which refers to the conduct of the American women in the civil war is true to the letter. Whether, however, we possess at the present time a vast body of skilled and efficient army nurses is somewhat open to question. There is no doubt that the ones we do possess are equal to those of any nation, and it is equally certain that we have an immense reserve from which to draw those only who require a little training to render them competent to fulfil the duties of soldiers' nurses. The latter are to be equipped for immediate service through the agency of the civil branch of the American National Red Cross, and promise from present indications to fulfil the most sanguine anticipations of what American nursing can accomplish.

A Painful Accident to a Surgeon.—We regret to learn of a very serious and strange accident which befell Dr. Simmons, surgeon to the Polyclinic Hospital, while operating there on Saturday last. According to the account given in the daily papers, Dr. Simmons was amputating the leg of a man who had been injured in a cable-car accident. A number of students were watching the operation, and the leg was hanging only by the soft parts, when Dr. Simmons took up the knife to sever the leg from the body. The assistant who had hold of the leg suddenly slipped and fell against Dr. Simmons. His weight pushed the knife against the left wrist of the surgeon, and the hand was nearly cut off. The loss of blood was excessive and Dr. Simmons is now reported to be in a very serious condition. We earnestly turst that the account first given of the accident was exaggerated, and that the accomplished surgeon will be spared for yet many years of useful activity.

News of the Week.

The Naval Hospital Corps.—The house bill to organize a hospital corps of the United States navy, to define its duties, and regulate its pay has passed the senate. Under the bill the pay of hospital stewards is to be $60 a month; hospital apprentices (first-class), $30 a month; and hospital apprentices, $20 a month, with such increase on account of length of service as is now, or may hereafter be, allowed by law to other enlisted men in the navy.

Obituary Notes.—Dr. Louis E. Bertine, of Mount Vernon, N. Y., died recently of injuries inflicted by an unknown assailant on the evening of June 4th. He was returning to his home when he was suddenly set upon and stunned by a blow on the head, apparently from a sandbag. His skull was fractured and he never recovered consciousness after reaching his house. Dr. Bertine was a graduate of the Bellevue Hospital Medical College in 1881, and was city physician and president of the Mount Vernon board of health.—Dr. Louis Michel, of West Hoboken, N. J., died on June 9th, at his home in Summit Avenue. He was seventy-two years old, and was a graduate of the New York Medical College in 1852. He served as surgeon in the navy during the civil war, and was city physician in West Hoboken from 1892 to 1896.—Dr. Porteous C. Gilbert, of Saratoga, died on June 11th, at the age of fifty-seven years. He served during the civil war as captain in the New York volunteers for two years, and then resigned and re-enlisted as surgeon and served as such to the close of the war. He was a pension examiner at the time of his death.—Dr. John A. Larrabee, of Louisville, Ky., died at his home in that city on June 12th, of chronic nephritis. He was born in Maine fifty-eight years ago, and was graduated in medicine from Bowdoin College in 1864.

The Hospital Ship "Solace," during her recent visit to this port, bringing fifty-four sick and wounded sailors from Admiral Sampson's fleet, was inspected by Surgeon-General Van Reypen. The patients were doing well and all are expected to recover. The jackies have named the *Solace* the "ice-cream ship," because the ice-making machine aboard has enabled the nurses to add ice cream to the other delicacies supplied to the inmates of the hospital. All the necessaries in the way of diet are furnished, of course, by the navy department, but the delicacies, such as oranges, lemons, jellies, chickens, etc., have been provided by private subscription.

Dr. Sternberg on the Danger from Yellow Fever.—In a recent number of the *Army and Navy Journal* it was said that Surgeon-General Sternberg had expressed himself as having little fear that yellow fever would prove more harmful to the troops in Cuba and Porto Rico than are ordinarily the diseases common in northern latitudes. Dr. Sternberg, however, disclaims making any such prophecy, in the following communication to that journal: "I have not expressed any such optimistic opinion, and regret to say that it is not justified either by my studies relating to yellow fever or by my personal experience. History teaches that when a considerable number of unprotected persons are exposed in a yellow-fever-infected locality during the months when this disease is most prevalent (May 1st to November 1st, in the latitude of Havana) an epidemic almost infallibly results. In the last week of April of last year there were seventeen deaths and seventy new cases of yellow fever in the city of Havana. Now, suppose that we had a similar number of cases at the same season in New Orleans, and that twenty thousand strangers from the North should go there to spend the summer, what would be the result? All past experience supports the belief that a majority of them would have yellow fever, and that from twenty to forty per cent. of those taken sick would die. This is what I anticipate would happen if we should send an army to occupy Havana, or any other infected seaport on the coast of Cuba during the summer months. If, however, these troops could be camped upon high land in the interior, and circumstances were such as to enable them to comply with all of the exactions of modern sanitary science, I am of the opinion that our loss from yellow fever would not be serious. But in time of war military commanders are expected to take their troops to the points occupied by the enemy, and a picnic in the interior with frequent changes of camp, etc., is perhaps not exactly what we may expect."

Yellow Fever on the Gulf Coast.—Several cases of yellow fever have occurred at McHenry, a small town in Mississippi, on the Gulf of Mexico. The town was visited by the epidemic last year. Some apprehension is felt lest the disease reappear in other places visited by it last summer and fall, especially in view of the fact that the winter has been so mild. The Marine Hospital Service has taken the matter in charge, and Dr. R. D. Geddings, now stationed at Tampa, has been ordered to proceed to McHenry and take charge of Camp Fontainebleau, the yellow-fever camp put in operation during the last year, and which is now in readiness for present cases.

The American Association for the Advancement of Science.—The fiftieth annual meeting of this association will be held in Boston in August. The city has appropriated $2,500 for the entertainment of the members, but the State legislature has voted against an appropriation of a like amount, on the ground that it would establish a dangerous precedent. The committee on arrangements will need $10,000, so $7,500 will have to be raised by private subscription, as it should be.

St. Vincent's Hospital.—At the annual meeting of the hospital the following appointments were made: Assistant visiting surgeons, Dr. Joseph B. Bissell, Dr. George D. Stewart; assistant visiting physicians, Dr. Charles H. Lewis, Dr. Jose M. Ferrer.

Disinfection of the Transports.—Among other measures to prevent the introduction of yellow fever into this country from Cuba or Porto Rico, Surgeon-General Wyman has recommended that the transports engaged in carrying troops and munitions of war to those islands be disinfected at the end of each round

trip, and that nothing be carried in them except troops and supplies, and that refugees and others from Cuba and Porto Rico be not permitted to occupy the boats.

The British Medical Association.—The sixty-seventh annual meeting of this association will be held in Edinburgh during the last week in July, under the presidency of Sir Thomas Grainger Stewart.

Examination for the Marine Hospital Service.—A board of officers will be convened at Washington, July 6, 1898, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine Hospital service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1, physical; 2, written; 3, oral; 4, clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on the cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service assistant surgeons are entitled to examinations for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. When quarters are not provided, commutation at the rate of $30, $40, or $50 a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service up to forty per cent. after twenty years' service. The tenure of office is permanent. Officers travelling under orders are allowed actual expenses. Invitation to appear before the board of examiners may be obtained from the supervising surgeon-general, United States Marine Hospital service, Washington, D. C.

Medical Education in France.—Frenchmen who find fault with us because most of our medical schools require only four years of study, conveniently overlook the fact that they themselves devote less than half of each year of their student days to work. The *British Medical Journal* says that the students of the University of Paris are not likely to suffer from intellectual overpressure, if one may judge from the number of holidays which they enjoy. One of the students has used some of the abundant spare time which the bounty of his alma mater in the matter of "free days" leaves him to compile the following list of holidays: The great summer vacation, 64 days; All Saints' holidays, 3; Christmas and New Year, 10; St. Charlemagne, 2; free days in Lent, 2; the Easter vacation, 15; Whitsuntide, 3; the National Festival, 3; Sundays, 52; Thursdays, 52; memorial days of great men, 10; total, 216 days. Thus it is seen that the future doctors of France devote only 149 days out of the 365 to the business of their education.

The California State Medical Society.—At the recent turbulent meeting of this society at Fresno, the following officers were elected for the ensuing year: Dr. William Watt Kerr, *President;* Dr. A. J. Pedlar, *First Vice-President;* Dr. George L. Cole, *Second Vice-President;* Dr. D. A. Hodgehead, *Secretary;* Dr. Thomas Ross, *Treasurer.* The next annual meeting will be held at Monterey.

The Ontario Medical Association.—The eighteenth annual meeting of this association was held in Toronto on June 1st and 2d. The following officers were elected for the ensuing year: *President,* W. J. Gibson, Belleville, Ontario; *First Vice-President,* J. F. W. Ross, Toronto; *Second Vice-President,* I. Olmstead, Hamilton; *Third Vice-President,* W. J. Rowe, Georgetown; *Fourth Vice-President,* Neil McCrimmon, Kincardine; *Secretary,* John N. E. Brown, Toronto; *Treasurer,* George H. Carveth, Toronto. The next meeting will be held at Toronto on the first Wednesday and Thursday in June, 1899.

Obituary.

JOHN BLAIR GIBBS, M.D.,

ASSISTANT SURGEON, U. S. NAVY.

Dr. John Blair Gibbs, the first medical victim of the present conflict with Spain, was a practising physician in this city up to the beginning of the war. He was the son of an officer in the United States army, who was killed in the Custer massacre by the Indians. He was born at an army post in the West in 1858. He was a graduate in arts of Rutgers College in 1878, and in medicine of the College of Physicians and Surgeons, New York, in 1882. He served in the surgical interne staff at Bellevue and afterward at Roosevelt Hospital. After studying abroad for a while, he returned to New York and entered upon practice. He was an attending surgeon to the Demilt Dispensary and assistant attending surgeon to the Lebanon Hospital.

When war was declared, Dr. Gibbs volunteered at once for service in the navy, and, after passing his examination and receiving his commission, was the first of the New York volunteer naval surgeons to be assigned to duty. He was ordered at first to the *Miantonomoh*, but was later transferred to the *Panther.* When the marines from the latter were landed on the shores of Guantanamo Bay he was sent with them. He was killed by a stray bullet, just after leaving the hospital tent, at one o'clock on the morning of June 12th, during an attack on the camp by a Spanish guerrilla troup.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 19, 1898.

EDWARD G. JANEWAY, M.D., PRESIDENT.

The Serum Exanthemata Observed in the Antitoxin Treatment of Diphtheria.—DR. HENRY W. BERG read a paper on this subject (see page 865) and illustrated it with lantern slides.

Nature of Rashes.—DR. H. G. PIFFARD spoke of the nature of these rashes, particularly those of an acute character. It was well known, he said, that many of the eruptions on the skin were clearly due to local causes, such as croton oil, poison ivy, etc., resulting in an inflammatory reaction against the attack—the irritant—but when the irritant was applied from within instead of from without, the nature of the process was not so clear. Some years ago it was the fashion among dermatologists to speak of many of the common eruptions as neuroses of the skin. There could not be any eruption without a neurosis, in one sense, *i.e.*, that there was a change in the calibre of the vessels brought about by nerve influence. In the case of eruptions observed in connection with disturbances of the stomach, it certainly seemed plausible to suppose that the eruption was a reflex phenomenon. It was assumed, but had not been proved, that the eruption seen in connection with the use of antitoxic serum was the result of the effort to eliminate the poison through the skin. It was a reasonable hypothesis because it was known to be the explanation in the case of other toxic substances, such as iodide of potassium. As the diphtheria antitoxin had not been isolated, there was no proof that the eruption was due to the antitoxin itself.

Individual Variations in Horse Serum.—DR. W. H. PARK said that he had been intensely interested in this work of Dr. Berg, because it would have a bearing not only on diphtheria antitoxin, but on other antitoxic serums. It was not rare that the physician was unable to differentiate between scarlet fever and the eruption produced by diphtheria antitoxin. In work at the laboratory it had been found that there were great differences in the serum from different horses regarding the production of rashes, and even a difference in serum taken from the same horse at different times. Thus, one of the best serum horses at the laboratory suddenly began to produce a serum which gave such a large proportion of eruptions that it was necessary to stop taking serum from him. The horse was sent to the country to recuperate for a few weeks, and on his return it was found that the serum taken from him no longer produced such an unusual proportion of rashes.

The Rashes Not Altogether Harmless.—He agreed entirely with Dr. Berg that these rashes were at times quite serious. In some cases the mucous membrane was involved, and in these there seemed to be a special tendency to bronchitis and pneumonia.

Effect of Dosage.—Where immunizing doses were given, the rashes would not be seen in more than about two per cent. of the cases, and the rashes would be very mild, as a rule. However, there were marked individual differences exhibited, even with these small doses. In a general way, however, it was true that the larger the dose, the more frequent the development of rashes and the greater their severity. It seemed to him hard to believe that antitoxin rashes were even largely the result of an effort to eliminate the poison through the skin. The time of the appearance of the eruption was exceedingly variable, as was also the type of the eruption, and the eruptions showed a remarkable disposition to come and go.

Filtration of the Serum.—The filters spoken of in the paper as "fine" filter so slowly that only about ten or fifteen cubic centimetres are obtained in a day; the filter denominated "coarse" in the paper was really a moderately fine filter, as it was capable of taking out all bacteria. It should not be forgotten that rashes were occasionally observed, even with serum that had been passed through the fine filter. As there was no effect observed with the so-called coarse filter, and as the number of cases was really quite small, he did not feel that any very definite conclusions could be drawn regarding the effect of filtration of the serum on the production of rashes.

Heating of the Serum.—One observer had just made the statement that by heating the serum up to a certain point the rashes could be prevented, and it had been ascertained that such heating did not injure the antitoxin. Antitoxin had not yet been obtained in even an approximately pure state in a form in which it could be preserved for any length of time.

Maximum Concentration.—About eight hundred to one thousand units to the cubic centimetre was as high as it was practicable to get a horse serum, although it might be run up to twelve hundred or fifteen hundred units under exceptional circumstances.

Observations on the Dosage in Relation to Rashes.—DR. W. P. NORTHRUP thought that with our present knowledge it was almost hopeless to attempt to explain the etiology of these rashes. Although the eruption of typhoid fever was practically an erythema, and the germ of the disease was known and had been abundantly investigated, there had been no definite explanation as yet given of the occurrence of this eruption. Moreover, in typhoid fever the eruption was so scanty that the eliminative theory hardly seemed to apply. He had recently had an opportunity of observing some of these cases in connection with an epidemic of measles at the New York Foundling Asylum. In previous epidemics the measles had usually been complicated with diphtheria or pneumonia. All of the cases were accordingly immunized with diphtheria antitoxin, and there was an unusually small percentage of eruptions observed. Such as did occur were very mild and very transient. This would seem to argue in favor of the view that the size of the dose of serum had much to do with the frequency of these erythemata. This experience was especially interesting when compared with the previous one in the same institution at the time when very large doses of antitoxin serum were in use. At that time rashes had been very frequent and very severe.

Serum itself Dangerous.—DR. HENRY DWIGHT CHAPIN said that the greatest improvement in the diphtheria antitoxin serum was in its greater concentration. He had not been able to convince himself that large quantities of serum were harmless, because in a series of experiments with large doses of sterilized horse serum in the treatment of marasmus he had found that all of the cases did very badly. The rashes were not so frequently observed now that a more concentrated antitoxic serum was used—in other words, when less serum was given with each dose of antitoxin.

Various Kinds of Eruptions Compared.—DR. A. JACOBI said that not long ago, when it was found that the antitoxin serum would cause eruptions, this in itself constituted a great objection to the use of the remedy, but that feeling had passed off. The eruption was not always characteristic. There were two principal forms observed, viz.: (1) erythema; and (2) urticaria. The same eruptions were observed after the administration of such medicines as the bromides, arsenic, quinine, and the coal-tar products, notably antipyrin. A number of different eruptions also were associated with rheumatism, *e.g.*, erythema, urticaria, and petechiæ. It was not surprising when one con-

sidered the great extent of the cutaneous surface that eruptions appeared on this surface rather than on the internal integuments and organs.

Albumose Appears in the Urine.—He had noticed that the injection of diphtheria antitoxin was frequently followed by the appearance of peptones or albumose in the urine. This usually disappeared in from five to ten days. In this respect also the diphtheria antitoxin acted only as did the various infectious diseases.

It is an Eliminative Rash.—Dr. Berg closed the discussion. He said that there was considerable proof that the antitoxin rashes were of an eliminative character and not of neurotic origin. One of the best of these proofs was that a Russian observer, who had tested all the secretions and excretions of the body in connection with the use of antitoxin, had found that about eighty per cent. of the antitoxin was excreted from the body by the sweat glands. The speaker said that he firmly believed that the acute exanthemata produce their skin manifestations by the effort of the skin to excrete the poison of these infectious diseases. The skin being an important channel of elimination, it endeavored to eliminate this poison, and it was this great effort that led to the production of the eruption. No one had claimed that the rashes could be entirely prevented. It was not only his small number of cases that he offered as proof of the good effect of filtering the antitoxin serum, but a large number of experiments made by several foreign authorities on the effect of injections of normal horse serum, both filtered and unfiltered.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, May 26, 1898.

Edwin B. Cragin, M.D., Chairman.

A Case of Intra-Uterine and Tubo-Interstitial Gestation.—Dr. Brooks H. Wells reported the following case of this kind: Mrs. X——, twenty-seven years of age, married, had had one child, five years ago. Last October he had curetted her uterus because of hemorrhage following an incomplete abortion. The uterus was extremely retroverted and non-adherent; the appendages were normal, and there was no history of previous pelvic disease. She ceased menstruating March 20th, and when she was seen by him on April 19th pregnancy was diagnosed. There were appreciable softening and enlargement of the uterine fundus, and she presented some of the subjective signs of pregnancy. On April 24th she complained of nausea, and the examination showed the uterus to be slightly enlarged and elastic, the enlargement being rather greater on the right side. There was no tenderness. She returned on May 1st, complaining that for the past two days she had had some pain in the upper sacral region and over McBurney's point, but examination failed to show evidence of appendicitis. The uterus was rather large for a six weeks' pregnancy, and the right cornu was quite tender and decidedly more bulging than before. The appendages were apparently normal. That evening she again complained of the "pinching" pain in the right side, and after a while the pain suddenly became severe and was accompanied by faintness and nausea. A neighboring physician insisted that she was only suffering from colic, and gave some codeine. When seen by the speaker the following morning, she was pale, the skin was moist, and the pulse was 120, soft, and weak. There were slight tenderness over the right inguinal region, decided tenderness about the right uterine cornu, and a slight feeling of resistance over the entire vaginal fornix. The existence of internal hemorrhage being recognized, hasty preparations were made for abdominal section; but before it could be performed she became pulseless, pale, and cyanosed, and the sensorium was blunted. A large quantity of freshly clotted and fluid blood was found in the peritoneal cavity, and the tube was discovered to have been entirely torn off from the uterine cornu, while the remains of the ovum projected from the cornu. The rent in the cornu, about one inch in length, was sewed up with chromicized catgut, and the dangling tube and ovary were ligated and removed. The clots were turned out of the abdomen, and, after the peritoneal cavity had been flushed with saline solution at a temperature of 110° F., the abdominal wound was closed. Hypodermic injections of strychnine and whiskey and hot saline injections into the rectum were also required to keep alive the spark of life during the operation. Six hours after operation her pulse was 120. Her temperature reached 101.4° F. on the evening of the second day, and dropped to the normal on the fourth day. On the twenty-fourth day, by the aid of a curette and without anæsthesia, the intra-uterine ovum was removed. It had evidently been dead for some time, but caused no symptoms other than an offensive discharge for a few days. The patient was now steadily recovering, though still very anæmic. The special points of interest in this case were: (1) The combination of uterine and ectopic gestation; (2) the situation of the ectopic pregnancy in the interstitial portion of the tube; (3) the complete absence of symptoms until within a few hours of the rupture; (4) the normal condition of the tube: and (5) the question of operation in the face of such desperate conditions.

Dr. H. J. Boldt congratulated Dr. Wells on the excellent result obtained in this desperate case. The first interesting feature to him was the difficulty of making the diagnosis prior to rupture. He contended that the statement made by many, that it was easy to diagnose ectopic gestation before the occurrence of rupture, was erroneous. It was easy in a typical case, especially after slight intraperitoneal hemorrhage. Another point of interest was the uncommon site of the impregnation. In a large number of cases seen by him he had met with only one instance of interstitial pregnancy. This likewise ruptured at an early stage. He called attention to the moderate elevation of temperature that occurred after operation, which, he said, was common, and he attributed it to the absorption of water and blood left in the abdomen. He said that impregnated Fallopian tubes which were non-adherent were especially dangerous to the patient, because they gave rise to such free hemorrhage when they ruptured, and because of the difficulties of previously recognizing the condition. The case reported was an additional instance, and a very impressive one, of the fact that, no matter how desperate the condition of the patient, prompt action should be taken.

Dr. E. B. Cragin said that the text-books usually stated that interstitial pregnancies ruptured at a late period of gestation.

Dr. S. Marx observed that it was by no means rare to find in text-books statements which were not borne out by facts.

Dr. H. N. Vineberg called attention to the necessity of operating without delay, no matter how apparently desperate the condition of the patient.

A Third Successful Case of Abdominal Hysterectomy for Acute Puerperal Sepsis.—Dr. Hiram N. Vineberg reported the following case, and presented the specimen: Mrs. S——, twenty years of age, married ten months, had been delivered by another physician with forceps on April 17, 1898. On April 19th her temperature was 102° F., and the next day it was 104° F. He then used the dull curette without anæsthesia. As the temperature remained the same, she was again curetted and the uterus irrigated. On April

26th a consultant vigorously used a sharp curette on the uterus, with temporary improvement in the symptoms. When the patient was seen by him on the morning of May 1st, her temperature was 103 F., the pulse 120 and fairly good; the tongue was coated, the mucous membranes were livid, and the abdomen and uterus were flabby. Two fingers could be easily passed up to the fundus of the uterus, and, while nothing was found in the interior of the uterus, one point of the wall of the fundus was suspiciously thin. There was a boggy mass in Douglas' cul-de-sac. At 9 P.M. her temperature was 106 F. and the pulse 130. It being suspected that the posterior mass was an abscess, an incision was made in the posterior vaginal vault. This disclosed the fact that the mass was the posterior portion of the very flabby uterus. On May 3d her condition was very critical, and she was taken to St. Mark's Hospital for a hysterectomy. This was done in the afternoon, after an attempt to remove the uterus per vaginam had failed because of the great friability of the former. On the second day after the operation a septic pneumonia developed, which gradually spread over both lungs, and, until lysis occurred, between the tenth and twelfth days, her condition was extremely critical. For over a week past she had been entirely free from fever and was convalescing satisfactorily.

The uterus from this case was presented. It was very soft and flabby, and over the interior of the fundus was an area, about the size of a silver dollar, from which all the muscular wall had been scraped away. The exterior of the uterus was riddled with small abscesses, varying in size from that of a pea to that of a kidney bean. One abscess, situated on the anterior wall, just below the uterine end of the tube, was about the size of an almond, and the peritoneum covering it was very much thinned. In a very short time this would have ruptured and a *foudroyant* septic peritonitis would have resulted. This case, the speaker said, although belonging to a different class from his two successful cases, emphasized the surgical principle which should guide one in the treatment of these desperate cases. If it was concluded that the uterus was the gross source of infection, and that curettage, irrigations, and similar palliative measures were ineffective in controlling the sepsis, extirpation of the uterus should be done as a *dernier ressort*; but by that it was not meant that one should wait until the patient was moribund before instituting this treatment.

Case of Renal Calculus Simulating Tuberculosis.—Dr. H. N. Vineberg reported also the following case: Mrs. F—— was operated upon for right pyosalpinx at the Woman's Hospital in March, 1894. In October, 1895, he had operated upon her for a very large ovarian cyst, with extensive adhesions to the intestine, uterus, and pelvic floor, and had found it necessary to remove the uterus also. She recovered and enjoyed good health up to last summer, when she began to have chills and fever, which seemed to yield to quinine. In December she again had some fever, and this time it was associated with vague pains in the left lumbar region. He saw her in consultation, diagnosed a pyelitis, and advised cystoscopy, but this was not performed. She did fairly well until March of the present year, when she developed an irregular fever and complained of pain in the right lumbar region. After this had lasted about a fortnight, he saw her again, and was struck by the great emaciation. The cystoscope now showed an intensely inflamed bladder, and, two drachms of urine being drawn from the left ureter, it was found to contain a little muco-pus. The urine from the right ureter contained about fifty per cent. of pus. Palpation revealed some enlargement of the right kidney. In a consultation with Dr. F. Lange, a few days later, these points were confirmed, and it was concluded that there was a double pyelitis, with a large pus collection in the right kidney, and that the left kidney was functionating fairly well. Evacuation of the pus on the right side was advised. A second cystoscopic examination on the following day gave the same result, and about a drachm of pus which drained from the right ureter was examined for tubercle bacilli, with negative result. Two days later the right kidney was exposed by an incision, and was found to be considerably enlarged, but not fluctuating. Exploration with an aspirating needle finally located a small collection of pus near the centre of the kidney, and exploration of the interior of the organ showed that its whole pelvis was occupied by a hard calculus, which ramified into the pyramids. The calculus was broken up and removed, and was found to weigh forty-eight grains. As its removal caused quite free bleeding, the cavity was packed with iodoform gauze, and, after the arrest of the hemorrhage, the wound in the loin was partially sutured, leaving a large space for the gauze drain. The patient did well for about twenty hours; then she gradually passed into collapse, and died thirty hours after the operation. During this time there was an abundant secretion of turbid urine. An autopsy was not permitted, but Dr. Vineberg said it was reasonable to suppose that the left kidney also contained a calculus.

The following features were especially interesting: (1) The absence of hæmaturia; and (2) the absence of any well-marked renal colic. The elements favoring the diagnosis of tuberculosis were: (1) the progressive character of the disease; (2) the irregular fever; (3) the great emaciation and weakness; (4) the kidney lesions being double; and (5) the large quantity of pus coming from the kidney. That death was not the result of the impairment of the other kidney was proved by the abundant secretion of urine after operation; it was really due to delay in operating and the inability of the patient's debilitated system to resist the shock. The loss of blood contributed largely to the fatal result, as septic patients readily succumbed to any decided loss of blood.

Acute Inversion of the Uterus, with Report of a Case.—Dr. William S. Stone read a paper on this subject. He said that the first extensive description of this rare and serious complication had been given by Crosse, of England, who in 1846 found four hundred cases in the literature, three hundred and fifty of which had followed pregnancy. The present paper was limited to a consideration of the parturient inversions. The rarity of the condition was well shown by the fact that in 190,000 deliveries at the Dublin Lying-in Rotunda it occurred only once. He had been able to collect from the literature of the last five years about forty cases, twenty of which had been reported in America. Dr. Stone said that formerly precipitate or very slow labors, and traction on the cord, were considered to be the chief etiological factors; but, as Emmet had well said, if traction on the cord was such an important cause, these cases should have been more frequent in the days when obstetrics was less developed and more cases were entrusted to midwives, which was not so. According to Crosse, the predisposing causes were: (1) All general diseases which relaxed and enfeebled the system; (2) the erect position during labor; (3) partial inertia of the uterus; and (4) attachment of the placenta to the fundus. The exciting causes he stated to be: (1) Such as were situated in the uterine tissue itself; (2) such as acted on the outer surface of the uterus, pressing it down; and (3) such as acted on its internal surface, pulling it down. After referring to the views of Tyler Smith and Matthews Duncan, the speaker quoted from a review of two hundred and twenty-six cases, collected and published by Dr. H. E. Crampton in 1885. According to this report, inversion was preceded by paresis of some

portion of the uterine muscle, caused by too frequent childbearing, tedious labor, previous miscarriages, traumatism, emotional excitement, or too rapid labor. In its inception, it was a pure neurosis. It was more apt to occur in primiparæ, probably owing to the peculiar emotional excitement attendant upon a first labor, which was reflected upon the exhausted uterine muscle, called for the first time into unusual action. Under such conditions a slight degree of depression of any portion of the uterine body became a source of danger. In ten of Crampton's cases there was a very short cord. Beckman, in a paper published in 1895, drew the conclusion that spontaneous origin was more frequent than previous writers had supposed. In fifty-four of his one hundred cases reported, this was considered to be the origin; in twenty-one the inversion was due to violent procedure, and in twenty-five the description was too meagre to allow assigning any cause. Frequent mention, the speaker said, was made of the fact that inversion of the uterus was associated with adherent placenta, but it seemed very probable that the frequent presence of true adherent placenta was not the cause of the inversion, but that the lack of contraction at the placental site caused both the adherent placenta and the inversion. Abdominal pressure and the improper application of the Credé method of expelling the placenta must also be put down as causes, and it was interesting to note that inversion had been recorded as having taken place after death.

The following was the report of his own case: The patient was a primipara, twenty-two years of age, who had been married three years. She had always been delicate and of an extremely nervous temperament, and had suffered much from dysmenorrhœa, and, after marriage, from vaginismus. She had been very nervous and apprehensive during her pregnancy. He was called because of the early rupture of the membranes. Examination showed the membranes to have ruptured and the os to be about three-fourths dilated, although the patient insisted that she had had no pain whatever. After some hours she began to have pains, and the head reached the pelvic floor. They then ceased, and delivery was effected with forceps. The cord was wrapped once around the neck of the child. The delivery was immediately followed by a gush of blood. Before the placenta could be expressed the patient became pale and the pulse rapid and feeble. The placenta was found in the vagina, firmly adherent to the inverted uterus. The cord was of the average length. The hemorrhage ceased and did not recur. Pending the arrival of a consultant, measures were taken to revive the patient from her condition of profound shock, but when the consultant arrived, one hour after delivery, she was almost moribund. She died in half an hour.

It should be noted that most of the cases collected by him occurred in primiparæ; this was the fact in regard to sixteen. Twenty-two of the labors were abnormal; in two there were very short cords; in eight cases traction was used; in ten the placenta was said to have been adherent; one was a case of placenta prævia; and two were cases of placenta succenturiata, one of which occurred seventeen days after labor, while the patient was at stool.

Symptoms.—The ordinary symptoms were sudden and severe pain, with more or less hemorrhage and shock. However, in a number of cases on record the symptoms had been so slight that the lesion was not recognized. The shock was out of all proportion to the hemorrhage. It most commonly occurred between the birth of the child and the delivery of the placenta. This was the time of its occurrence in thirteen of the cases collected in the paper.

Prognosis.—The prognosis was almost always serious, threatening the life of the patient within a few hours. The mortality given was quite variable—all the way from thirty to fifty per cent. There were six deaths in the collected cases. Occasionally spontaneous reduction occurred after a considerable time. There seemed to be little tendency for the uterus to invert a second time.

Treatment.—The chief obstacle to reduction was the constricting ring. Prolonged continuous pressure on the fundus and constriction by means of the hand were perhaps the best measures. The placenta should be removed before reduction was attempted. An important part was the treatment of the severe shock.

Dr. S. Marx said that the symptoms were very much like those of an accidental hemorrhage, except the hemorrhage. Apparently a sudden and profound irritation was brought to bear on the splanchnic plexus. He had operated in five cases, in four of which he had seen the patients during life. Of these four, he had been able to save three. One case was extremely interesting, because it occurred three weeks after an absolutely normal labor in a flabby multipara. The exciting cause was a large organized blood clot which simulated a fibroid. This was removed, the uterus was replaced, and the woman died of some intercurrent disease a few weeks later.

Dr. H. E. Crampton said that about sixteen years ago he had collected two hundred and twenty-six cases, occurring between 1840 and 1880. It was interesting to hear further testimony regarding the frequency of this complication in primiparæ. In his cases many of the primiparæ were unmarried, and this gave rise to special emotional excitement and a neurotic condition favorable to such an occurrence.

Dr. Leonard S. Rau said that in 1890 he had had a case of inversion of the uterus. He had been called to see a woman who had first been attended by a midwife, and then by a neighboring physician before his arrival. This physician applied forceps, which produced a severe hemorrhage. It was at this juncture that the speaker had arrived and had found a placenta prævia. He accordingly performed version and delivered a dead child. The woman then suddenly went into collapse, and examination revealed an inversion of the uterus. The patient was inverted, and then by prolonged manipulation the uterine inversion was reduced and a gauze packing inserted. The woman made an uneventful recovery.

Clinical Report of Five Cases of Appendicitis in Pregnancy and the Puerperal State.—Dr. S. Marx presented this report. He said that he was of the opinion that appendical inflammation occurred in connection with pregnancy more often than had been supposed. Indeed, there was reason to think that the congestion of the system and the vicious condition of the blood associated with pregnancy acted as a predisposing cause of appendicitis. In most cases the diagnosis was difficult, but this was fortunately not of much importance, because if the symptoms were sufficiently severe the treatment was operative, whether the appendix or the uterine appendage was the seat of the inflammation.

In his first case there was no definite history of prior attacks. Six hours after a perfectly normal labor the patient had a severe chill, accompanied by pain, fever, and abdominal tenderness. This tenderness gradually became localized over the caput coli. She slowly recovered, but had two or three slight attacks subsequently, and finally Dr. Willy Meyer performed an "interval" operation, and removed an appendix which measured eight inches in length.

The second case occurred in a primipara, who had had attacks of appendicitis prior to her marriage. Dr. Gerster operated upon her for appendicitis when she was four months advanced in pregnancy, and she made

a satisfactory recovery. She was delivered without difficulty, but forceps were used with the idea of taking the strain of the second stage off the recent abdominal scar. A few hours later she experienced much pain about the scar, apparently from the rupture of an abdominal adhesion band.

The third patient was in confinement with the third child, two months and a half after a suppurating ovarian dermoid had been removed. After labor the patient developed a rapid pulse with increased temperature and pain localized in the caput coli. She gradually recovered, operation being refused. Subsequently the symptoms became so urgent that an operation was performed at night. The appendix was firmly embedded in the posterior wall of the suppurating mass. She was now fully convalescent.

Serum Therapy in Puerperal Cases. The fourth patient was a primipara in the Maternity Hospital, who had had an attack of peritonitis three years before. At the seventh month of pregnancy she began to complain of pain over the appendix, but the pulse and temperature were normal. The treatment consisted in catharsis, the use of the ice bag, and rest in bed. After six days the temperature rose, the pulse became rapid, and there was abdominal tenderness, but no tumor could be detected. At the time of the operation the pulse was 124 and the temperature 101.5° F. The right tube and ovary constituted part of the abscess sac, and the appendix was necrotic. About four ounces of fetid pus was evacuated. Twenty-four hours after operation labor pains set in, and the woman was delivered of a living child. The temperature and pulse rose rapidly, and, general septicæmia being apprehended, she was given ten cubic centimetres of Gibier's antistreptococcus serum, with the happiest result. The appendix came away on the fifth day. On the twelfth day she began to have chills and fever, and to develop a sero-purulent peritonitis. After an extensive operation convalescence was slowly established. Meanwhile the serum was continued in small doses.

Hasten Labor when Uterus and Abscess Sac are Adherent.—Dr. Marx said that in cases in which the uterus formed an anatomical part of the wall of the abscess cavity, when the uterus contracted it was liable to cause rupture of fresh adhesions and produce infection of the peritoneal cavity. It was therefore his rule in such cases to deliver the woman at the beginning of labor by manual dilatation of the cervix, version, or forceps delivery, and immediately tampon the utero-vaginal tract.

The fifth case was that of a woman four and a half months pregnant, who had been in good health previously. Her present attack began with vomiting and pain, with but little fever. When he saw the case on the fourth day the temperature was 100 F. and the pulse 130. The abdomen was moderately distended and painful, and there was tumefaction over the caput coli. Rectal and vaginal examinations were negative. An incision was made high up in the loin, and about half a pint of pus escaped. The abscess cavity was encapsulated. The parts were thoroughly washed with pyrozone and a gauze drain was inserted. All of the symptoms were improved at once. On the sixth day it was decided to suture the wound. She suddenly developed symptoms of intestinal obstruction, and exploration under ether revealed an obstruction in the ascending colon, due to a constricting band. Pus was found coming from the general peritoneal cavity, so multiple incisions were made, a gauze drain was inserted, and doses of Marmorek's streptococcus serum were administered. The patient died in forty-eight hours.

Dr. Marx said that in his puerperal streptococcus cases the serum had invariably failed. When it acted well the effect was observed quickly. Large doses of the serum produced headache, nausea, and vomiting, with rise of temperature.

Dr. Boldt said that he had once had a case of appendicitis complicating extra-uterine pregnancy. In this instance the diagnosis of appendicitis was not made until operation for the ectopic gestation. His experience with the serum therapy in puerperal streptococcus cases had been like that of the reader of the paper.

Dr. Vineberg said the idea of delivering the pregnant uterus at full term by manual dilatation and other methods calculated to hasten labor seemed strange to him, because when this was done the anatomical relations of the uterus to the abscess cavity must be changed, especially when the uterus was packed with gauze. It seemed to him a dangerous teaching in such cases. He also questioned very much whether it was necessary to hasten or aid delivery simply because there was a recent abdominal scar, as many women with separated recti muscles and pendulous bellies were easily delivered without interference, and without any further damage to the abdominal wall. His experience with serum therapy had been entirely negative, both as to good and bad effects.

Dr. Wells said that he had used the serum in only two cases, but in these he had been unable to observe any effect from it. He did not think it was at all necessary to assist delivery in cases in which there was a recent abdominal scar, unless there was reason to believe that the scar was especially weak. He had had occasion to deliver three women at intervals varying from six weeks to four months after abdominal section, and the labor had had no injurious effect upon the scar in any of these cases.

Dr. Marx said that in cases in which he had interfered to hasten labor and avoid rupture of the contiguous abscess cavity, his idea had been to permit a minimum of uterine contraction, and then after delivery to support the uterine side of the abscess sac by a temporary gauze packing, the manipulations being, of course, done under deep chloroform narcosis.

AMERICAN MEDICAL ASSOCIATION.

Forty-Ninth Annual Meeting, Held in Denver, Col., June 7, 8, 9, and 10, 1898.

(Continued from page 852.)

GENERAL SESSION.

Third Day—Thursday, June 9th.

Report of Trustees.—Dr. Alonzo Garcelon reported that the board of trustees had become an incorporated body during the past year, and that the financial condition of the association was very satisfactory. The total receipts for the year ending December 31, 1897, were $64,522.72, and the expenditures, $25,637.67.

Report of Special Committee on Department of Public Health. Dr. U. O. B. Wingate, the chairman of the committee, presented a report of the work done by the committee, and offered the following resolutions, which were adopted by the association:

"*Resolved*, That the committee on department of public health be continued; that the bill as now perfected and before Congress, and which is submitted with this report (the Spooner bill), be and hereby is approved, and that the committee be authorized to use their best endeavors to have it passed by the Congress of the United States, at such time as in their judgment it seems proper and wise.

"*Resolved*, That the members of this association

do all in their power by urging upon their representative members of Congress to have this bill passed."

President's Address.—Regarding the suggestion in the address of Dr. Sternberg, that reputable physicians who were willing to subscribe to the regulations of the association be admitted to membership without regard to whether or not their State, county, or district association subscribed to the code of ethics, the executive committee reported that, while in sympathy with the view expressed by the president, it did not feel that action could be taken on it under the existing laws of the association. The report of the committee was unanimously adopted.

Rush Monument Committee.—Dr. H. G. Holton, of Burlington, Vt., was elected treasurer of this committee.

Medical Education and Membership in the Association.—On the recommendation of the executive committee, the following resolution offered by Dr. Reynolds, of Kentucky, was adopted:

"*Resolved*, That the American Medical Association gives notice that no professor or teacher in, or any graduate of any medical college of the United States which shall after January 1, 1899, confer the degree of doctor of medicine, or receive such degree on any condition below the published standard of the Association of American Medical Colleges, shall be allowed to register as delegate or permanent member of this association."

New York Physician and the American Medical Association.—Dr. Hobart A. Hare, of Philadelphia, at the general session held Wednesday, introduced the following resolutions, which he explained had been offered at the meeting in Baltimore two years ago, and had, under the rules, been laid over for one year, and for some unknown reason had not then been acted upon.

"*Resolved*, That the American Medical Association invites the New York State Medical Society, the Medical Society of the County of New York, the New York Academy of Medicine, and other good societies in good and regular standing, to send delegates to this association, who will be received and accredited on proper credentials from the officers of such societies; and

"*Resolved*, That all acts or ordinances contrary in spirit or letter are hereby rescinded."

These resolutions were referred to the business committee after a struggle, and at the present session that committee reported that, while it unanimously indorsed the idea, the members of the committee felt that the resolutions involved questions which did not properly come within the province of the committee, but of the association at large, and consequently the resolutions were referred back to the association. On motion, the report was received.

Dr. Hare then explained his reason for offering the resolutions. He said that it was unknown to many members that in New York State there existed two State and in New York county two county medical societies. One of these State and one of the county societies had a right in the association by the rules of that body, and it possessed that right at the present moment by inheritance. The other association—the other county society—a much younger organization, but nevertheless a very much more powerful one, both in numbers and in the large amount of scientific work contributed each year, had not been admitted. It was true that these two organizations had not adopted in their constitutions and bylaws a rigid code of ethics which governed the entire body, and which brought each individual member under the care of their censors or judicial councils. Each member did what he believed to be right. This association—the Society of the County of New York—numbered thirteen hundred, while the New York County Association numbered about nine hundred members. Dr. Hare said that it was with the object of admitting, under certain restrictions, these thirteen hundred members of the Medical Society of the County of New York to the meetings of the American Medical Association that these resolutions were offered. He would not counsel that those who consult with irregular practitioners should be admitted; each member coming from the County Society should sign the code of ethics of the association. Attention was called to the fact that the judicial council was empowered to state what societies should come in, and hence there was no danger of the association being "snowed under," as some feared, by irregular practitioners. It was simply his wish that the members of this prominent and scientific society, who might not agree on minor points regarding the code of ethics, should have the privileges of the American Medical Association. We had heard much about the unity of the country: that there were no North and no South; that the different sections of this country were welded together; and yet there were one American Medical Association and one medical profession in America, and there was no irregular medical profession. Dr. Hare concluded his remarks by immediately moving the previous question, and requesting that the roll be called and the ayes and nays recorded on that motion.

The chairman, Dr. T. J. Happel, of Tennessee, said that he would not have heard Dr. Hare's statement if he had known that he was going to move the previous question; he had allowed him to speak because he had been under the impression that Dr. Hare wished a full and free discussion of the matter, and he had thought in this way it might be settled once and for all time.

Dr. Hare then withdrew his motion until Dr. Scott, of Ohio, might have an opportunity to present the other side.

Dr. Scott said that there was a history connected with this question. The New York State Society, he declared, was no young society, but was formerly a constituent of this body. In 1881 it passed a resolution that it would have no code, and that its members could consult with whomever they pleased. In 1882, at St. Paul, its delegates were refused admission by the judicial council. The matter then rested until 1891. Some members of the New York State Medical Society had come back and had been admitted to membership. Finally, in 1892, the council decided that they could not be admitted, but, upon the representations of the members of the New York State Society who were present in Detroit, a committee was appointed by this organization to confer with a committee from the New York State Society. The result was that in 1893 the American Medical Association was informed that a union could be brought about only by acceding to the terms of the former. The association then passed a resolution that it would never consider this question. (Applause.) The speaker, continuing, said that this question did not come from the New York State Medical Society asking for proper qualifications, but from gentlemen entirely outside of that society. He thought it was time when that society made the request for the members of this association to consider the matter; any other plan would only stultify the association.

Dr. I. N. Love, of St. Louis, said that he had studied this question carefully from the various standpoints, and he thought the resolutions offered by Dr. Hare would permit many able and scientific members of the profession in New York county to enter this association. They were in the minority, and they could do nothing, as their hands were tied. They could, however, by this resolution enter the association individually, as others did. Dr. Scott had made the point that members of the State and county societies had presented no request, and that it had been done by

outside parties. How could they present any request when they could not get in? If they individually joined the association by signing the rules and regulations and the code of ethics, just as the rest did, as individuals, he certainly would favor the resolution offered by Dr. Hare.

Dr. E. D. Ferguson, of Troy, said that Dr. Scott had practically covered the field, and had been accurate except as to two or three minor dates. Dr. Ferguson said that to the profession in the State of New York this was a very tender and a very serious question. The members of the New York State Association regretted as much as did Dr. Hare that all the members of the medical profession in New York State were not entitled to representation in the American Medical Association, but it was their own fault. They deliberately cut themselves off from that association, although warned what the result would be. They replied that they were the high scientific body of the State of New York, that the American Medical Association was nothing but a junketing association any way, and that it would come to them in due time. That was fifteen years ago. But the American Medical Association had grown, and it was now desirable for these men to come into the association. As the secretary of the New York State Association since its organization, he had been repeatedly asked if there was not some way by which these men might be entitled to the privileges of this floor. They had never as a body given any sign of their desire to return to the American Medical Association. At the time of the appointment of the committee at the Detroit meeting, the New York State Society said that it saw no occasion to appoint a committee. The New York State Medical Society was not a young body; it was the pioneer body in the organization of the American Medical Association. Now, in the face of all sorts of official ways of rejecting proposed methods by which its members might reinstate themselves, a resolution was now introduced, inviting them to become members. It had been said that these gentlemen would be pure and holy because they could subscribe to the code of ethics. If they could do that, the door was open for them, for they could join their local association in New York and come here as delegates. It was now stated that these men should come here and be received as delegates. Delegates from what? Delegates from a body which had spat contumely upon the association, and had never withdrawn these insults! Were the members of this association to ask and beg the New York State Medical Society to some back into the fold of the American Medical Ascociation? (Cries of "No! No!" "Not much!")

Dr. W. P. Munn, of Denver, said that these resolutions were the inoculated scalpel by which it was proposed to introduce the sepsis of commercialism into the American Medical Association. (Loud cheers, and cries of "Good!" "Good!") Dr. Hare, the speaker said, was a delegate from Pennsylvania, and, although it was now eight years since he had left his home in that State, he knew from his many visits among the practitioners in that State that he could to-day voice their sentiments more faithfully, more accurately, and more truthfully than could Dr. Hare. These resolutions were the resolutions of Dr. Hare, and they could not carry for one instant before the State Medical Society of Pennsylvania. In this Western country the profession had had all it could do to uphold the code of ethics of the American Medical Association, but it had been done. Were they now to be trodden down by this derelict, dead, rotten society from New York—(stopped by hisses).

Dr. Jackson, of Philadelphia, said that he had sincerely hoped that this question could be decided once for all. The question was: Shall the American Medical Association be a representative body, representative of the local organizations of the profession throughout the country, or shall it consist of individual members attracted to its meetings, who represent themselves?

Dr. Hare said that he had had no intention of making any erroneous statements, if he had done so, and he had withdrawn temporarily his motion of the previous question as a matter of courtesy. Although in his remarks he had endeavored to be courteous, others had been guilty of using very offensive language. He would only add that in New York State there was an organization which had made a mistake, and its members desired to come back. (Derisive laughter.)

Dr. Hare then insisted in renewing his motion of the previous question.

Dr. W. T. Bishop, of Harrisburg, raised the point of order that if these resolutions were adopted the organic law of the association would be contravened. The organic law provided that there should be but one State medical society and but one county society in a county.

The Chairman sustained the point of order. The regular order of business was then proceeded with.

Address on Surgery.—This was delivered by Dr. John B. Murphy, of Chicago, who selected for his subject, "The Surgery of the Lung." He stated that an analysis of the accomplishments in this special line of work was of great interest, the advancements having been made by individual and unsupported efforts. The profession at large had never entered into these fields with the enthusiasm, persistency, and energy with which it had invaded other fields, as the peritoneum, the genito-urinary, the osseous, and the nervous systems. The speaker then considered at great length the early history of lung surgery, after which he discussed the anatomy of the lung, the lymphatics, and the physiology of respiration.

Operations upon the Lung.—In considering this subject, he said that several questions arose: (1) Was the lung, situated in its bone-bound cavity, accessible to surgical manipulation? (2) What were the difficulties and dangers encountered in entering this bony cavity? (3) To what extent might this wall be removed and replaced, and what latitude of manipulation was permitted within the chest? (4) What would be the effect of opening the pleura of pneumothorax in cases of adhesions, and without adhesions? (5) How could its dangers be avoided or lessened? (6) Should the pleura be closed or drained? (7) Could the lung be incised, excised, or defunctionatized? (8) In pneumotomy, what were the dangers and limitations? They were hemorrhage from the opening in the chest, and pneumothorax from the opening in the bronchi; also pleuritis of the same and the opposite sides, and traumatic pneumonia and sepsis. (9) What were the pathological conditions of the lung requiring excision? They were hernia, infected injuries, abscesses, bronchiectasis, gangrene, the removal of foreign bodies, tuberculous cavities, hydatids, and actinomycosis. (10) In pneumotomy, what were the dangers and limitations? In answer to this last question, he said that the immediate dangers were hemorrhage, pneumothorax, and dyspnœa, and the secondary ones, shock, dyspnœa, hemorrhage, sepsis, pleuritis and pneumonia on the opposite side. Dr. Murphy then dwelt upon the best method of treating the intrathoracic stump, and of drainage and closure, and expatiated upon the pathological histology of repair of the stump, etc. (11) How was the chest filled after excision? What were the pathological conditions in which excision was desirable or required? These were neoplasms of the chest wall involving the lungs; circumscribed tuberculosis. (12) How could the lung be defunctionatized artificially and quiescence maintained? By

injections into the pleural cavity and by resection of the ribs, which allowed the chest wall to collapse; and thoracotomy with separation of pleural adhesions and compression of the lung. (13) What were the technical difficulties of intrapleural injection? They were adhesions and consolidations. What were its technical dangers? They were air embolism, subpleural emphysema, pulmonary emphysema, dyspnœa, and sepsis.

The following questions were also propounded: How could we determine that the injected material was passing into the pleural cavity and not into the lung tissue, or bronchus? What was the most desirable material to use for injections? What were the effects of this pulmonary quiescence on the healthy lung? What were the effects of this pulmonary quiescence on the diseased lung, particularly in tuberculosis? How long must the lung remain functionless that the process of repair in tuberculosis might be complete? Were pleuritic effusions beneficial or prejudicial to the repair of tuberculosis of the lung?

Pathology, he said, indicated, and clinical experience justified, resection of ribs to allow collapse of the lung. The same conditions demanded thoracotomy with separation of adhesions and compression of the lung. The dangers of operation on and injuries to the chest wall were shock, hemorrhage, pneumothorax, and sepsis. These three dangers were then taken up seriatim by the author and considered at length, after which followed extensive observations on the action of the lung in the human subject.

Dr. Murphy next considered the diagnosis of pneumothorax and its treatment, and afterward the following subjects: Hernia of the lung and its treatment; wounds of the lung; infective lesions of the lung, their etiology and treatment; abscess of the lung, and its treatment; bronchiectasis; gangrene of the lung; foreign bodies in the lung; tuberculosis of the lung; incision and drainage of the tuberculous cavities; hydatid cysts; actinomycosis of the lung; neoplasms of the chest wall, and lung requiring pneumectomy. In conclusion, the speaker gave an exhaustive numerical summary of the cases operated on, both by himself and by other eminent surgeons, as collected from the literature of the subject, for the following conditions: Gangrene of the lung, abscess of the lung, bronchiectasis, tuberculosis of the lung, foreign bodies in the lung, and neoplasms of the lung. This included the results, favorable or unfavorable, of the various operations.

Dr. Murphy said that pulmonary surgery had ever been hampered by that nightmare—pneumothorax. Different views had been held regarding the cause of the dyspnœa in pneumothorax, but from considerable study and experimentation he had concluded that it was the result of vibration of the mediastinal septum, which thereby nullified the piston action of the diaphragm. If, therefore, the mediastinal septum could be immobilized, the great danger from this complication would cease to exist. Pulmonary tuberculosis was cured by surrounding the focus of infection by connective tissue. More cases, he asserted, of cured tuberculosis were found at autopsies on persons dead of other diseases than cases of death from pulmonary tuberculosis. This connective-tissue formation was favored in the lung as elsewhere by immobilization of the part. In one hundred and sixty-four collected cases of empyema four patients died, seven had fistula, and one hundred and sixty recovered. This seemed to him very good treatment for pulmonary tuberculosis. In at least eighty-three per cent. of cases of pleurisy the disease was tuberculous in origin. It should not be forgotten that plastic pleurisy was curative of tuberculosis of the lung. The method of treating tuberculosis of the lung by compression was a very old one. It was well known that the lung could be compressed for a long time, and that it would expand again when freed from pressure. He had injected into the pleural cavity large quantities of nitrogen gas, as this gas was the least active, and was very slowly absorbed. It might be allowed to remain for a number of months, and the lung be permitted to perform its function. In one case one hundred and forty cubic inches of nitrogen gas was injected. This was followed by slight dyspnœa, lasting, however, only a few minutes. Skiagraphs were taken at intervals for five weeks, and these showed that the gas was slowly removed. Prior to the injection the patient's cough had been very harassing, but on the night following the injection he slept the entire night. Dr. Murphy said that he had tried the method on other patients, and they were anxious for it, as it was simple and free from discomfort. As long as the chest was not opened and the vibration of the diaphragm was prevented, there was no danger of pneumothorax, but there was a possibility of air embolism occurring from injury of a vein by the trocar. Again, in cases of adhesions the trocar might not enter the lung unless special precautions were taken. This method of treatment was applicable to the earliest stage of tuberculosis of the lung, when there was only a small superficial cavity in the apex.

By a rising vote the association tendered its thanks to Dr. Murphy for the address.

SECTION ON SURGERY AND ANATOMY.

W. L. Rodman, of Louisville, Chairman.

First Day—Tuesday, June 7th.

Address of the Chairman: The Influence of Age, Sex, and Race in Surgical Affections.—Dr. W. L. Rodman delivered an address on this topic. He said that the negro was an entirely different being now from what he was in *ante-bellum* days; he was less resistant, and gave a larger mortality in both medical and surgical affections than the Caucasian. It was no wonder that some claimed that in time the negro would become extinct.

Malignant Disease.—Malignant disease was certainly increasing in the black in greater ratio than in the white race. The negro was relatively somewhat more prone to sarcoma than to cancer. From the statistics he had been able to collect it seemed fair to conclude that the negro suffered from cancer one-half as often as the white, although malignant disease of the mammary gland was as frequent in the negro as in the white. He had not seen cancer of the penis, larynx, or tongue in negroes, although rectal cancer was comparatively common. Cancer was pre-eminently an affection which increased in frequency with the advance of civilization. Women were twice as liable to malignant tumors as men, because of the proneness to malignant disease of the breast and uterus. Infancy and childhood were practically exempt from cancer; it was rare prior to thirty, and after this age was more and more frequent. During the second decennium the long bones were the usual site of sarcoma. After forty years and before sixty sarcoma was less common. Like cancer it was a common senescent change, but, unlike cancer, was more destructive in early life.

Tuberculosis.—Pulmonary tuberculosis was practically unknown among the negroes several generations ago; now it was more than twice as common as among the whites, and was still more common in the American Indian. Local tuberculosis of the joints, lymphatic glands, and serous membranes also showed a marked increase. An enormous percentage of Indian boys and girls developed surgical tuberculosis when taken

from their native out-door life to that of the school-room.

Varicocele.—Dr. Rodman said that in his two hundred and fifteen operative cases he had never known varicocele to begin before puberty, and rarely after thirty. Most of the cases occurred between the ages of fifteen and twenty-five years. As a rule, it was cured by marriage, although he had operated upon many married men, and in one instance upon a man over fifty years of age. In six hundred cases operated upon by the surgeons in Louisville, not once was it seen in the negro and only once in the mulatto. This had been the experience of many surgeons in other parts of the country. Anatomically, the testicles of the negro did not hang so low as in the white, and they were not so large, although the penis was larger. Moreover, the scrotum fitted more closely, and gave better support to the veins. Physiologically, the negro began his sexual life at puberty, and thereafter did not know what sexual continence was.

Enlarged Prostate.—According to his own experience it was common to find enlarged prostate in the white race after the age of fifty, but it was rarely seen in the negro, and this had been the experience of many other surgeons. Dr. H. H. Mudd's supposed case of hypertrophy of the prostate in the negro had often been cited, but Dr. Mudd had recently stated that the case had turned out to be one of malignant disease.

Gall Stones.—Cases of gall stone were infrequent after thirty years, and became progressively more frequent as age advanced. The condition was very much more common in women, probably owing to their sedentary habits and bowel and stomach troubles. It was exceedingly rare in negroes, probably owing to their more active life, better teeth, and stronger digestion, together with their diminished liability to malaria and other affections associated with torpid liver.

Aneurism.—According to the records of the Louisville Hospital, aneurism was a little over three times as frequent in negroes as in the white, although the proportion of colored to white was three to one. It was more than three times more frequent in males, owing to the greater tendency to arterial degeneration and the effect of habits of life and occupations.

Tetanus.—This affection was more common in subjects living in hot climates and having dark skins. In this country the negro was unquestionably more obnoxious, especially in infancy. This was partly due to racial predisposition, and to carelessness and ignorance. Persons from five to fifteen showed the highest death rate, and it was five times higher in boys than in girls, apparently largely owing to toy-pistol accidents. Sudden variations in temperature and the depression following upon defeat had always been noted to increase the number of cases of tetanus in military practice. Tetanus was much too common in connection with ritual circumcision among the Hebrews, owing to unsurgical methods.

Ovarian Tumors.—These occurred at all ages and in every race, the cystic and dermoid varieties being the most common. They were frequently congenital, and were stimulated to activity at puberty. Ovarian tumors were less frequent in the negro than in the white, but the negro was far from immune to such growths. The largest tumor of this kind removed by operation weighed two hundred and forty-five pounds. Malignant disease of the ovary was four times more frequent before the age of fifteen than afterward.

Surgical Anatomy of the Bile Tracts.—Dr. A. D. Bevan, of Chicago, read a paper with this title. He said that the modern surgery of this region dated back to the operation of cholecystotomy performed by Sims in 1878. The usual incisions employed in these operations did not give sufficient room, unless made very long, and if this was done there was liability of hernia. The vertical incision along the outer border of the rectus was objectionable because it cut off a large part of the nerve supply of the abdominal muscles, and weakened the abdominal wall. The T-shaped incision was difficult to suture so as to secure primary union, and it was prone to be followed by hernia. The incision in the upper half of the linea alba did not give free access to the gall bladder. An incision which was suitable both for exploration and extensive operation, Dr. Bevan said, was made as follows: It consisted of an outer or primary part, and an extended part. The former was shaped like an italic letter "S," and passed through the outer border of the rectus muscle. It was about three or four inches in length. The extended portions were added when required. They could be made from one inch to three inches in length. The upper extension should not completely divide the entire thickness of the rectus. When complete the incision furnished much freer access to the gall bladder than could be secured by any other incision. Considering its length it injured a minimum amount of nerve supply, and the danger of hernia was likewise reduced to a minimum, the incision being in close contact with the costal arch. At no point should this incision come within three-fourths of an inch of the costal arch. The gall bladder might be conveniently located by the junction of the costal arch with the anterior border of the rectus muscle. At the junction of the neck of the gall bladder with the duct was an S-shaped curve which could be straightened out by division of the peritoneum and connective tissue covering the neck of the gall bladder. The speaker called attention to the close relations between the common duct, the pyloric vein, the portal vein, and the gastro-duodenal artery.

Dr. John B. Hamilton, of Chicago, said that about two years ago he had become interested in this subject, and had examined into the position of the gall bladder in about twenty-five cadavers. By drawing a line from the ensiform appendix to the superior spine of the ilium and another from the umbilicus to the tenth costal junction, it would be found that the gall bladder was situated at a point about half to three-fourths of an inch above the intersection of these lines.

Dr. Harris, of Chicago, said he had made a number of dissections of this region, and had been able to confirm the statements made regarding the relations between the ducts and the portal vein—a point that had been a subject of contention. He had used on several occasions the incision recommended in the paper, and could testify to the very excellent access which it afforded to the bile tracts. In the extension of the incision downward and outward the external oblique was divided at right angles to its fibres, thus causing this portion of the wound to gape. It could be obviated by very accurate suturing at this point.

Intestinal Obstruction from Gall Stones.—Dr. J. P. Lord, of Omaha, read this paper and reported a case in which he had removed, because of intestinal obstruction, a stone of large size from the bowel of a woman of seventy years. The stone was about the size of a hen's egg, and had a gall stone for a nucleus. As there was no history of biliary colic, it had probably ulcerated through the gall bladder into the bowel. It was probable that its size had been considerably augmented after it reached the intestine. In these cases the abdominal distention was not usually marked; the greatest abdominal distention was observed in cases in which the obstruction was in the rectum, sigmoid, or some portion of the large intestine. From fifty to eighty per cent. of these patients should be saved by operation, yet the mortality from operation hitherto had been almost equal to this percentage. He thought it probable that if all cases were operated upon in the

first twenty-four hours, the mortality would be reduced to a point which would be creditable to the surgeon. Fæcal vomiting should be an indication for immediate interference in intestinal obstruction from gall stones. It was his practice to precede operations in cases of intestinal obstruction by lavage of the stomach, because he had seen patients nearly killed during operation by the vomited matter choking them.

Removal of the Stomach.—Dr. P. S. Connor, of Cincinnati, said that fifteen years ago it had occurred to him to remove the whole stomach, and he had done it, but the patient had died on the table just at the completion of the operation. Because of this, only an informal report had been published about a year later. He had been exceedingly gratified to learn that the stomach had been successfully removed, and that the patient had recovered completely from the operation. He had long maintained that such an operation was perfectly feasible. Of course, an operation of this kind would be required only in very rare instances, and certainly it would not be appropriate as long as any portion of the stomach was still functionally active. The trouble was that in those cases in which the conditions were such as to warrant this operation, the difficulties and risks were very great. Greig Smith, in the first edition of his book on abdominal surgery, had called attention to the difficulty of maintaining the circulation in the walls of the colon, but this view he had never shared, as it did not seem to have an anatomical basis. This operation had been called foolhardy, but no operation should be so designated which was based on physiological or anatomical grounds and good surgical reasons. The operation would usually be done for carcinoma, and only in those cases in which the walls of the stomach had become so extensively infiltrated that the organ was functionally dead. It was still an open question whether the removal of the stomach would be proper in other conditions than carcinoma. If the stomach was simply a receptacle and had no physiological function, it might very properly be taken out, and there was no operative reason why this should not be done.

Dr. Kiefer, of St. Louis, said that it was absolutely impossible to remove the stomach, necessitating as it did the severing of the lesser omentum, without severing the fibres of the pneumogastric nerve leading to the liver. He was anxious to know what the liver would do when this nerve was cut.

Dr. Harris, of Chicago, said that a year ago he had removed the stomach entirely for carcinoma in a man, seventy-two years of age. There was no difficulty in securing the œsophagus to the duodenum. The difficulty encountered would depend upon the amount of obstruction existing prior to the operation and upon the degree of mobility of the duodenum. In regard to the pneumogastric nerve he would say that the right pneumogastric nerve passed high up, so that the stomach could be removed without injuring it, provided one kept in the omentum near the stomach.

Dr. Connor, in closing, said that under certain circumstances it would be difficult to make an attachment to the ileum, but not usually to the duodenum. Regarding the effect upon the liver from interference with the pneumogastric nerve, he would only say that the subject of the first successful operation was still alive, and so far no deleterious effect on the function of the liver had been noted. He doubted very much if many cases would be reported in which this bold operation had been done for non-malignant disease.

Diagnosis and Surgical Treatment of Malignant Obstruction of the Pylorus.—Dr. W. J. Mayo, of Rochester, Minn., read a paper on this subject, in which he reported three pylorectomies and four gastro-enterostomies. He said that the one successful case of Schlatter was hardly sufficient to give a substantial basis to the operation for the removal of the entire stomach. He had met with one example of extensive fibrous obstruction of the pylorus, and, believing pylorectomy indicated, had done the operation. In these cases of obstruction of the pylorus it was well to pass a stomach tube and inflate the stomach with air by means of an ordinary syringe, which would enable one to map out the position of the organ. In pyloric obstruction from cicatricial contraction there were commonly a history of early vomiting, especially after the taking of food, and a previous history pointing to ulceration. In the existence of a tumor with a short history, accompanied by cachexia, it should be looked upon as probably malignant. In cancer the absence of free hydrochloric acid had been the rule, but, on the whole, the chemical tests had been disappointing. The gastroscope and the gastro-diaphanoscope did not give encouraging results, even in the hands of their advocates. Under any circumstances, when there was a marked pyloric obstruction, a surgical operation was indicated, and consequently an accurate diagnosis from the symptoms was not essential. An early diagnostic incision should be made. Tait long ago called attention to the good effect on intra-abdominal disease of merely opening the abdomen. The extent and character of the disease, the adhesions to the viscera, and the condition of the glands would determine whether or not the operation should be extended further. Pylorectomy, based on the hope of a possible cure, and gastro-enterostomy, as a palliative measure, were the only two operations deserving of serious consideration. Pylorectomy had not been a popular operation, owing to the mortality attending it being between forty and seventy per cent., but recently Kocher had had seven recoveries in nine cases, and it was probable that the mortality would be greatly reduced by improved technique. Gastro-duodenostomy should be the operation of choice, as distinguished from gastro-jejunostomy. Dr. Mayo then described in detail the method he employed in doing pylorectomy, a modification of that published by Dr. J. B. Murphy in 1895. His operations of gastro-enterostomy had all been done with the Murphy button. The stomach wall should be cut to the mucous coat, he said, before the puckering string was put in, and the bite of the suture should not be too deep. He believed the results, both immediate and remote, were better with the button than with the suture. The preliminary cleansing and emptying of the stomach in his experience had been less perfect than had been expected prior to operation. Great care was necessary upon the part of the anæsthetizer in these cases to prevent fatal septic pneumonia from aspiration of vomited matter.

Dr. J. B. Murphy, of Chicago, expressed his gratification at the emphasis placed by the reader of the paper on the importance of early exploratory operation. Good results in this class of cases seemed to him perfectly within the grasp of the surgeon, but only by early exploratory incision. This operation involved a risk of less than one per cent. He had adopted the plan of separating the omentum, so as to throw the pylorus outside of the abdomen in the early stage of the operation, and had found that it materially reduced the difficulties of the operation.

Dr. McArthur, of Chicago, thought it advantageous to reverse the procedure and make the gastro-enterostomy prior to the operation for plyoric stenosis. The object of this was to re-establish a proper state of nutrition before the pyloric operation, which was at best but poorly borne.

Dr. Hamilton said that about three years ago he had done an exploratory operation on a woman of thirty, who was suffering from regurgitant vomiting, and who had become greatly emaciated. There had been no hemorrhage. Finding no glandular involve-

ment of the mesentery, he had passed his finger into the pylorus, and, this yielding, he had dilated it according to the method of Loretta. The case was apparently one of non-malignant disease.

Intestinal Anastomosis by a New Method.—Dr. William F. Metcalf, of Detroit, said that any device for facilitating this operation should possess the following qualifications, viz.: (1) It should be rigid; (2) as soon as possible after its object had been accomplished it should pass away, leaving the lumen of the gut free; (3) it should be easy of introduction. He had found these indications met by cylinders of hard sugar, in different sizes, and with smooth grooves made in them by a hot iron. A spiral suture of carbolized catgut should be passed so as to bring all of the coats of the bowel together at the bottom of the groove. The size of the "sugar approximator" should be such as slightly to stretch the gut. The groove should be shallow to allow placing the first line of suture as nearly as possible to the edge of the serous coat. Care should be taken to avoid puckering, and the operation should be completed by folding a portion of the omentum around the line of sutures. The operation could be done very quickly and easily.

Dr. H. H. Grant, of Louisville, said that in his experiments and observations he had found that he got along just as well without any artificial aid as with it. The method just described was really only a modification of the old potato method. He questioned very much if it could be done more quickly than direct anastomosis in skilled hands. Of the various known devices, the best seemed to him to be the Murphy button, and with it sutures would be very rarely required if the serous surfaces were properly approximated. The application of the omental graft added to the length of the operation. If the graft was not severed, a loop was left which might cause intestinal obstruction, and if it was detached there was danger of hemorrhage, both immediate and secondary.

New Method of Performing Intestinal Anastomosis and Enterorrhaphy.—Dr. Ernest Laplace, of Philadelphia, described a method of performing intestinal anastomosis by the aid of a specially constructed forceps. This instrument consisted of two rings introduced into the two openings to be anastomosed, and they served as supports during the suturing. The rings of the forceps were separable into halves. These could be withdrawn through the small aperture not yet sutured, and the suturing could then be completed. This left no foreign substance in the gut. The serous surfaces were held together by this clamp in the hands of an assistant during the process of suturing. The forceps having been removed piecemeal, as already described, one stitch sufficed to complete the operation. In a lateral anastomosis the suturing was facilitated by the use of special invagination forceps.

Dr. MacRae, of Atlanta, highly commended the operation. He said it was not always possible to regulate the pressure necrosis or be absolutely sure of the approximation of the serous surfaces with the Murphy button unless sutures were used.

Aneurism of the Aortic Arch; Surgical Treatment by Ligation of the Right Carotid and Subclavian Arteries.—Dr. B. Merrill Ricketts, of Cincinnati, reported a case in which he had ligated these arteries for aneurism with most excellent result, and called attention to the suggestion of Bernays and other surgeons as to the possible advantages of turning back a portion of the sternum like a flap.

Second Day—Wednesday, June 8th.

Penetrating Wounds of the Popliteal Artery.—Dr. George W. Miel, of Denver, in a paper on this subject, recommended double ligation and extirpation of the intervening part in all cases of incised wounds which are more than one-eighth of an inch in length. In every instance the external wound should be loosely closed.

Dr. B. Merrill Ricketts, of Cincinnati, said that Dr. George W. Crile, of Cleveland, had demonstrated that the common carotid artery could be closed with a clamp for a period of from twelve to twenty-four hours without any serious results. Dr. Ricketts said that in a recent operation he had accidentally torn off the external iliac vein, and had ligated it without any unpleasant results. He referred to a case in which the deep profunda had been shut off close to the femoral, and the limb was cold. An amputation was performed at the hip-joint, according to the methods of that time, and the patient had died a few hours later. At the present time he thought it would be better to divide the artery and make an anastomosis, or sew it up with fine silk.

Dr. Oliver, of Cincinnati, said that he had recently been called upon to attend a boy with a compound fracture of the femur at the epiphyseal line. The lower end of the fragment protruded through the popliteal region, and the pulsations of the popliteal artery could be distinctly felt in the wound. The dislocation of the fragment was reduced, but after forty-eight hours symptoms of obstruction to the circulation appeared, and on the ninth day it was thought best to amputate the limb. In the subsequent dissection of the limb it was found that there was a good deal of effusion under the deep fascia, and that this had apparently caused sufficient obstruction to the collateral circulation to give rise to the gangrene. It was also discovered that about two inches of the popliteal artery had been destroyed. In another case of this kind he would open the parts freely and sew up the deep fascia, thus converting the operation practically into a simple ligation of the popliteal artery.

Dr. Tinker, of Philadelphia, alluded to an experiment on an animal in which a Frenchman had succeeded in successfully performing an end-to-end anastomosis of one of the large arteries in an ass.

Primary Carcinoma of the Axilla.—Dr. D. W. Graham, of Chicago, read this paper. He said that primary carcinoma of the skin of the axilla was rare. In seventeen hundred and ninety-seven reported cases of primary carcinoma, five hundred and seventy-one were of the skin, but of these only three were axillary. He had been able to find but eighteen well authenticated cases of primary carcinoma of the axilla recorded, and to this he added two from his own experience. In the treatment of these cases one should be governed largely by general surgical principles, but it was more difficult to decide as to the removal of the mammary gland than when the disease originates in this gland. The liability to infection of this gland from the axilla was not so great as infection of the axillary glands from the mammary gland. The author drew the following conclusions: (1) Primary carcinoma was probably more frequent than the records would lead one to infer; (2) when present it originated first in large tubular convoluted sweat glands peculiar to this region, or in the more or less rudimentary glands, or in the true skin; (3) when the disease appeared first in the axilla, and later in the mammary gland, the most logical explanation was that there had been a retrograde infection through the lymphatics from the axilla to the breast; (4) when the tissues between the axilla and the mammary gland were at all infected, they should be removed along with the mammary gland; (5) when the breast was not removed, it should be examined at short intervals in order to detect the first evidence of the presence of the disease.

Dr. Charles A. Powers, of Denver, said that it

should be an absolute rule to subject every tumor in the mammary gland to the closest scrutiny, for only by early and radical excision could we hope to cure carcinoma of the breast. He had during the past year removed a nodule which could not be distinguished clinically from the malignant growth. After its removal the pathologist reported the tumor to be a supernumerary mammary gland.

Dr. Ochsner, of Chicago, said that at the inner portion of the axilla and at the lower edge of the pectoralis major he had in three instances observed the origin of a carcinoma. In each instance the growth had been movable under the skin, and consequently it could not have originated in the sweat glands. The only other glandular tissue here was a portion of the mammary gland—a supernumerary gland. He had frequently found extensions of the mammary gland to a considerable distance from the gland proper, and there seemed to be no reason why there should not be an extension in this as well as in other directions.

Dr. Bevan spoke of the occurrence of a very small primary focus, overshadowed by a larger secondary mass, which might be between the mammary gland and the axilla.

Dr. J. B. Murphy, of Chicago, asked Dr. Graham if in his cases the tumor was situated deeply or superficially primarily, and also as to whether the skin moved with the tumor in the early stage. He said that every surgeon operating in the axilla had noticed suppurating foci and collections of sebaceous material. This indicated that they were invaginated portions of the epiblast. They were not connected with the skin.

Dr. W. L. Rodman, of Kentucky, said he was able to add another case of this interesting affection. The patient was a male, about sixty years of age, who had an undoubted scirrhous carcinoma of the axilla. This diagnosis was confirmed by microscopical examination after its extirpation. He had carefully followed this case up to the time of the man's death. It was not probable that there was an outlying portion of the mammary gland in the male. Most of the cases that had been reported were sarcomata rather than carcinoma, but there could be no doubt that primary carcinoma in the axilla was occasionally met with as a primary growth. He had more than once had his attention called to what appeared at first to be primary growths in the axilla, but careful examination would show a small primary focus in the mammary gland. Owing to the danger of infection of the lesser pectoral, the speaker said, the Halsted operation was even more suitable than for the ordinary cases of mammary carcinoma.

Dr. Graham, in closing, said that many cases of fibro-adenoma originated in these sweat glands. The areola of the mammary gland had been shown to have these same large, convoluted sweat glands beneath the skin and running down into the mammary tumor. It was possible to have a supernumerary nodule in the male.

Clinical Results Obtained by the Use of the Harris Instrument for Securing the Urine Separately from the Two Kidneys.—Dr. M. L. Harris, of Chicago, presented a communication with this title, and related four illustrative cases. He had used his instrument in examining forty cases. The fourth case, one of hæmaturia, was a complete demonstration of the perfect action of the septum in the bladder. The instrument was not difficult to use, and he felt that it would make Edebohls' proposed operation of taking out and inspecting both kidneys entirely unnecessary.

Dr. McArthur, of Chicago, testified from personal experience to the great value of this instrument.

Splint for Fracture of the Leg.—Dr. Macbeth, of Denver, exhibited a splint, which he highly recommended for the treatment of fractures of the lower part of the leg, near the ankle. It consisted, he said, of two parallel strips, or side-pieces of wood, and of a footboard and of means for suspending the limb and heel in the splint. The length of the splint and the degree of extension exerted were adjusted by a thumb-screw device attached to the footboard. The foot was secured by adhesive plaster and the limb by a two-tailed bandage.

Use of Mixed Toxins of Erysipelas and Bacillus Prodigiosus in Treatment of Inoperable Sarcoma, with Immediate and Final Results, Based upon a Personal Experience of Six Years.—Dr. William B. Coley, of New York, read a paper with this title. He said that in the meeting at Baltimore one of the speakers had ventured the prediction that another year would see the method consigned to oblivion, but he had continued his observations in spite of this statement, in the belief that that prediction would not be verified. He emphasized the fact that the treatment should be restricted to inoperable sarcoma. In cases of rapidly growing round-cell sarcoma of the bone he would not advise the toxins. He had used the treatment in a few cases after operation to prevent recurrence, and, while the outlook in this particular field was hopeful, he was not yet ready to draw any conclusions. The toxins had been prepared for his use in the Loomis Laboratory. He had never claimed to be the first to substitute the toxins for the living cultures. In all his successful cases the combined toxins had been used, and so far as he knew, no one had reported a successful result from the use of the toxins of erysipelas alone. He was confident that the degeneration of tumor tissue was decidedly increased by the addition of the toxins of the bacillus prodigiosus. The theory generally accepted regarding the treatment was, that it was a process of necrosis—a local process—but this was certainly far from the truth. A number of cases of sarcoma had disappeared entirely by absorption without breaking down. The toxins probably acted through the blood serum, causing coagulation necrosis with breaking down of the tumor cells. In the spindle-cell variety absorption without breaking down was more common, whereas in the round-cell variety the reverse was true. A much larger quantity of the remedy could be given subcutaneously remote from the tumor than when injected into the tumor—a point of no little importance. The rule should be to begin with a minimum dose, and gradually increase it, and if this rule was followed the risk of the treatment was almost nothing. Toxins produced from very virulent cultures should never be given in larger initial doses than half a minim, boiled water being used to obtain the requisite dilution. If the injections were given subcutaneously at a point remote from the tumor, a dose of one minim might be used. If the temperature following the chill reached 104° or 105° F., stimulations with whiskey and strychnine might be indicated. Usually after one or two hours the temperature began to fall; it should reach the normal after twenty-four hours. It was not necessary to produce a chill by each injection—indeed, some of the best results were obtained when only two or three chills occurred altogether. If the treatment was judiciously carried out, the patients did not usually lose flesh. The first change in the tumor was a marked decrease in vascularity; next loss of the glossy appearance of the overlying skin; then the tumor became more mobile, and a visible reduction in the size was observed. In most cases, if no marked improvement was observed within three weeks, it was useless to continue the treatment. Out of his eighty cases of round-cell sarcoma thirty-five were more or less improved, and in two the tumor disappeared entirely. One of these latter patients was well after three years, and one after a year and a half. Of the twenty spindle-cell sarco-

mata, ten disappeared entirely and all showed great improvement. Seven patients had now been well over three years, eight from one to three years, and four others from six months to one year. The paper contained a detailed report of eight cases of sarcoma successfully treated since the meeting of 1895. All save two were considered inoperable, and in both of these patients the disease had rapidly recurred. In seven of these cases the diagnosis was confirmed by microscopical examination, and in the eighth the clinical diagnosis was beyond a reasonable doubt. It had been objected that the number of cases benefited was a very small proportion of the total, but this was an argument which was unworthy of the physician, in view of the desperate condition of these unfortunates.

Dr. McArthur, of Chicago, said that he had had six cases under careful observation and treatment by this method. In one case of recurrent sarcoma of the arm, in which further operation had been refused, the toxins had been used, and the patient had now remained well for three years. According to his experience it was almost useless to use the treatment in melanotic sarcoma.

Dr. Harrison, of Colorado, asked why the toxins were not recommended in carcinoma.

Dr. Lewis, of Topeka, said that he had had one cure from the use of the toxins. The case was one of sarcoma of the angle of the jaw on the right side, in which an operation had already been done. The disease extended, necessitating the removal of the clavicle, and later of a portion of the tibia. About a year later the patient had had an attack of erysipelas of the face, which had so improved her condition that he had decided to resort to Coley's mixture. The result had been most satisfactory.

Dr. Bevan related an experience that he had had with the toxins, as he thought it threw some light on their action in sarcoma, or pathological conditions at present confounded with sarcoma. The case was one of large gumma of the thigh coming under his observation in the past year. His original diagnosis had been sarcoma, and a very radical operation had been advised. As the patient objected to operation, the toxins were used for a time, and caused some diminution in the size of the growth. Subsequently he performed an exploratory operation, and removed a section of the tissue, which appeared both macroscopically and microscopically to be gummatous. The patient was then put upon iodide of potassium, and the growth entirely disappeared. The patient then admitted that, although the father of four healthy children, he had been infected with syphilis some years before. In view of the almost unanimous opinion of foreign surgeons that no results had been obtained in pure sarcoma, he thought it possible that the successful cases had been examples of that class described some years ago by Esmarch, which could hardly be differentiated from sarcoma even by histological appearances.

Dr. Coley, in closing the discussion, said that he had treated nine cases of melanotic sarcoma, and in only two of these had there been even temporary improvement. He did not recommend the treatment in carcinoma, because up to the present time the results had not been sufficiently good to warrant its use. In one case of epithelioma of the chin, floor of the mouth, and lower jaw, in which even extensive operation seemed of doubtful propriety, the treatment had been tried, and the patient had remained well three years, but one case was not sufficient evidence. In his cases the cures had not been in round-cell sarcoma—the only variety of sarcoma which it was possible to confound with syphilitic lesions, according to the eminent pathologist, Dr. William H. Welch. Inasmuch as in fifty per cent. of the spindle-cell cases a cure had been effected, it did not seem that the diagnosis could fairly be doubted.

On the Advantages of a Permanent Artificial Anus and of Total Closure of the Sacral End of the Rectum in Operations for Cancer of the Rectum.—Dr. W. W. Keen, of Philadelphia, read this paper. He said that cases of cancer of the rectum had become now so amenable to treatment that physicians were derelict in their duty to their patients if they did not recommend operation, even when the disease is high up. He had now done the Kraske operation in seventeen cases, of which fourteen had ended in recovery, giving a mortality of a little over seventeen per cent. Two patients were well after five and one-half years, both being men who had been deprived of the coccyx and a portion of the sacrum, and yet they habitually rode bicycles. Six had passed the three-year limit, so that he claimed that one half had been permanently cured. When the sacral anus was made, as was usually requisite, the difficulties were threefold, viz.: (1) Very great liability to infection; (2) the patient must always wear a napkin because of the discharge of mucus from the lower portion of the bowel—that part below the inguinal colostomy; and (3) there was a certain degree of prolapse of the bowel. To obviate these difficulties he resected the bowel, and instead of bringing it out at the sacrum he treated it just as he would when doing a lateral anastomosis—invaginating and inserting one row of Lembert's sutures. This ordinarily avoided infection, and as it closed the anus entirely there would be no discharge of mucus. The only openings left were the two colostomy wounds. Two illustrative cases were reported by Dr. Keen.

Dr. Bevan asked why it would not be desirable to remove the entire lower segment.

Dr. William M. Harshaw, of Chicago, suggested that in case of closure of the anus, the lower segment of the bowel would assume the position of a vestigial organ, and might, therefore, favor the recurrence of the malignant growth.

Dr. Keen said that the lower segment was really a long part, which would require an abdominal section and an unnecessarily increased risk. It should be remembered that vestigial organs did not develop in the individual, but required several thousand years.

A Large Coccygeal Tumor.—Dr. Charles A. Powers, of Denver, exhibited the following clinical cases. The first one was that of a little child of ten months presenting a coccygeal tumor of unusual size. He had first seen the infant when it was at the age of three months, and then the tumor had been decidedly cystic. He believed it to be a coccygeal tubulo-dermoid. It had no communication with the gut, and apparently none with the spinal canal.

Value of the Murphy Button.—The second case, that of a young man, illustrated in a striking way the value of the Murphy button under the most adverse circumstances. There was a history of an ordinary appendicitis, and when the patient was first seen there were a large tumor in the median line and an absolute intestinal obstruction for four days. His condition was precarious. At the operation a large quantity of fetid pus was evacuated, necessarily through the free abdominal cavity. Nearly two hours were occupied in liberating the extensive adhesions and washing out the belly. A large piece of rubber tubing was passed down behind the pubis into the abscess cavity. After twenty-four hours a fæcal fistula formed, and all the faeces were passed through this for a few days. Last January the operation was attempted for the cure of this fistula, the Murphy button being used. The button was passed from the bowel on the thirtieth day. The intestinal fistula was cured. Just as the patient was thought to be well, he developed another attack of appendicitis, as the appendix had not been found and

removed at the first operation. He was operated upon through Kammerer's incision, and a perforative appendicitis found. The patient then made an uneventful recovery.

Treatment of Fracture at the Elbow-Joint.—Dr. Powers also presented two cases of T-shaped fracture at the elbow-joint, because they illustrated the results usually obtained from a method of treatment which he had adopted at the Chambers Street Hospital, New York City, some years ago. He said that much had been written upon the value of extended position in the treatment of these fractures, but he believed it to be wrong. If ankylosis should take place, the position was the worst possible. He recommended that, with or without ether, with the arm slightly abducted and in a position of semiflexion (140 to 150 degrees) a plaster-of-Paris bandage should be applied. At the end of a week the arm should be flexed a little more and again put up in plaster. After still another week the arm should be put up at right angles and left so for two or three weeks, when all bandages were to be removed.

Dr. J. P. Lord, of Nebraska, said that he thought the indication for the treatment of these cases was to prevent the filling in of the olecranon fossa with the callus. This could not be avoided if the treatment was carried out in the flexed position. Flexion should be begun very early after using the extended position, perhaps after one week. In his opinion, the extended position had a distinct place.

Dr. McArthur said that in those cases in which it was impossible to get good motion at the elbow-joint, neither the extended nor the flexed position seemed to him so desirable as wiring of the bones under strict asepsis.

Dr. MacRae, of Atlanta, said that the case of appendicitis illustrated the necessity of not doing ideal surgery at one sitting. There could be no question that this patient's life had been saved by doing three operations instead of one.

Medical Aspect of Appendicitis. — Dr. H. A. Hare, of Philadelphia, presented this paper. He said he believed that in some cases of appendicitis operation was indicated, and that in others it was not indicated. Appendicitis was often insidious and provocative of aberrant symptoms which masked the real trouble. He reported two cases, one of what appeared to be a slight typhoid infection of the appendix, and another in which a typhoid fever was complicated by an appendicitis so severe as to demand operation. In the making of the diagnosis rigidity of the abdominal walls was of the greatest importance, and should be an indication for the necessity of having a consultation with some broad-minded surgeon. All cases of appendicitis, he said, could be divided into three classes, viz.: (1) Those which should be undoubtedly subjected to operation at once; (2) those about which doubt existed; and (3) a certain number of cases of appendicitis in which the patients recovered from moderate attacks, and had no more. There were many cases of the last class which could easily be cited. When dogmatic surgeons ceased to combat dogmatic physicians, the best statistics would be obtained. Opium should be used very cautiously, and only to the extent of slightly mitigating the patient's suffering.

Time to Operate in Appendicitis. — Dr. H. D. Niles, of Salt Lake City, read this paper. He said that the chief reasons for operating promptly in appendicitis were: (1) Such a course was in harmony with the generally recognized law that the presence of infected devitalized tissue was an indication for the removal of pus by the most direct and safest route; (2) as extensive adhesions might interrupt the functional activity of neighboring organs, this process of repair should be interrupted early: (3) if this was done the mortality in the hands of experienced operators should not be over two per cent.; (4) prompt operation was attended with less immediate danger and gave better ultimate results; (5) even if certain stages of the morbid process were known to present favorable conditions for operative procedures, there was no means of accurately determining the exact pathological changes taking place within the abdomen. The death rate of the delayed operations, it should be remembered, could not be exactly computed; it was admitted, however, that seventy-five per cent. of these cases ended in imperfect recovery. The condition present in appendicitis was one of local infection, giving in the first attack a mortality of ten per cent. and an ultimate mortality of twenty-five per cent.

Early Treatment and Indications for Operation in Appendicitis.—Dr. William M. Harsha, of Chicago, discussed this subject. He said that the number of those who favored operation in non-fulminant cases, immediately upon making the diagnosis, was small compared with those who preferred to wait a period of about twenty-four hours for purposes of observation. As in many cases the first attack subsided or was aborted, it seemed to him preferable to delay operation for this brief period; moreover, it could not be denied that a great many patients recovered and did not have a second attack. Rest in bed, abstinence from food, and hot or cold local applications constituted the chief measures to be employed. Failure to relieve pain by these means naturally suggested the use of some anodyne, and, while there was a great difference of opinion regarding the use of opium, the majority seemed to favor its judicious and moderate use, especially when the case was under the constant observation of a skilful nurse. Codeine was the best preparation to use. The cautious administration of an opiate relieved the pain and diminished shock. There was the same diversity of opinion regarding the use of cathartics. Thus, McBurney advised against their use, but the majority of both physicians and surgeons seemed to admit the value of such eliminative treatment. A free serous depletion of the intestinal tract might sometimes relieve the stenosis, which constituted one important factor in appendicitis. In the early stage, the increased peristalsis thus produced should not be dangerous, as at this time the wall of the appendix was not greatly weakened. In some cases it would be found desirable to administer a saturated solution of sulphate of magnesium by the subcutaneous method. The dose varied from 1.86 to 4.5 grains. Veterinary surgeons were in the habit of injecting eserine, and he had tried this remedy in three cases, using in one case $\frac{1}{50}$ gr. of eserine combined with two grains of sulphate of magnesium in two-per-cent. solution. The result was catharsis in three hours. The foregoing treatment constituted all that was usually required or indicated in the twenty-four hours of observation. In the later stages the indications for treatment were less clear. There was an overwhelming opinion in favor of leaving the appendix, for the adhesions must be broken up in order to effect its removal. He believed that the following out of the principles laid down in the paper would reduce the mortality to less than five per cent.

Dr. W. W. Keen said he believed that appendicitis was a medico-surgical disease, and that, therefore, the physician should, as soon as he made the diagnosis, call a surgeon immediately in consultation. He was of the opinion that the majority of cases of appendicitis, at least after the first attack, demanded surgical operation, but at the same time he would be loath to have the two last papers go forth as the opinion of the surgical section without protest. He protested against the position taken by Dr. Harsha regarding the use of opium. One dose, or possibly a second dose of one-

fourth of a grain of morphine hypodermically might be proper, but after that, to the winds with it. He protested with equal vehemence against Dr. Nile's position, that every case of appendicitis should be subjected to immediate operation, and also that the appendix must be taken out, no matter how extensive the adhesions. Dr. Niles had appealed to pathology, and so did he, for Hektoen, of Chicago, had examined three hundred cases of persons dying after diseases other than appendicitis, and in one hundred of these had found evidence of a previous appendicitis that had been recovered from. Nor could he accept the statement that the mortality could be reduced to two per cent. He challenged all the surgeons present to deny that, if they operated upon one hundred well persons, they would not kill more than two. Even in the hands of the most skilled surgeons asepsis not infrequently failed. It was, of course, not ideal and complete work to leave the appendix behind, but it did not follow from this that such a procedure was safe and proper in every instance. It was much better to have a live patient with an appendix inside of him than to have a corpse without an appendix; he was not like the French school, which believed that a case was not complete without an autopsy. Regarding the time of operating, the speaker said that if a patient with a first attack was not getting any better, after twenty-four or forty-eight hours—if one could wait so long with any degree of safety—or was getting worse, he would say, operate. The rule would probably hold true in the second attack, but he never allowed his patient to have a third attack if he could possibly avoid it.

Dr. J. Ransohof, of Cincinnati, said regarding immediate operation that in one instance, in which the diagnosis had been made of appendicitis, the case proved to be one of stone in the bladder. In another case, seen in consultation, there was a history pointing to appendicitis. He operated immediately, but to his intense chagrin he found a large malignant gland in the right iliac fossa, and further examination showed sarcoma of the testicle, with secondary deposits within the abdomen. He had seen only two cases in which the opening of an abscess had necessitated later on removal of the appendix. These abscess cases seemed to be very rarely subject to subsequent attacks of appendicitis.

Dr. MacRae said that Dr. Niles' mythical percentage of ninety-eight seemed absurd to every right-thinking physician and surgeon, for there was absolutely nothing upon which such a statement could be based. He had seen eight cases of appendicitis in children under twelve years of age. In seven of these cases death occurred from septic peritonitis without operation. Children did not bear this disease well, and the mortality was heavy unless the operation was undertaken very early.

Dr. J. E. Moore, of Minneapolis, said that neither physicians nor surgeons should be dogmatic, but should draw conclusions only after earnest, careful, and scientific study and observation. This could be best done by consultations between physician and surgeon. At one time he had held the opinion that no great effort should be made to remove the appendix, but more recently he had broken down adhesions when necessary and had removed the appendix, with a successful issue in every instance.

Dr. Grant, of Louisville, said that this unfortunate diversity of opinion in the profession was apparently responsible for many deaths. It was because the surgeons lacked confidence among themselves that many cases did not come to them until it was too late. It seemed to him infinitely better for the surgeons to perfect their diagnostic resources than to study special methods of operation.

Dr. Porter, of Fort Wayne, said that to carry the argument of Dr. Niles to a logical conclusion meant that an ulcerated ileum infected with typhoid bacilli must be removed because it was incapable of recovery. In many instances it was far better not to do a complete operation. In an experience comprising over one hundred cases he had not seen a recurrence from leaving the appendix behind. The chief guide in the treatment of this, as of other conditions, should be common-sense.

Dr. Coley said that the tendency, in New York City at least, was to do the complete operation, carefully dissecting away the adhesions and removing the appendix. He had personally operated upon two cases for recurrent attacks after the appendix had been left behind at the first operation. These infections varied in character; at one time it was a virulent streptococcus infection; at another time it was a mild staphylococcus infection, and never gave rise to another attack.

Dr. J. B. Murphy said that the diversity of opinion was due to lack of knowledge regarding a number of important factors. In a case of general fulminating streptococcus peritonitis, we should not operate, for it was useless and surgery got the credit for the death. He was willing to admit that in a large number of cases of appendicitis patients did recover, but, on the other hand, a large number of patients died because they were not operated upon in time. Was this serious question to be left to the patient to decide? No; whenever this was done it was because the attendant was a moral coward. His duty was not performed until he had properly advised the patient. In cases of staphylococcus peritonitis, when the infection was limited by the formation of adhesions, it was often possible to secure recovery without operation. The time to operate was when the surgeon had made a correct diagnosis. The speaker said that he thought he now got better results from opening into the free peritoneal cavity; he endeavored never to open into the abscess. He built up a good firm cofferdam with gauze, and felt secure. The presence of pus in the peritoneum for a short time conferred a certain immunity, so that the operative manipulations were not so dangerous as in other cases. Many more lives, in his opinion, were sacrificed by small openings than by large ones. The opening should be large enough to admit of doing the work well, and then the size of the wound should be reduced as much as possible without interfering with the action of the drain.

Dr. W. W. Grant, of Denver, said that the experience of all surgeons who operated early in this disease was that the mortality was insignificant; it did not exceed more than one or two per cent. The only way to reduce the mortality was to operate early in all cases. The surgeon usually explained his fatal results by the statement that he was called too late. If Dr. Hare had operated upon his case early there would have been no abscess.

Dr. Conner, of Chicago, cited two cases illustrating the non-operative side of the question.

Dr. Reed, of Wyoming, said that the experience of over fifteen years in operating upon appendicitis showed him that the fatal cases were those in which operation had been delayed.

Dr. Eagleson said that one of the great disadvantages of late operation was the presence of adhesions.

Dr. Ochsner, of Chicago, thought enough stress had not been laid upon the very different results obtained by competent and by incompetent surgeons. It was absurd to lay down rigid rules for all operators. In appendicitis the ileum and the cæcum were also inflamed. It was a well established rule that an inflamed part should be put at rest, and hence in appendicitis no food of any kind should be given by mouth.

This was his practice and his results seemed to justify the wisdom of it.

Dr. Keen said that he had understood Dr. Niles to say that, regardless of the stage of the disease and the condition of the patient, every case of appendicitis should be operated upon, and against this he had protested. In first attacks a large number of patients would recover without operation, and, if these were all operated upon by the average operator, he was of the opinion that the mortality would be much greater than if they had not been subjected to operation.

Dr. Murphy said he had paid so heavily for the position he took that he now felt that if he saw a case of appendicitis and put off operating, and that patient should die, he would be personally and morally responsible for that death. It was not a mythical statement that only two per cent. of the cases would be lost in early operations; on the contrary, he believed that this was the maximum that should be lost in the hands of a competent surgeon. He said this because the pathological conditions in the first twelve hours of appendicitis were such that the disease was confined—except in primary perforative appendicitis, which occurred only once in about one hundred cases. After the first thirty-six hours, in seven out of ten cases there was pus in the free peritoneal cavity from streptococcus infection without perforation of the wall. He knew this to be a fact because he had seen it; then why should he take the chances of that pus doing any harm? If he was suffering from appendicitis he would want to be operated upon just as soon as he was convinced of the correctness of the diagnosis.

Dr. Niles, in closing the discussion, said he saw no reason for establishing rules of treatment for children different from those accepted for adults. The speakers who advocated the use of cathartics failed to show how infection imprisoned in a closed tube like the appendix could be influenced in this manner. In view of the utter unreliability of the signs and symptoms he saw no escape from the conclusion that the only safe plan was to operate in all cases of infective appendicitis. Some of the speakers had made a personal matter of this question; so had he, and had operated upon his own son for appendicitis just as soon as he had made the diagnosis.

Dr. Harshaw closed the discussion. He said he believed it had not been gainsaid that the majority of cases which aborted or spontaneously subsided did so in the first twenty-four hours. He did not believe it was safe to wait longer than this. In fulminating cases the operation should, of course, be done without any delay.

Third Day—Thursday, June 9th.

Course and Treatment of Injuries to the Peripheral Nerves.—Dr. A. H. Levings, of Milwaukee, read a paper with this title. He said that if the divided ends of the nerve were immediately sutured, or the gap was immediately bridged with suitable material, under aseptic precautions, it would be found that but slight degenerative changes would take place in the nerve. On the other hand, if these measures were not taken, or if suppuration occurred, there would be pronounced degeneration in the ends of the nerve. In many cases the function of the nerve, both motor and sensory, had been established in a few days, entirely too soon to have been accomplished by regenerative changes. An examination of his specimens had convinced him that the neurilemma with its nuclei played an important part in the restoration of the divided nerve. Both the central and the peripheral parts seemed to take an active part in the projection of the neurilemma threads. The essentials for success in uniting divided nerves were: (1) Absolute asepsis; (2) the nerve should not be separated from its connective-tissue surroundings; (3) the nerve should be approximated evenly and without tension; (4) if an inch or more of the continuity of a nerve was lost, the gap should be bridged with some material having longitudinal fibres or strands; (5) contrary to the prevailing belief, absolute rest of the limb was not imperatively necessary. The nerve ends should be allowed just to touch each other; if the tension was greater the ends of the nerve fibres would be bent and the restoration of the function would be much slower and more imperfect. He had practised the flap method, he said, in a few instances, but with poor results. Bridging the gap with a piece of nerve taken from an animal was an excellent method, but had the objection that it was complicated and required two operations instead of one. Experience had shown that when the gap was not over three inches long, six strands of silk constituted an excellent bridge between the divided ends of the nerve. In one case the function was restored in twelve days, and in the others in varying periods up to forty-six days. Dr. Levings reported a recent case in which he had used pieces of muscle for the bridging material. The nerve had been injured in 1869. At the operation it was found that there was a gap of more than one inch in the radial and three inches in the ulnar. After four months sensation was now almost normal, but the muscular function had not yet been noticeably improved.

Dr. C. A. Powers briefly reported a case bearing on this subject. A man, about twenty years of age, had been admitted to his hospital service about two years ago, with a compound comminuted fracture of the head of the fibula, with laceration of the external popliteal nerve as it wound around the head. The wound was filled with coal and other dirt. After thorough cleansing and trimming of the wound, there was still so much infection present that it seemed best to do a secondary operation. After six weeks this was done, the interval between the divided ends of the nerve being bridged with a piece from the great sciatic nerve of a dog. The interval was a little over four inches in length. The nerve was united with fine black silk threads passed through the sheath, care being taken that the sharply cut ends of the nerve just touched each other. Primary union occurred and sensation began to return in six or seven days. After three or four weeks sensation was complete, but up to the present time function had not been restored. He had been under the impression that nerve tissue was the best material for bridging the gap, and hence he was delighted to learn that Dr. Levings had found that such an easily procured material as muscle was excellent for this purpose.

Dr. R. Harvey Reed, of Wyoming, said that in cases in which the interval between the divided ends was considerable, and the bridge could not therefore be used, he had found, both by animal experiments and by clinical observation, that by neural infixation the desired object could be achieved. By this was meant that the divided ends of the injured nerve were fixed into a neighboring nerve. One of the first, if not the first, to call attention to this valuable procedure was Dr. Galbraith, of Omaha, who infixed the musculospiral nerve in this way. He had known the function of the nerve to be re-established in from ten to thirty days.

Dr. Levings said that it was not uncommon for sensation to be restored without restoration of motor function. He believed this occurred almost entirely from anastomosis of the collateral branches. In the cases in which he had used catgut, failures had been much more frequent than when silk had been employed. The bridge of silk simply afforded a scaffolding,

which favored the regeneration of the nerve. When the gap did not exceed three inches he had found no difficulty in securing restoration of function. The method of infixation was a useful one, but was not feasible in many instances, because of the great distance of the uninjured from the injured nerve.

Post-Operative Insanity.— Dr. R. Harvey Reed, of Rock Springs, Wyo., read this paper. He said that the literature of the subject was unfortunately exceedingly meagre. He reported six cases occurring in females and two in males. One of these latter was a healthy man who developed mania nine days after an operation on a fractured patella. The wound had been healthy up to that time, but the violent movements of the patient led to rupture of some of the tissues, and this was followed by sepsis and suppuration, and, in spite of free drainage, eventually by death. A circular letter of inquiry had elicited further experience with these peculiar cases. Some surgeons of large experience stated that they had never met with a case of insanity after operation in a person who had been mentally sound up to the time of the surgical interference. Dr. Reed said that in only one of his cases of post-operative insanity had iodoform been used in the dressings, and there seemed to be no evidence of septicæmia or pyæmia. Since he had been located in Wyoming, nearly a mile and a half above the sea level, he had not met with a single case of this kind, although he had done some formidable operations.

Dr. George W. Johnson, of Illinois, said that Dr. Wagner, of Leipsic, had reported six cases of bilateral castration, with four deaths from acute mania. In his own experience there had also been cases of this kind.

Dr. Davis, of Omaha, said that in two cases of post-operative mania he had been impressed with the idea that the mania was often what might be expected as a result of mental and physical depression. His patients had been in rather unstable mental condition prior to operation. He was of the opinion that surgeons should never operate upon the pelvic organs of insane women for conditions for which they would not operate in a sane woman. In a case of depressed fracture of the skull, insanity came on about eleven months after the injury. The girl had not been considered severely injured at the time, but when she was seen by him in consultation a depressed fracture had been detected and operated upon. The patient was restored to robust health, both mentally and physically.

Dr. Ochsner reported several cases bearing on this subject. The first case was one of general infective peritonitis. The abdomen was opened, and drained only, yet immediately on awakening from the anæsthetic the patient was violently insane. She remained so for two years. Subsequently he had removed the uterus and again drained the abdomen with the idea of removing all infection. She once more exhibited symptoms of insanity, but by means of "suggestion" she was enabled to control her nervous condition, and as a result had been perfectly well ever since.

Dr. Moore, of Oregon, remarked that there did not seem to be any particular pathological connection between an operation and insanity, but the operation sometimes caused just that perturbation which was all that was requisite to overturn the mental balance.

Tendon Suture: Its Preparation and Uses.— Dr. H. O. Marcy, in a paper with this title, referred to the important investigations made as long ago as 1829 by Dr. Jamieson, of Baltimore, and stated that, so far as he knew, Mr. Lister was entirely ignorant of these researches. At one time he had himself made a comparative study of the various animal ligatures, and had discovered that when aseptic ligatures of this kind were buried in the tissues they were surrounded by leucocytes which, little by little, invaded the sutures and ligatures, and that the material of these was eventually converted into connective-tissue cells. He soon ascertained that catgut was faulty for two reasons, viz.: (1) Because, as it was the connective tissue of the small intestine of the sheep, it must be separated from the other coats by maceration, which was necessarily a process of putrefaction; (2) because of the disposition of the connective-tissue fibres themselves, these fibres crossing each other obliquely. Catgut when dried was comparatively strong, but when wet it was soft and liable to break, and it was in this condition when buried in the tissues. By culture tests he had ascertained that the tendon suture uniformly remained sterile, and it was easily prepared by immersion for half an hour in warm sublimate solution just before use. It was for the purpose of closing the inguinal ring and restoring the obliquity of the canal, so as to prevent the occurrence of hernia, that he had, as long ago as 1870, employed buried animal sutures. There was as much difference between different samples of tendon as in leather. A great variety of tendon suture was exhibited. In marsupials, Dr. Marcy said, was to be found the best tendon material. He hoped to live to see the buried animal suture universally adopted, and constituting an important part of the technique of modern aseptic surgery.

Prize Essay: Experimental Research into the Effects of Temporary Closure of the Carotid Arteries, with the Report of a Case.— Dr. George W. Crile, of Cleveland, sent this communication, which was awarded the Senn medal for original work in surgery.

Radical Cure for Hernia and Hypertrophied Prostate in Old Men.— Dr. George W. Johnson, of Dunning, Ill., reported in this paper twenty-eight cases, with a *résumé* of the literature. Surgical treatment was resorted to, he said, only after years of suffering and pauperism, when all other sources of relief had repeatedly failed. A digital examination per rectum should be made in every case when there was a suspicion of prostatic disease. When acute, there was frequent and painful urination, with pain and sometimes a few drops of blood at the close of the act. There were also usually distress in the perineum, and rectal and vesical tenesmus. In the chronic forms, the symptoms simply differed in degree. There was usually a history of nocturnal pollutions, impairment of the sexual function, pyuria, and vague neuralgic pains in the pelvis. In cases of prostatic hypertrophy there was a history of difficulty in emptying the bladder, tardiness in the onset of the flow of urine, and lack of force, together with a sense of fulness in the bladder, perineum, and rectum, especially during and after stool. Sometimes there were retention and enuresis. Several different groups of cases were described, as they had been observed in the inmates of the Cook County Infirmary. In one group there was bilateral hernia, with large orchidocele on one side. Here orchidectomy was done upon that side, and herniotomy and gonangiectomy upon the other side. The surgical treatment consisted in making an incision, under chloroform anæsthesia, according to the Bassini method. The cord, testicle, and hernial sac were removed from the scrotum in one mass. The cord was separated and ligated high up, and the testicle was removed. The sac was then dissected out high up and ligated, and the stump was dropped back into the peritoneal cavity. The upper and inner portion of Poupart's ligament and the under and outer surfaces of the conjoined tendon and the margin of the internal oblique were freshened with a sharp curette, and formalin catgut sutures were introduced in such a way as to draw the conjoined tendon and internal oblique above Poupart's ligament, entirely closing the external ring and obliterating the canal. The external wound was then closed with silkworm gut, and wet bichloride dressing

applied. A herniotomy after Bassini was done on the left side, with resection of the vas deferens. There was no relief from the prostatic trouble for three weeks: then gradual improvement was noted, and this continued until recovery took place some months after operation. The patients whose cases formed the subject of this article were kept in bed for three or four weeks, and then, if no good effect was observed from the palliative measures employed during this time, they were given stimulants, strychnine, and nutritious diet. The operation was done under chloroform anæsthesia in all but one case. Mental symptoms were observed in only three cases, and in these the presence of albumin in the urine seemed to offer a reasonable explanation. There had been no recurrence in any of the cases of this series. All of them had been followed up, and in every one there had been complete relief from all former urinary disturbances, and the herniotomy had made them very much less helpless. Most of the patients were kept in bed from one month to six weeks. The speaker said he had no hesitancy in saying that, with proper study and diagnosis, and with good preparation and rapid operating, this class of patients could be successfully treated. Although a heroic treatment, it was warranted, as it rendered these old men comfortable and less helpless than any other method. There had not been a single accident. The relief from the distressing symptoms had not been so immediate as in some others reported, but in every case there had been some benefit, and it had always been evident in less than three weeks after operation. In every case there had been a diminution in the size of the prostate, and in none had the libido sexualis returned.

Contribution to the Study of the Symptoms of Chronic Gonorrhœa.—Dr. Ferd. C. Valentine, of New York, presented this communication. He said that in many cases the chief symptom was "the morning drop," which varied considerably in both color and consistence. To obtain the drop for microscopical examination, the patient should be examined before passing the first morning urine. The absence of such discharge did not, however, prove that the patient was cured, and the same was true of the absence of all "floaters" in the urine. Painful urination was not a prominent feature of chronic gonorrhœa.

Adrenal Tumors in the Kidney.—Dr. Barnard Holmes, of Chicago, read this paper. He said that the adrenal body itself was one of the earliest embryonal tissues to be found in place. As a result of an exhaustive study of the subject he had arrived at the following conclusions: (1) Remnants of the adrenal bodies were found in various parts of the genito-urinary tract in about ninety per cent. of all autopsies. (2) The adrenal body was a ductless gland essential to life. The removal of this body resulted in death, and its partial destruction led to a condition the symptoms of which resembled those of Addison's disease. When the adrenal body was greatly increased in function, it caused contraction of the capillaries, blanching of the skin, slowing of the pulse, and arterio-sclerosis of all the blood-vessels in the body, and resulted frequently in young people in sudden death from apoplexy. Nearly all who had suffered from this disease had had severe headaches, and indeed most of the symptoms of cirrhosis of the kidney, but without diminution of the urinary secretion. (3) About one-third of all tumors of the kidney appearing in adult life were of adrenal origin, but only a small proportion of these showed a tendency to metastasis. When metastatic foci did occur they were to be found either in the lung or in the bones, and they did not show a tendency to appear in both at once. Some of these metastatic tumors gave rise to the constitutional symptoms of increased secretion of the adrenal. (4) A few of the adrenal tumors produced symptoms of poisoning with the adrenal extract, and this too whether the tumors showed a tendency to metastasis or not. The poisoning did not seem to be proportionate to the size of the tumor. (5) The removal of the tumor before metastasis took place resulted in the subsidence of the symptoms of poisoning. The tumor might be removed without loss of kidney substance, as it did not infiltrate the kidney except in the advanced stages.

Pneumaturia.—Dr. Howard A. Kelly, of Baltimore, made a few remarks on this subject. He said that as far back as 1823 mention was made of the passage of gas from the bladder, and it was then supposed that the gas was secreted by the mucous membrane of the bladder, or was the result of fermentation. The cases might be divided into three groups, viz.: (1) Those in which the air was mechanically introduced from without: (2) those in which the gas arose from some fermenting organism; (3) those in which the air reached the bladder through some air-holding viscus, usually the bowel. In sixteen cases nine were found also to have glycosuria. In cases in which the urine was free from sugar, organisms were usually discovered which evidently belonged to the colon group. The gases produced were carbonic acid, nitrogen, hydrogen, oxygen, and marsh. Cripps had reported sixty-three cases belonging to the class in which the air came from air-holding viscera.

Dr. Ransohoff, of Cincinnati, said that he had had a case of malignant disease of the rectum in an advanced stage at the time of coming under observation. Adhesions had formed between the rectum and the bladder. Before a fistula formed between these two viscera the man had suffered from obstruction, but the establishment of the fistula had caused a disappearance of the symptoms of obstruction. In inguinal colostomy we should have an absolute means of putting an end to the pneumaturia. In his case of pneumaturia there was no suffering from the passage of air into the bladder, but burning pain was experienced from the fæcal discharge passing into the bladder.

Dr. Graham, of Chicago, reported two cases of gonorrhœal stricture and acute abscess of the prostate, associated with the passage of air into the bladder. One of these patients had been under observation for a number of years, and at intervals there had been a passage of a few drops of urine into the rectum and an escape of air from the bladder, lasting for a few days at a time.

Dr. A. F. Jonas, of Omaha, reported a case in which both gas and fæcal matter were passed from the bladder. The patient was a man, about fifty-five years of age, who had passed from his urethra at intervals for several years small particles like strawberry seeds. He was losing strength and presented an extended area of abdominal tenderness. An abdominal section was made, and very extensive intestinal adhesions were found, together with a general miliary tuberculosis. Because of the tuberculosis it was considered advisable not to break up the adhesions. The patient recovered from the operation, but died about six months later from peritoneal tuberculosis.

Ether Pneumonia.—Dr. James M. Anders, of Philadelphia, contributed a paper on this topic. He said that pneumonia after ether narcosis was a comparatively frequent complication, and might at times be endemic in certain institutions. W. H. Prescott had collected 40,000 cases, in only three of which did pneumonia ensue. In his own series of 12,842 there were 30 cases of typical secondary pneumonia, or 0.23 per cent. The grand total of reported cases was 57,842, with 46 pneumonias, or 0.07 per cent. His own experience led him to believe that more accurate statistics than those available at present would show ether pneumonia to be much more frequent. There

was very good reason for believing that this form of pneumonia had been often overlooked. It had been suggested by Mr. Clement Lucas that a possible source of infection in these cases was the ether mask or inhaler, but this was not probable, as in the past five years a sterilized towel had been used for this purpose in two of the Philadelphia hospitals, from which a goodly part of the statistics had been collected. During ether narcosis it was not improbable that micro-organisms in the upper air passages were drawn downward and so gave rise to bronchitis or pneumonia. This would seem to be supported by the fact that persons suffering from disease of the upper air passages were subjected to special dangers when etherized. A latent or active tuberculous focus in the lungs might, under these circumstances, give rise to serious trouble. In this connection it was worthy of note that in a large proportion of his cases there was a distinct history of frequent colds and coughs. A proper toilet of the upper air passages would seem to be a useful prophylactic measure, as well as the frequent turning of the patient's head to one side during etherization. In prolonged operations it was also well to avoid undue cooling of the body surface, and to reduce to a minimum the quantity of ether administered. It was a significant fact that a very large proportion of his cases of ether pneumonia occurred during the cold season.

Dr. Ochsner said that during the past three years he had had kept accurate records of twenty-six hundred etherizations in hospital practice, and had found that the mere fact of keeping these records had caused the anæsthetizers to exercise more than usual care, and with very gratifying results. Of the twenty-six hundred cases in only two had there been suffering from pneumonia. One of these was a case of septic appendicitis, and much frothy mucus was secreted during the etherization. The point had been well taken that care should be exercised not to cool the body surface by operating in too cool a room, or by applying moist towels over the body surface. At the time when irrigation was almost constantly used he had observed more of these cases. He was of the opinion that aspiration of mucus was a common cause of pneumonia, and consequently there was less danger from this source with the patient in the Trendelenburg position. His practice was to administer chloroform at first, then chloroform and ether, and finally pure ether, using the Esmarch mask.

Dr. Mayo said that at one time a Clover inhaler had been used by him, in which there was a sponge inside of the mask. One septic case had resulted fatally shortly after operation, and in a comparatively short period after this there were several cases of pneumonia following etherization. The sponges had been cleansed in the usual way. Examination of these sponges showed that they were teeming with various forms of micro-organisms, particularly streptococci. This had taught him the necessity of having an absolutely clean mask for each patient. His experience had shown him that operations on the stomach were particularly liable to be followed by ether pneumonia. Prior to these operations lavage of the stomach was performed, yet at the time of operation the stomach was invariably found to contain a certain amount of food and fluid. When the stomach was brought out this material ran back into the œsophagus, whence it was probably aspirated into the lung.

Dr. M. B. Tinker, of Philadelphia, said that while a hospital interne he had observed a very severe ether pneumonia following a trifling operation for the removal of a keloid from the back of the neck of a negro. The operation had been done in the warm season of the year, and had lasted only about fifteen minutes. So far as known there was no predisposing cause and the ether had been carefully administered.

Dr. Graham said that some of these cases of so-called ether pneumonia followed operations on fatty tissue, and resulted from fat embolism and not from the ether. He believed that external causes had as much, if not more, to do with the production of these pneumonias than had the ether or aspiration of mucus.

Echinococcus of Lung.—Dr. Carl Beck, of New York, sent a brief report of a case of echinococcus operated upon by him in November, 1897. The patient was presented before a local medical society in the following May as cured. The case was reported because of its rarity.

Treatment of Congenital Dislocations of the Hip.—Dr. Harry M. Sherman, of San Francisco presented this paper. He said that he had employed the operative method in these cases only during the past two years. He had done the reposition by operation nine times. In the first case he could not definitely locate the acetabulum. This part of the operation was rendered simple if it was remembered that the femoral head was always in the capsule, and that the latter always had its original attachments to the pelvis and femur. Through an incision into the capsule the finger was inserted, and then it easily found its way to the acetabulum. He had noted in some cases that on the removal of the splint there had been good motion in the joint, but within a short time this had diminished, and ultimately there had been practically an ankylosis. He could explain this only by supposing that it was due to contraction of cicatricial tissue within the capsule. In one case of double congenital dislocation the luxation had returned on both sides. Manipulative reposition was done on ten hips in eight children. The capsule was directly over the hollow of the acetabulum, and closed it except for a very small slit, which often would not admit of the passage of the head until it had been enlarged. The object of the manipulations was to tear this slit, so as to make it larger, but this could not always be done. If the manipulations succeeded only in placing the femoral head in the acetabulum, with the capsule pushed before it, there would be a recurrence of the dislocation.

Dr. J. E. Moore, of Minneapolis, said that this deformity was one which existed in every community, was very commonly overlooked, and was almost always neglected. Experience had taught all surgeons that the mechanical treatment of these cases was unsatisfactory; hence we must look to the bloodless operation of Lorenze, or the bloody operation developed by Hoffa. One must not think that the bloodless method could be tried, and if it failed the bloody operation could then be done; he had learned this by sad experience. In the case referred to, the bloodless operation having been unsuccessful, he had immediately resorted to the cutting-operation, with the result that there had been marked swelling and the formation of a thrombus in the femoral vein. Dr. Bradford now modified the operation by cutting downward and outward across the femur just below the lesser trochanter, and retracting the soft parts, thus exposing the capsule most satisfactorily. The capsule was then incised and the head of the bone was turned out. Then the finger was passed into the capsule until it reached the acetabulum. With the finger as a guide, the head of the bone was then readily slipped into place.

Dr. Sherman said that the bloodless method really produced a sprain and contusion, and sometimes a synovitis. If the tearing of the soft parts could be definitely located, so as to bring the capsule away from the acetabulum, then this operation would have a more brilliant future. Ankylosis at the hip with the limb in good position was preferable to the persistence of the dislocation, because of the increased stability of the

limb. The unreduced dislocation became progressively worse.

Officers.—Dr. W. J. Mayo, of Minnesota, was appointed chairman, and Dr. M. L. Harris, of Illinois, secretary of the section.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

JOSEPH PRICE, M.D., OF PHILADELPHIA, CHAIRMAN.

First Day—Tuesday, June 7th.

Address of the Chairman.—DR. JOSEPH PRICE, of Philadelphia, delivered the address. After alluding to the importance of recent advancements in the branches belonging to his section, he said that few even of the more eminent operators were agreed as to pathology or surgical methods, and that progress had been in the face of the most bitter professional antagonism. He mentioned the successful operations of the pioneers, Bainham, McDowell, John Light Atlee, and John Clay, and said that to the extent to which these pioneers carried their work the profession had followed their methods, perfecting somewhat the lessons they taught and enlarging the field of their application. The profession and the world marvelled at the great bounds to unexampled successes. Ignorance and prejudice were yet to be faced at every turn. Those whose courage was great and whose motives were worthy were abused for throwing light on the darkness in which the great body of the profession groped. He quoted Dr. Atlee as saying that "gentlemen who were bold enough to witness the operation of ovariotomy were even directly accused by their professional acquaintances of being *participes criminis* in committing murder, notwithstanding these murdered patients recovered." He called attention to the danger in specialization of being only specialists. He regretted that the younger school of gynæcologists had neglected plastic surgery, the majority having been seized by that strange, unexplainable infatuation for the surgery of the peritoneal cavity. The vital questions relating to plastic work, he stated, were dropped out of society discussions. He considered that in the results obtained in vesico-vaginal fistula, about "two attempts at closure resulted in benefit to the patient, reducing the size of the fistula." Distressing conditions were not corrected, because gynæcologists were not giving the subject the careful study its importance demanded. He considered careful training in plastic work of more importance than in abdominal surgery. The speaker then alluded to the successful treatment of uterine displacements by Hodge, Sims, Gaillard Thomas, Albert Smith, and others, with simple methods, and considered the very common office attempts at local treatment and the correction of displacement an error. Such patients should be put to bed, the uterus brought forward, all lacerations repaired, and a well-fitting pessary placed. He commended the rest treatment for the correction of displacements as the shortest, surest, and most satisfactory. He also called attention to the risks associated with the use of the pessary, and described curious varieties he had removed, some of which would have made acceptable mule collars or balance wheels for a corn sheller, while some resembled the wings of a flying-machine. He quoted a statistical record of accidents as a warning in the application of the pessary. Thus "twenty-three cases of perforation of the rectum alone by the pessary; twenty cases of perforation of the bladder alone; ten cases of perforation of the bladder and rectum; one case of ureteric fistula alone; one case of ureteric and vesico-vaginal fistula and one case of perforation of Douglas' pouch (neither fatal); three cases of perforation of the vaginal wall, the extruded portion of the pessary lying in the pelvic connective tissues; and six cases of entry of a vaginal pessary into the uterus." He anticipated that during the association meeting there would be many new methods advanced for the treatment of uterine displacement, and for the benefit of such claimants he quoted Mr. Tait: "Nothing is so useless or so stupid as this squabbling about priority, for in a few years the names of all concerned will be forgotten and only the progress will be familiar to our successors."

Dr. Price then called special attention to the nervous disorders arising from the connections between the vagina, uterus, and ovaries through their nervous supplies with the splanchnic nerves, and with the spinal cord in the sacral and lumbar regions through the pelvic and hypogastric plexuses, and cited the mature opinions of MacNaughton Jones and other English specialists. The author believed that many nervous disorders could be averted or cured by early and careful attention to uterine and ovarian troubles, and examination of pelvic viscera. He considered surgery a science without limit to its extension, with no tolerance for obstructionists, no false reverence for the venerable, but which replaced the old with the better new. He accredited to the medical journals the scientific spirit, the earnestness of research diffused through the profession.

In conclusion, the author briefly mentioned the gratifying reduction in the mortality of childbed, due largely to cleanliness of environment and everything in touch with the patient. He considered that in the majority of maternity cases it was dirt or meddlesome and unskilful instrumental interference that killed, and that to have skilful obstetricians the teaching in the schools should be more thorough, theoretically and practically.

DR. HOWARD A. KELLY, of Baltimore, moved that a vote of thanks be tendered the chairman for his paper, which, he said, must have struck a sympathetic cord in the heart of every gynæcologist.

Treatment of Simple and Complicated Cases of Retrodisplacements of the Uterus, by Shortening the Round Ligaments through the Anterior Vaginal Fornix.—DR. J. RIDDLE GOFFE, in presenting this paper, stated that the number of operations which had been devised for the relief of retrodisplacements of the uterus was an indication of the importance ascribed to this condition by the medical profession. All of these operations, however, were not based upon true principles of dynamics, and especially the dynamics of the female pelvis. Great advance had been made in the understanding of the forces which were at work to retain the uterus in its normal position and to displace it by counteracting force. The author said that before we could understand this subject thoroughly, we must accept the fact that the uterus, like all other organs in the human body, was suspended and held in place by ligaments. The normal position of the uterus was one of unstable equilibrium, and its chief support was the swing or cradle of tissue reaching from the sacrum to the symphysis pubis, and known posterior to the cervix as the utero-sacral ligaments and anterior to the cervix as the vesico-uterine ligaments. As long as this tissue was intact and functionating properly, the uterus could not be displaced except by some extraordinary force. When a woman was upon her feet the uterus rested upon its anterior face, and all that was necessary to retain it in this position was that the cervix should be held up in the hollow of the sacrum. Under these conditions both gravity and intra-abdominal pressure assisted in carrying the fundus into a position of normal anteversion. The utero-sacral ligament, therefore, was the all-important structure in retaining the uterus in its normal position. The two most potent factors in producing retrodisplacements of the uterus were, first, subinvolution of the uterine lig-

aments following parturition, more especially of the utero-sacral ligaments; and, secondly, diseased and prolapsed appendages which, resting upon the utero-sacral ligaments, so interfered with their nutrition as to cause them to lose their contractile power. The most rational procedure for the relief of displacement consisted in shortening or restoring tone to the utero-sacral ligaments. An effort had been made in this direction by both German and American operators, but thus far without success. It was within the bounds of expectation that some such procedure would be devised that would be both practicable and efficient. The next most rational procedure consisted in utilizing the round ligaments for retaining an anteverted position of the uterus. The round ligaments might be shortened either by Alexander's operation or by a laparotomy, lapping them upon themselves inside of the pelvis; or they might be approached through the vagina. The latter method was the one to which he called attention. The operation, he said, consisted in making a transverse incision in front of the cervix, and a second longitudinal incision at right angles to this, extending throughout the whole length of the vagina (through which incision sufficient room was obtained for breaking up adhesions both of the uterus and the appendages); bringing the uterus down into the vagina, and, after treating the appendages by whatever method seemed to be indicated, shortening the round ligaments of both sides by lapping them upon themselves and stitching them together with twisted silk. The operation had been applied in thirty-one patients, three of whom had become pregnant; two had passed through their pregnancies with unusual comfort and had been delivered of living children. Of the remaining cases three were partial failures, due to giving way of a ligament on one side. This was accounted for, however, by the fact that the appendages of the relaxed side had been removed and the round ligament shortened by including it in the ligature instead of lapping it upon itself and stitching it in that position. These three patients were made comfortable, however, and relieved of all their symptoms by insertion of retroversion pessaries. All the other cases had proved completely successful, not only anatomically but in the relief of all symptoms. The first operation was done in March, 1896, and the last in May, 1898. The first and the fifth patients had had children. It was therefore to be expected that as time advanced similar reports would come in from a fair proportion of the remaining cases.

Dr. Goldspohn, of Ohio, in discussing the paper, said that he had done the operation but a limited number of times. He considered it entirely feasible and to be esteemed above other non-surgical operations, which should be relegated to the past ventro-fixation, vesico-vaginal fixation, and ventro-suspension. He believed diseased conditions of the adnexa were due in a large majority of cases to displacement, and that if displacement led to disease in the ovary something should be done with the displacement after resection, and that could not be done through a vaginal approach.

Dr. H. P. Newman, of Chicago, was much gratified with the stand taken by Dr. Goffe, and referred to the visionary aspect with which the operation was regarded ten or twelve years ago. He believed that the objections met with to-day were faults in the technique.

Dr. Howard A. Kelly, of Baltimore, said he was much interested in the discussion, as he had operated a great many times for this condition. He did not think the uterus and tissues could be put in exactly the same condition as they were before; but that the question was, what was the best surgical operation from a surgical standpoint? If something about the mechanics of the abdomen was borne in mind, it could be readily seen what was the best form of operation, from a mechanical standpoint. He said that if the uterus lay in the anterior position the very pressure which was a disadvantage would then tend to increase the advantage of the antedisplacement, and that he needed but a thread at this point to hold the uterus in position, because the abdominal pressure worked with him. This he considered the best mechanical advantage to be obtained. He had operated in this way in some four hundred cases, opening the abdomen by minute incisions transversely so that the scar would be invisible. An incision of an inch or an inch and a half was made vertically, and the fundus brought up and attached to two silk sutures. About two per cent. of his cases had gone back. Some twenty of his patients had become pregnant, and none out of the four hundred had died.

Dr. Craig, of Denver, stated that his experience with the Alexander operation had been something short of one hundred cases. He had been looking for some of the accidents detailed in the journals, but had not found them. He considered any fault in the operation entirely in technique. Any surgeon with a little preparation he thought could do an Alexander operation with almost perfect success, but it required an expert to do a vaginal operation. He considered the tactile sense of much importance in attempting to restore the uterus. He did not believe that the vaginal operations would ever be without mortality. In his series he had had one recurrence.

Dr. S. C. Gordon, of Portland, Me., thought the broad ligaments had more to do with supporting the uterus than anything else. In relation to the support of the uterus which had a certain amount of descensus, he thought something which would hold must be at the top. The only exception he had to Dr. Kelly's operation was that he used catgut instead of silk, so having nothing to act as an irritant. He was not in favor of vaginal operations, and certainly would not do a vaginal operation for the condition under discussion. He objected to the long process described by Dr. Goffe.

Dr. H. O. Marcy, of Boston, said he had had a very considerable experience with the operation through the vagina and had utterly abandoned it. In the great majority of cases he believed there was something besides the retroversion of the uterus, and approved of carefully opening the abdomen, so that the factors with which the surgeon had to deal could be seen. He made a double instead of a single fixation. He thought it important to know the condition of the endometrium, the cervix, and the peritoneal structures.

Dr. Ferguson, of Chicago, made a preliminary report of an operation in which he made an incision with the patient in the Trendelenburg position, exposing the rectus muscle on both sides, making an incision through the rectus muscle about three-fourths of an inch from the median line, and retracting the muscle to one side. The peritoneum was opened and a small incision about an inch away from the pubis was made, cutting through the posterior shaft of the rectus and the peritoneum. The uterus was brought into view, a clamp placed upon the round ligament about an inch away from the cornu, and the womb sutured. The first two sutures passed through the broad ligament and then through the posterior fibrous surface; the next one passed through the round ligament, and the fundus was closed posteriorly with catgut. The rectus muscle was allowed to fall back, the recti sheaths were sewn over, and the abdomen was closed. He claimed for this procedure the advantages of the non-opened median line, the opening being behind the recti muscles; of firm suture for the uterus, not in the form of a string, which predisposed to hernia; of allowing one to deal with a prolapse or a cystic ovary;

of avoiding the danger of injuring the bladder or incurring hernia; and that it could be done in a very short time. He felt that it covered all classes of cases, and could see no surgical objection to it.

Dr. Ward, of Kansas City, thought the paper very interesting, but could not see how it was possible so to dissect with perfect impunity to the bladder and uterus. He considered that in almost all cases something was to be done with the appendages and that it was necessary to go into the abdomen and bring forward the adherent appendages, and he did not consider that this could be easily done through the vagina.

Dr. William H. Humiston, of Cleveland, did not approve of the Alexander operation, since with the displaced organ he found a diseased condition of the adnexa, and stated that the large majority of his cases of retrodisplacement of the uterus were cured by curetting the uterus, placing it forward, and supporting it for a few weeks with a pessary.

Dr. Henry, of Omaha, said the operation seemed to him to be difficult and serious. He preferred to open the abdominal cavity and fasten the uterus, as Dr. Kelly had suggested, by a slender peritoneal attachment. He thought that the remarks of Dr. Kelly should be emphasized. He believed that bad results followed ventro-fixation, and that in many instances the displacement could be cured by the use of a simple pessary, but when the operation was necessary he advocated opening the abdomen.

Dr. Engelman, of Boston, preferred shortening the round ligament with a restoration of other coexisting conditions.

Dr. Etheridge, of Chicago, said that after drifting and floundering about on operations for retroversion, he had finally settled down to doing nothing but abdominal fixation. He thought there was very little difficulty in doing the operation through an inch or an inch and a half. He advocated suturing through the entire abdominal wall, and one internal abdominal suture was all he generally used. He always used silkworm gut, allowing the sutures to remain in for three weeks, but removed the abdominal stitch at the end of eight or ten days.

Dr. Ruth, of Iowa, thought the pessary had its place in suitable cases. He thought that if the condition of the adnexa could always be known he would feel inclined to take up the operation more extensively, and did not consider that these parts could be so well dealt with through the vagina as through the abdomen. He was slow to believe that all cases of uterine retroversion were pathological and demanded treatment, but thought that when such seemed to be the case it was better to make a small abdominal incision and be absolutely certain as to the existence of the pathological condition of the uterine adnexa.

Dr. Price said that he was very old-fashioned in his treatment of displacements. He believed that if the patients were put to bed and allowed to occupy a comfortable Sims position for some days, and the slightest tear in the cervix or anything approaching an unhealthy condition was repaired, they would in all probability recover. This had been his custom, although he had the reputation of cutting everything; he wanted to use this opportunity to correct this error. In fairness to Dr. Goffe, he wished to say that his paper was a scientific one and that the fixation of the uterus in the anterior vault was in all probability the operation which would give the least inconvenience. He believed it not difficult to make the incision, and used the finger in all of the manipulations.

Dr. Goffe, in closing the discussion, said he would be glad if time permitted him to answer in detail the points suggested which had not been agreed upon. He noted that the point was pretty well concurred in that simple retroversion of the uterus was not so serious a condition as to require an elaborate surgical procedure for its relief. Only in selected cases did he advise patients to resort to an operation. He believed that when pessaries were applied promptly after confinement while involution was going on, the ligaments would recover themselves sufficiently to retain the uterus in place, but that chronic cases were never so cured. He believed that, as he looked over the literature, the men who had kept watch of their cases had only about five per cent. of patients submitted to the treatment of a pessary cured. Another point on which they were pretty well agreed was that the indication in these cases was to be found in diseased appendages. To reach these appendages the pelvic cavity was to be opened, and the question was whether to use the abdominal or vaginal route. He believed the question would be decided within the next three years in favor of the vaginal route. He stated that his own conduct was never to do a laparotomy if it could be avoided. He desired to induce some of the profession to adopt the operation, and, although it required more time, he believed that the patient received the benefit.

Further Experience in the Management of Uterine Displacement.—Dr. Augustus P. Clarke, of Cambridge, read a paper with this title. In speaking of the treatment of anteflexion he said that he had relied much upon a resort to dilatation of the uterine canal. In those cases in which there had been considerable hyperplasia or induration of the cervix, incision of the tissues within the canal had often resulted in marked benefit. If sterility or dysmenorrhœa still persisted, dilatation, curettage, and intra-uterine applications should be repeated at proper intervals. The author, in speaking of retrodisplacement, remarked that the organ should first be restored and should be maintained in its proper position. In order to effect this, firm adhesions might sometimes have to be broken up, a lacerated perineum might have to be repaired, relaxation of the vulvo-vaginal tissues might have to be reduced by recourse to a plastic operation, and every factor that tended to weaken the normal intra-abdominal pressure would have to be eliminated. The author further added that the Alexander operation was the most useful in those cases of backward displacement in which the vulvo-vaginal walls were sufficiently firm for maintaining the intra-abdominal pressure. If the severity of the symptoms could be relieved by the adoption of extraperitoneal treatment, ventro-fixation or ventro-suspension might be the next measure of proceeding. For overcoming retrodisplacement in married women the author advised that the operation should, if possible, be deferred until the approach of the menopause. If conditions admitted of a choice between the Alexander operation and ventro-fixation, the former was the less dangerous to the patient's life and the less likely to interfere with the normal evolution of pregnancy.

Second Day—Wednesday, June 8th.

Descensus Ovarium.—Dr. A. Goldspohn, of Chicago, in a paper with this title, considered that a most fruitful cause of disease of the female internal organs was their displacement, which induced a varicose condition and seriously disturbed their trophic conditions. He said that, while this fact was generally accepted with reference to the uterus, it was not appreciated with reference to the appendages. He believed that the indications for operative cure in cases of displacement extended as well to the adnexa as to the uterus itself, and he was convinced that many failures to restore good health were due to an imperfect or partial filling of these conditions. He divided the causes into three classes: (1) those which increased their weight; (2) those which induced relaxation of the ligamentary

supports (sometimes heedlessly done by operation through the vagina); (3) retroversio-flexion, which he considered the most prolific cause. He believed the ideal structures with which to deal for surgical repair were the round ligaments of the uterus, accessible by way of the vagina, by ordinary laparotomy, and by way of the inguinal canals. The latter two routes alone he considered gave sufficient access to the lateral walls of the pelvis to secure replacement. Cases of utero-ovarian displacement in which by repeated bimanual palpation he could not exclude septic elements, he treated by the abdominal route. Other such displacements, whether simple or complicated, in which sepsis had died out, he treated by the Alexander operation with sufficient dilatation of the internal inguinal ring to introduce an index finger, by which he could intelligently loosen all fixations. With the finger thus introduced, while the uterus was being steadied, when necessary two additional fingers were introduced into the vagina. The author had elaborated these important adjuncts to the Alexander operation during the past five years, and out of approximately one hundred and forty cases had had no deaths, herniæ, or other evil sequelæ.

Dr. Joseph Eastman, in discussing the paper, said that it showed study of the subject along anatomical lines in a conservative way, and with the absolute view of cutting only for cure and not for the sake of new experiments.

Dr. Howard A. Kelly said he had never felt perfectly clear as to the pathological significance of these ovaries, which could be felt with unusual distinctness in Douglas' cul-de-sac, and had never felt warranted in opening the abdomen to stitch up such an ovary, because when they were opened for other causes disease had not been found; but he would watch with a great deal of interest the effects of operations upon these descended, prolapsed, more or less tender ovaries.

Dr. William H. Humiston, of Cleveland, said he did not operate until the patient had been through a course of treatment. His experience was to find the ovary prolapsed with the uterus, and the history usually indicated the result he would secure by ordinary treatment. If the condition had existed for a long time, he found that the majority of cases failed to be permanently benefited by putting the uterus in proper position, and he favored the conservative method before resorting to surgical procedures. Conditions of a year's duration, he stated, were recovered from by placing the uterus in proper position, and supporting it with rest in bed, hot douches, and glycerin pads. If this method failed in results he opened the abdomen, and if pathological conditions were found removal was the only thing which would give permanent relief; in these operations his success had been most pronounced. He was glad that Dr. Goldspohn had modified the Alexander operation; as put out by Alexander and practised by some leading men it had not been an operation for which he could find an indication.

Dr. E. Gustav Zinke, of Cincinnati, regretted not hearing the first of the paper, but it was his belief that if the operation was done simply and solely for symptoms dependent upon a merely prolapsed ovary, it would not hold a place among the operations in gynæcology. He did not wish to criticise the doctor's efforts. He could not believe that an otherwise healthy ovary or ovaries prolapsed, even though they were behind or in front of the uterus, would give rise to any symptoms which would justify surgical interference. In his practice of a number of years exclusively in this department he had not had a case of prolapsed ovary or ovaries, without adhesions, that had given rise to symptoms warranting operative procedure.

Dr. Chestnut, of Philadelphia, said his experience included but a limited number of cases, but that his opinion coincided with those of Drs. Humiston and Zinke. He had not felt called upon to operate except in evidences of intrinsic disease. His usual treatment was the placing of the patient in the knee-breast position, the retention of the ovaries in their position by tampons medicated with glycerin or ichthyol, and the hot douches: in case of adhesions he removed the ovary.

Dr. D. S. Fairchild, of Iowa, said his experience in this kind of operative work had been very little, and he could hardly imagine there would be any considerable number of cases of ovarian trouble not involving disease or organic change in the structure that would warrant abdominal procedures, but he considered his experience in this direction too limited to offer an opinion.

Dr. Porter, of Fort Wayne, thought the profession should not lose sight of the fact that there was a class of patients suffering from prolapse of the ovary who could not afford to spend several hours a week in the doctor's office for the purpose of having the uterus and ovary replaced, and probably in the end have to submit to operative procedures. He believed there was a class of cases in which the shortest and happiest treatment was some method of fixation or removal. He had had no experience with Dr. Goldspohn's method, but had had some of the very happiest results from abdominal fixation of the ovaries in cases in which apparently there was absolutely nothing, save that the ovary was out of position.

Dr. Bonnefield, of Cincinnati, said he had found cases of displaced ovary attended with retroversion of the uterus to be amenable to office treatment after the retroversion was relieved, but that when the ligaments were so stretched that replacing the uterus did not also replace the ovary, his experience had been that local treatment was very hard to carry out and that it was almost impossible to make it effective. Malposition he believed to interfere with the nutrition of the ovary, and sooner or later disease developed which would require the removal of the organ. His sentiments had also been voiced by the gentleman from Indiana—that some patients could not afford to spend the time for office treatment—and for such cases he thought some surgical measures were certainly indicated and was glad that Dr. Goldspohn had suggested something which seemed to be effective.

Dr. Clarke expressed himself as much interested in the operation, but before attempting the procedure preferred to watch more closely the results. He believed that in most part the retroposition of the ovary was owing to parturient processes. He was glad to hear that Dr. Goldspohn distended the canal and removed or corrected any adhesions of the adnexa. He placed much value on intra-abdominal pressure in maintaining the uterus in position. He considered the ligaments merely guys, that did not hold the uterus in place.

Dr. Joseph Price said he had not resorted to surgical procedures except in pathological conditions, with retention of blood, pus, or water. For simple displacement of the ovary he did not approve of the office treatment, but believed it necessary to put the patient to bed and to use both local and general treatment.

Dr. Goldspohn, in closing the discussion of his paper, said that ninety-five per cent. of these cases of descensus were associated with retroversion of the uterus, so that in nineteen out of every twenty the operation would be for retroversion as well as for descended ovary, and that he did not advocate operating simply for descended ovary. He believed, however, that in the course of a year the descended ovary would become inflamed.

Discussion on the Relation of Pelvic Diseases to Nervous and Mental Affections.—The discussion was

held jointly by the sections on neurology and obstetrics.

Is Pelvic Disease a Cause of Nervous and Mental Affections?—Dr. Frederick Peterson, of New York, opened the discussion with this paper. The author said it was in the sixteenth century that Montaigne, a friend of physicians, wrote that it was safer to follow the example of the ancient Egyptians and employ specialists for every particular organ of the body rather than to trust one's self to the general practitioner. As there were distinct trades to clothe us, so should we be treated in our cures. If that was good advice in Montaigne's day, how much more valuable must it be to-day when the bounds of scientific medicine were so extended. No single mind, he said, could grasp and apply the vast store of human knowledge accumulated in the domain of the healing art during the last century. His preference was for the well-rounded general practitioner rather than for the ordinary specialist. The tendency was for each to consider his subject the centre, around which the whole human organism revolved; he should rather regard man as a biological unit, in which every organ had its place. He did not deny that pelvic disease in women attended by exhausting pain might give rise to neurasthenic or hysterical states, but he believed the influence of the exhausting pain was not greater than that of similar exhausting pains elsewhere in the body. He said he did not deny that disorders of the female organs, such as excessive hemorrhages or suppurations, which affected the nutrition of the nervous system, produced neuroses and even insanity. These were the main concessions, however, which he would be willing to make. In insanity he believed the two great etiological factors to be the hereditary instability, and some physical or moral circumstance directly affecting the nervous system. There was no evidence to show that epilepsy or chorea could be induced by disease of the female organs. He would by all means allow the gynæcologist to treat any serious disease of the pelvic organs present, but would say, let him not sacrifice those who trusted to his skill and good judgment. It was better to err on the side of science rather than to give the patient the so-called benefit of the doubt, which should rather be called the affliction of the doubt.

Are Nervous and Mental Diseases Cured by Pelvic Operations?—Dr. F. X. Dercum's paper, with this title, was read by Dr. Patrick. In this paper Dr. Dercum reviewed briefly the nature of the functional nervous diseases most frequently met with in practice. He considered the most important of the neuroses met with by the gynæcologist, and the general practitioner as well, neurasthenia and hysteria. He said that the symptoms of neurasthenia were always expressive of chronic fatigue, and he therefore termed the disease the fatigue neurosis. The other great neurosis which medical men met with so frequently was hysteria, or, as Dr. Dercum prefers to term it, the psycho-neurosis. The writer knew of no affection concerning which there was still so great a lack of knowledge in this country and in England, notwithstanding the fact that the French and later the Germans had unmistakably defined and described the symptomatology of the disease. The considerations given of neurasthenia and hysteria warranted the following conclusions as regarded neurasthenia: (1) That neurasthenia might exist independently of any local disease, pelvic or other. (2) That there was no necessary relation between neurasthenia and pelvic disease when the two affections happened to coexist in the same case. (3) That when pelvic disease occurred in a case of neurasthenia, the pelvic symptoms might be more readily recognized by the patient and therefore become more prominent, because in neurasthenia there was an increased irritability, an increased reaction to local impressions—nervous weakness and nervous irritability going hand-in-hand. Regarding hysteria, his conclusions were: (1) That hysteria might exist independently of any local disease, pelvic or otherwise. (2) That there was no relation between pelvic disease and hysteria even when the two affections coexisted in the same case. (3) That while in hysteria there was increased reaction to external impressions, this reaction was purely psychic. These considerations of neurasthenia and hysteria led the author to answer the question allotted to him by an unequivocal "No." He believed that all idea of curing neurasthenia or hysteria by operations upon the pelvic organs must be absolutely abandoned. Healthy organs should never be removed in the vain and grotesque attempt to cure the neurosis. He believed that in neurasthenia, operations for the cure of actual pelvic lesions were indicated and should, other things being equal, be performed. If organic disease complicated hysteria, operation should if possible be deferred until the patient had been cured of the hysteria. If the hysteria was very profound, operation should never be undertaken unless the surgical indications were urgent, and of such a character as to make operation necessary to save life. He did not believe insanities to be due to local organic disease, but to disease of the neurons, structural and functional, the result of various poisons circulating in the blood.

Nervous and Mental Diseases Following Pelvic Operations.—Dr. Harold N. Moyer, of Chicago, read this paper. The author said he would treat the subject in a manner to show that there was no difference in the nervous and mental effects following operations upon the pelvic organs from those following operations in other parts of the body. The writer said an examination of the statistics would show a surprising number of cases operated upon for pelvic disease with insanity, neurasthenia, and other nervous troubles following the operation and probably resulting from it; also that some writers had come to the conclusion that these operations were peculiarly liable to be followed by such phenomena, but that a closer analysis of the statistics would show that the operations were largely done upon persons whose general health was impaired. He considered infection a by no means infrequent condition. In a series of cases involving the prostate, in which the author thought there might be some comparable relation between the pelvic organs in the male and those in the female, he found that the nervous and mental effects following operations were much greater in those upon the male than in those upon the female, and he therefore concluded that this operation was not attended with more nervous disturbance, such as insanity or neurasthenia, than were operations in general. The character of the mental disturbances which might follow operations was substantially the same, whether upon pelvic organs or upon other parts of the body. The bulk of the effects fell within that variety of neurasthenia described by alienists as primary confusional insanity. Those operations which included the ovary or Fallopian tube and which were followed by an artificial menopause or an early menopause, were also studied, and he particularly addressed himself to the question whether there was any difference between the mental effects of the artificial menopause and those of the ordinary menopause. His conclusion was that they were practically identical. Regarding the removal of the ovary, the author believed that it, or a part of it at least, should be left in if possible.

Indications and Contraindications for Surgical Interference.—Dr. Humiston, of Ohio, read this paper, in the absence of Dr. Franklin H. Martin, the author, who considered the indications for operation in these cases numerous. He did not believe that there was a man of any standing practising this branch

who was operating on normal structures to relieve neuroses. He believed that the indications for operation must be a marked deviation from the normal. The perineum he believed to have a direct influence upon the nervous system in the condition of a rectocele, a cystocele, or a lacerated cervix; he mentioned a thickened condition of the uterus even when in a normal position, except a slight prolapse, as giving rise to a great many marked nervous symptoms. Endometritis with its concomitants he also regarded as giving rise to a variety of symptoms. In many cases in which he had found the organs misplaced but freely movable, there were few symptoms referable to the uterine organs; but with a misplaced, adherent, inflamed uterus, marked symptoms might be expected, and he believed this condition to be a strong indication for operative measures. He regarded the history very important in arriving at the determination of the origin of the nervous symptoms, and cited the case of a young lady who began menstruation at the age of fourteen. There was no disturbance until she was sixteen; while she was riding horseback the saddle turned, and she was thrown and dragged some distance. She recovered after a few weeks, but at her next menstruation the pain was very severe; this increased month by month, and she became a physical as well as a nervous wreck. She had been confined in a sanatorium and at last in an institution for the mildly insane. The case was brought to him by a neurologist and from the history he received a clew for the local examination. The pelvic organs were retrodisplaced and adherent; there were fixed masses in both vaginal vaults, and evidences of recurring inflammatory attacks. He removed the appendages and put the uterus in proper position and supported it there. There was marked improvement in the first few weeks. The operation was done two years ago; the patient had remained in perfect health and was seen in his office but a few days before, the picture of happiness with a full return of strength. In teaching gynæcology, Dr. Humiston said, he would teach students not to examine the pelvis until a most complete and thorough examination had been made of the whole body. He would desire his pupils to be first general practitioners, and specialists last.

Dr. M. B. Ward opened the general discussion. He said that he believed the influence of disease of the pelvic organs was so marked in nervous disturbances that there was a great field for investigation and work. He related the case of a young lady who had been a sufferer from epilepsy and was cured by the removal of diseased appendages; also two cases of severe headache, in which after the removal of the diseased appendages the patients had been perfectly well. He referred to an instance of one hundred and nine patients in an asylum for the insane, each one of them had had several operations done and seventy-five had been sent home well. Another case, that of a woman with homicidal insanity, who was confined in an insane asylum, had been brought to his notice. He found marked pelvic disease, and after operation there had been no symptoms of insanity.

Dr. J. T. Eskridge, of Denver, said he had been much impressed with the change which had taken place during the last fourteen years in the antagonism between the neurologists and gynæcologists, and believed that the mutual relations of certain specialists were so close that they must work together if they would work for the good of their patients. For himself, he felt very closely associated with the general practitioner, with the gynæcologist, the laryngologist, pathologist, and with that practitioner who was a specialist in all acute and chronic diseases in both men and women. He felt that every man must know something of everything and everything of something. He believed that the neurologist should investigate most thoroughly, but only after certain conditions were excluded. He believed it possible that a person might be simply in a neurasthenic condition, which, extending over a number of years, might develop some pelvic difficulty, and the gynæcologist, getting hold of this patient, might think she had suffered all the time from intrapelvic trouble, but which condition had subsequently developed from the impaired state of the health.

Dr. Joseph Price said that during the last year or two neurologists had paid as much attention theoretically and not quite so much practically to the discussion of the pelvic viscera as to the theory of neurasthenia, or they would not have appeared in print quite so often as they had during that time. He said he believed the majority of the cases treated for nervous disturbance, so called, were largely due to actual disease, which conclusion he based upon an every-day clinical experience, and he also believed that every specialist would fortify the statement. He believed insane asylums had been largely in the hands of the politicians and neurologists. He cited several cases showing entire relief from mental disorder after operation.

Dr. Hughes stated that the gynæcologists and neurologists were obliged to work together, and both were trying to determine how, when, and where to interfere gynæcologically, and how, when, and where to proceed neurologically in a given case involving a woman. The way was becoming clearer and they were walking together in it. They were not attempting to stay rational gynæcological procedures; they were fighting against a certain class of practitioners who were just as objectionable to the gynæcologist as they were to the neurologist.

Dr. S. C. Gordon said that in 1888 he had had the honor of being chairman of the section, and in his paper at that time he had described operations which were proof to him that removal of the ovaries had procured relief from the nervous symptoms in hysterical women. He said he had learned that conservative operations had been as beneficial as the total extirpations, but that in every case, when he felt obliged to remove the adnexa, he removed the uterus as well.

Dr. Gibbons did not feel inclined to say much. Dr. Price had said that the insane asylums were in the hands of the politicians and the neurologists. He would be very glad to think he was a good politician or a good neurologist, but the average hospital superintendent, though not claiming to be either, did have a claim to be considered a good physician. He believed that the physician of an insane asylum ought to be a good all-round specialist, and that most of the insane-asylum physicians were such. He also believed that the patients should be treated from the broadest standpoint. He disputed the correctness of the stated percentage of insane patients cured by operation for pelvic disease.

Dr. Riggs, of St. Paul, said he had no question about the influence of pelvic conditions in the production of neurasthenic states. He thought, however, there was one source of serious trouble that had not been estimated—the expectancy on the part of the patient to be hysterical or neurasthenic.

Officers.—The nominating committee reported the nomination of Dr. A. H. Cordier, of Kansas City, chairman, and Dr. William D. Haggard, Jr., of Nashville, secretary.

Third Day—Thursday, June 9th.

Plea for the More Correct Application of the Emmet Methods in Plastic Surgery.—Dr. W. D. Haggard, Jr., of Nashville, Tenn., the author of this paper, stated that the brilliant achievements in abdomi-

nal surgery had so far outshone the humbler plastic operations that the perfection of the latter had been very much impaired; that plastic surgery of the vaginal walls and cervix uteri of the present was a polyglot of many methods widely different in principle and hopelessly diverging in practice. In addition to these obvious reasons for the deplorable lack of excellence in much of this class of work, and in addition to the general apathy in this department of surgery, there were more material and serious impediments to perfected results—a somewhat exaggerated idea of the importance of the perineal body, so called; the lingering belief in its similitude to the keystone of the arch in its office of supporting the uterus; failure to appreciate the rôle of the pelvic fascia in maintaining the integrity of the pelvic floor in its functional relations, and more especially failure to grasp the results of its injury and the mechanics of the production of rectocele and the exact methods for its correction; finally, the employment of other suture material than silver wire. Successful execution of plastic surgery, in the writer's opinion, required a special aptitude and nicety of judgment, delicacy of manipulation, and inherent ability in modelling and coaptating parts. The pioneer work of Sims was referred to. The instruments and principles which made his early success possible had remained, but Thomas Addis Emmet had devised and perfected the operations on the cervix and posterior vaginal wall, which, with the operation for vesico-vaginal fistula devised by Sims, constituted the immutable trilogy of plastic surgery. The necessity for removing all indurated tissue in injuries of the cervix was compared with the necessity for removing sequestra. The details of the Emmet operation on the cervix as well as amputation were described. The misconception of the operation for laceration of the perineum, the speaker said, was due to two causes: (1) Misconception of the exact nature and pathology of the injury; (2) difficulty in describing the operation by diagrams. He estimated the essential lesion in injuries of the pelvic floor to be a tear of the pelvic fascia running along the lateral sulci of the vagina to which it was attached, the tear occurring where it was reflected upon the front of the perineal muscles, of which it formed the sheath and which it bound together. The destruction of the integrity of this fascia he declared to be the sole pathology and the cause of the rectocele, bearing down, displacements, and prolapsus. The operation for its relief would not be to sew the labia together, or simply a variable denudation on the vaginal wall, but to catch up the retracted fascia so as to take in the slack throughout the pelvis and thus to lift up the posterior vaginal wall to the anterior vaginal wall. The technique of Emmet's operation was then minutely described.

Indications for Plastic Surgery upon the Cervix Uteri; Tracheloplasty, with a New Method of Operating.—Dr. Henry P. Newman, of Chicago, read the paper. His technique differed from any so far advanced in the method of making the incisions and in the placing of the sutures. The lids of the cervix were transfixed above by a right-angled knife designed by the author for the purpose. A single smooth cut downward in both anterior and posterior lips left a V-shaped section of diseased tissue to be taken out by a cut or two of the curved scissors. The sutures were applied high up and wrapped the flaps closely but without straining. There were no danger of secondary hemorrhage, and no granulation or cicatrization in the canal; the after-treatment was simple and limited. The tampons, uterine and vaginal, were removed on the second or third day and were not replaced. The sutures were tied in groups after a method which favored nice adjustment and ease in removal. In speaking of the indications for the operation, the author called attention to the importance of the cervix as an etiological factor in very many local and general pathological conditions. It might be a storehouse of infectious germs; it was the portion of the uterus which suffered most from maldevelopment at puberty, causing dysmenorrhœa, sterility, and a train of related ills; and it was the part most frequently injured in childbirth. Until preventive medicine succeeded in eradicating the more common causes of cervical disease, this organ would continue to offer wide opportunities for plastic surgery of the most careful and progressive kind. The indications for such operating were at present, besides malignant disease, some minor displacements, the various diseased conditions following laceration, chronic metritis and cervicitis, hypertrophy and elongation, malformations and stenosis, in the reality of which the author's experience taught him to believe. Dr. Newman had used this method for above five years, he said, and his results in a large number of cases had been uniformly satisfactory, justifying him in bringing it before the profession. He proposed that the careless nomenclature be changed and that "trachelorrhaphy"—sewing of the cervix—and amputation of the cervix, both limited and misleading terms, give way to "tracheloplasty," which correctly expressed what every operator meant when he was talking about plastic work upon the cervix.

The papers of Drs. Haggard and Newman were jointly discussed.

Dr. Clarke, of Cambridge, made mention of the gratitude of the profession to Emmet for his operation in lacerations of the cervix. His method differed somewhat. He did not believe amputation was necessary unless growth was present.

Dr. Goldspohn, of Chicago, recognized that Emmet's operation for laceration of the perineum was the best of those which dealt with the exsection of a flap, but, it being essentially intrapelvic work, he thought a more desirable method was to remove the adjacent posterior portion of the vagina. The finger could then trace the inner border of the levator ani muscle and its fascia and the sutures could be distinctly inserted. He would remove no tissue, but temporarily elevate the whole posterior wall of the vagina.

Dr. J. Riddle Goffe had seldom heard a more glowing tribute to any man's work than that given to Emmet's operation in the paper by Dr. Haggard. His explanation of the mechanics of the female perineum seemed to him perfect. The operation to the majority of men he thought appeared complicated. In his hands the operation had not accomplished the permanent results desired. Dr. Goffe said that he had modified the operation slightly in the line of simplification, and explained his method.

Dr. A. H. Cordier, of Kansas City, believed it absolutely necessary to see the perineal operation to understand the technique of Emmet's method. He did not believe there had ever been an operation to take the place of Emmet's.

Dr. Haggard agreed with Dr. Goldspohn with reference to the correct apposition of the pelvic fascia, the only question being as to the way of doing it. He believed the Emmet method better determined the exact whereabouts of the pelvic fascia. The admirable method of Dr. Goffe was the only one he knew of which had anything in common with that of Emmet, the ordinary forms of the operation being a bunching up of the tissue, which did not give the woman much benefit. In regard to Dr. Newman's paper Dr. Haggard agreed that amputation was preferable to trachelorrhaphy, because in the entirely new method of obstetric practice there were not so many lacerations as formerly. It was rare to see Dr. Emmet do a classical trachelorrhaphy, amputation being much in the predominance.

Dr. Newman objected *in toto* to Dr. Clarke's meth-

od, because it left a glass tube in the cervical canal. This necessitated the introduction of a sound, to which he objected very much in plastic surgery. In doing a trachelorrhaphy he removed all the cervical endometrium and had a surface which must heal by granulation. The advantage in the amputation was that the suturing was done at the very edge of the flap.

Do We Drain too Frequently in Pelvic Surgery?—Dr. W. H. Humiston, of Cleveland, Ohio, read a paper with this title, in which he reported that his mortality rate had decreased *pari passu* with the declination of the rate of drained cases. Thus, in 1894, 71 per cent. drained—14 per cent. mortality; in 1895, 36 per cent. drained—7 per cent. mortality; in 1896, 33 per cent. drained—6 per cent. mortality; and in 1897, 4 1/3 per cent. drained—4 2/3 per cent. mortality. All of the cases in 1897 which were reported as drained were really those in which gauze was used for the control of oozing, and not for drainage. Several of the cases were cited in detail to show their serious nature and the happy results obtained. He expressed his conviction, founded on a close study of his later cases, that the major part of the decline in the mortality rate was due directly to the immediate closure of the abdominal wound and to his dependence upon the natural channels of absorption and drainage.

Treatment of Ambulatory Gynæcological Cases.—Dr. Denslow Lewis, of Chicago, in a paper with this title, referred especially to his experience at the Chicago Polyclinic during the past four years. The patients whom he had treated were chiefly working women, unable to spare the time for attendance in a hospital, and who were obliged to work for a living while under treatment. Under these conditions it was gratifying to observe that in many cases treatment was practicable and sometimes surprisingly successful. Reference was made to the treatment of venereal warts, chancroids, chancres, and condylomata. Cases of so-called irritation of the neck of the bladder were frequent. Their condition was improved by the exhibition of twenty grains of benzoate of sodium three or four times a day and the copious drinking of water. In cases of leucorrhœa the gonococcus was looked for, and when found an application of nitrate of silver was made to the vagina and the portio vaginalis. In cases of infection that had extended beyond the endometrium, and in many cases when pus was suspected or demonstrated, improvement and symptomatic cure were noted under the persistence of what was called the routine treatment. This consisted in a 1–4,000 bichloride-of-mercury douche, taken twice a day, the assumption of the knee-chest position morning and evening, the application of a ten-per-cent. solution of ichthyol in glycerin, and the production of free and regular catharsis by the systematic use of cascara sagrada. It was found that in cases in which operation had been originally recommended, improvement would occur in a very large percentage of cases under this treatment while the patient continued her daily work.

Hæmatosalpinx and Congenital Uterine Atresia.—Dr. Alexander Hugh Ferguson, of Chicago, reported a rare case of this condition, relieved by operation, and showed photographed drawings representing the cyst wall and contents, the distended tube, the ovary, and Fallopian tube.

A Uterine Irrigator.—Dr. Charles B. Nichols exhibited a uterine irrigator, particularly adapted to secure a perfect return flow in curettage, and which Dr. Price pronounced the best instrument of its kind he had seen.

Use of the Curette in Acute Infection of the Uterus with Adherent Placenta.—Dr. D. S. Fairchild, of Clinton, Ia., read this paper. He contended that great care should be observed in the use of the curette in acute infection of the uterus. In cases in which portions of the placenta were adherent they should be removed with the sharp curette, but before infection had occurred, under antiseptic precautions. If infection had developed he considered it safer to remove all detached portions with a dull curette without inflicting trauma, irrigate, and drain. If infection of the uterus had occurred without offensive lochia but with serious constitutional symptoms, neither curettage nor irrigation should be employed. He described the dangers of the free use of the curette as twofold: (1) Inflicting trauma, which might facilitate absorption of infection material; (2) the penetration of the softened uterine tissue. If the os had closed, retaining in the uterus suspicious or decomposing material, very careful dilatation should be employed under an anæsthetic, detached masses removed with a dull curette, and gentle irrigations employed; the whole procedure being so conducted as to inflict the least possible trauma.

Use of Uterine Curettage and Drainage in Tubal Diseases.—Dr. W. W. Grant, of Denver, in this communication considered inflammation in the Fallopian tubes to be one of the commonest and most serious in its consequences of the diseases of the pelvic organs and generally secondary to disease elsewhere. He regarded a purely surgical procedure as necessary for the permanent cure of pyosalpinx, although patients did occasionally recover without the knife. He presented a few cases typically accentuating certain facts and probabilities in reference to disease of the tubes, and their cause and treatment. The best treatment of subacute and chronic and interstitial salpingitis he believed to be curettage and drainage of the uterus, with the use of such other local and constitutional means as were indicated. Antiseptic gauze in his opinion was the best possible material at command for drainage.

Dr. Goldspohn, of Ohio, indorsed *in toto* the ideas of Dr. Fairchild; he thought sufficient distinction was not made between the bacterial uterus and the ordinary gynæcological uterus. In curettage he considered the use of the sharp curette most abominable.

Dr. Wetherill advocated the use of the finger, but if this was not long enough then a dull curette. When the infection had extended to the lymphatics he believed curettage useless.

Dr. M. B. Ward spoke of the difficulty sometimes encountered in the irrigation when the cervix was not sufficiently dilated; also of the finger nails as another prolific source of infection. He wished that his epitaph might read: "Here lies the greatest crank on finger nails, except Dr. Joseph Price."

Dr. Humiston said, in reference to curettage in abortion or delivery at term, when symptoms indicated that the uterus was not in perfect condition, if retained material was found it should be removed, if possible with the finger; if not with the finger, with the dull curette. In case of infection extended to the lymphatics and into the broad ligaments, more harm than good was done by curettage.

Dr. Lawrence, of Colorado, believed that in puerperal conditions no curettage should be done, and that more women had been killed by the improper and unskilful use of the curette than by any other gynæcological procedure.

Dr. Nichols considered curettage one of the most important operations in gynæcology, and one which should be done as thoroughly aseptically as an abdominal operation. He believed the dull curette should be discarded.

Dr. Dunn thought curettage of the uterus more dangerous than abdominal section, and believed the consensus of opinion of gentlemen with large hospital experience to be that more women had been crippled

for life by the use of the curette in the hands of incompetent general practitioners or gynæcologists in embryo than in any other one procedure in surgery.

Dr. Gordon, of Maine, considered curettage a serious operation, and stated that his instructions to young men were that every precaution should be taken and the patient prepared with as much care as for an abdominal section. An important point in the operation was the absolute necessity of dilating beyond doubt; an opening of one and one-fourth inches he did not consider proper dilatation. He also considered it important to have inserted for twenty-four hours a tape for drainage.

Surgical Treatment of Uterine Myoma.—Dr. Henry O. Marcy, in order to economize time, read only a portion of his paper, and showed a series of photo-micrographs of small uterine myomata, taken with the purpose of endeavoring to learn their origin and their bearing upon myomectomy.

Gonorrhœa as a Factor in Puerperal Fever.—Dr. Albert H. Burr, of Chicago, read a paper with this title, in which he stated that the new science of bacteriology and the accumulating evidence of the pathogenic nature and far-reaching effects of certain micro-organisms had invested the subject of the prophylactic, aseptic, and antiseptic protection of the parturient with increasing interest and importance. Notwithstanding the advancement along these lines, the question still confronted us as to why there was not greater freedom from septic complications. He suggested that there might frequently be sources of danger in the mother herself antedating childbed. He reviewed some of the most important characteristics in the life history of the gonococcus and examined its opportunities for endangering the puerperal state. He believed that the proportion of both sexes never completely cured of gonorrhœa was much larger than is commonly supposed. The diagnostic points were mentioned in detail. He considered treatment in childbed fever under the divisions of general, specific, prophylactic. In conclusion, he regarded gonorrhœa as a widely disseminated disease, especially persistent and dangerous in females. (1) It was directly or indirectly a factor in puerperal sepsis and accountable for a larger percentage of complications and fatalities than commonly supposed. (2) Prophylactic measures, general and specific, he deemed most important in averting the septic dangers of childhood.

A Consideration of Some of the Remote Symptoms of Pelvic Diseases.—Dr. H. D. Niles, of Utah, very ably addressed the section in a paper having this title. With the present conception of the pathology and surgical treatment of pelvic diseases, he considered it both possible and necessary to obtain a clearer understanding of their remote symptoms and complications. The remote effects of pelvic diseases he thought probably due to: (1) Septic infection; pressure upon nerves, vessels, ureters, bowels, or bladder; (2) bladder, bowel, or omental adhesions; (4) nervous reflexes. The resulting symptoms he cited as: (1) All thos due to deterioration of the blood, either by septic absorption or defect in the eliminative organs. (2) Those due to pressure upon the nerves or blood-vessels of the pelvis. (3) Those due to functional disturbances or organic disease of the stomach and intestines from omental or bowel adhesions. He described a case illustrating the points emphasized. The point most difficult to make apparent and agree upon he said was the estimate of the serious remote consequences of peritoneal adhesions, partially devitalized tissue remaining in the peritoneal cavity, pressure symptoms, etc.

Pneumaturia, or Gas in the Urine.—Dr. Howard A. Kelly, of Baltimore, addressed the meeting on this subject. He stated that for the past two centuries observations had been made by various authorities as to the passage of gas with the urine, but only lately had any detailed accounts of this phenomenon appeared. In 1825 De Boismont considered that pneumaturia was due to the spontaneous formation of gas in the bladder, arising from a species of flatulence or secretion of gas by the mucous membrane. Later, Chomel suggested that the gas might be due to fermentation. Up to 1860, however, almost all the cases observed were due to a fistulous communication between the bladder and the intestinal tract. The author divided cases of pneumaturia into three groups: (1) Those in which air was mechanically introduced into the bladder from without; (2) those in which gas developed in the urinary tract through some fermenting organism; (3) those in which there was a communication between the bladder and some air-holding viscus. The first class of cases the writer stated were seen most frequently after instrumentation, as after catheterization or cystoscopic examination of the bladder by his method. The air introduced in this way was usually painful and was expelled spontaneously by the patient sitting upon a vessel. In the examination of the male by his method through a straight open cystoscope the effect produced was quite curious, and the air was afterward expelled from the bladder thoroughly mingled with the urine in minute bubbles, producing a hissing sound. It had also been noticed that air might even enter the ureters with the patient in the knee-breast position, and might sometimes serve the valuable purpose of locating the ureteral orifice in cases of disease in which it was concealed. The air entering in this way was of course at a temperature lower than that of the body, and upon being warmed in the ureteral tract expanded and bubbled out, showing the situation of the orifice. The second group of cases depended on the invasion of the urinary tract by some organism which by its action upon the urine produced gas. The gas in most cases was produced in the bladder; in only a few instances has it been noticed in the outer urinary tract. A wide field for investigation in this group remained, since so little was known of the etiology. Most of the cases described had occurred in the aged, when there had been for some time an obstruction to the flow of urine or when calculi had existed. In two there was paralysis following myelitis. Out of sixteen cases nine had glycosuria and in most instances a formation of gas followed catheterization. The micro-organisms described belonged to the group of the bacterium coli commune. The gases produced were carbon dioxide, oxygen, nitrogen, and marsh gas. The author stated that three cases were recorded in which the gas was produced in the kidney instead of in the bladder itself. Le Dentu referred to a case of a child eight years old. Pisne cited a case in which there were both pyonephritis and a perinephritic abscess. In the author's own case, that of a person aged thirty-six, there was a dense left renal tumor with excessive surrounding infiltration of the cellular tissue. Upon examination of the bladder through a No. 10 cystoscope its mucous membrane was found to be normal, but numerous bubbles of gas were seen mingled with pus which had escaped from the left ureteral orifice. When the kidney was cut into, a large quantity of fetid, thick, viscid pus escaped with bubbles of air. The patient recovered without extirpation of the kidney. The organism found was not identified. The last group of cases, it was stated, had been worked up by Cripps and Chavanez. The author had had two instances in his own practice, both arising from a communication of the sigmoid flexure with the bladder. The treatment varied according as the fistula was located high or low. The writer considered the most satisfactory cases to treat those in which the sigmoid

flexure opened into the bladder. These could be cured by abdominal section, severing and paring the attachments, and closing the fistulæ by suture.

SECTION ON PRACTICE OF MEDICINE.

First Day—Tuesday, June 7th.

Address of the Chairman.—Dr. Samuel A. Fisk, of Denver, Col., delivered this address. He said that the climate of Colorado was unsurpassed, so far as pulmonary disease was concerned; favorable results could be seen on every hand, and recoveries were to be numbered by the tens of thousands—which, after all, was the best proof of the efficacy of the Colorado climate in this class of diseases. The man practising medicine exclusively was frequently hampered by the professional brother, on the one hand, who demanded a demonstration to his senses; and, on the other, of the laboratory man, who demanded that the clinical results should tally with those of mechanical appliances. As had been ably pointed out by Prof. F. C. Shattuck, "internal medicine" should use these different results rather than be used by them. Even now, having been thoroughly scared, it was again resuming courage, and great things were to be hoped for in the future. It might be that it was somewhat to be blamed for these conditions, and that many a fault had been allowed to be covered up by a theory rather than by a fact. "The peculiar type of disease" was often used as a cloak for one's shortcomings, or, when this failed, one was wont to take refuge behind the theory of "self-limitations," which led the first Dr. Warren, many years ago, when asked what was good for acute rheumatism, to reply, "Six weeks." Fortunately, text-books did not contain the whole of medicine and disease did not necessarily direct its course according to the tactics of a treatise on medicine. We recognized nowadays that, if our joints were swollen and painful with acute articular rheumatism, we did not have to wait the whole six weeks, and we knew that the old idea of "twenty-one days," as applied to typhoid fever, did not hold, and that we had the peculiar types of disease known as typhus levissimus, afebrile typhoid, and abortive typhoid. The fact that we did have these peculiar types, whether the result of practice or in spite of practice, led us to the hope that disease of any sort which had once been aborted could be aborted a second time, and that after a while the "peculiar" type might become the prevailing type. It seemed to the speaker that in this direction, that of abortive medicine as well as of preventive medicine, the section had a considerable scope for the future. The speaker then alluded to the recent centennial anniversary of Jenner's famous discovery, that persons accidentally inoculated with cow-pox were subsequently insusceptible to small-pox. It was needless to do more than make mention of this fact, and to recall the blessings which had accrued to the world from its introduction—how one of the greatest blights to mankind, one that frequently decimated a population, had been virtually blotted out, and the average limit of man's days increased in consequence. It might not be amiss to mention the fact that these were the results of the purest clinical observation, and not those of laboratory toil. He did not wish to seem to depreciate the results of experimentation and of exactness, so called, but chafed under what at times threatened to restrict progress. One was often reminded of *Hamlet's* little frenzy: "Why, look you now, how unworthy a thing you make of me. You would play upon me; you would seem to know my stops; . . . S'blood, do you think that I am easier to be played on than a fife?"

Discussion on Perforation Peritonitis.—Dr. J. C. Wilson, of Philadelphia, opened the discussion. He said that in the list of visceral diseases not yielding to medical treatment, and sooner or later to be transferred to the care of the surgeon, were the following: empyema, pericardial effusions, troublesome cases of cholelithiasis with persistent symptoms and empyema of the gall bladder, cysts of the pancreas, echinococcus cysts. Extirpation of the kidney might be performed when that organ was the seat of malignant or other growths; nephrorrhaphy for the relief of symptoms due to displacements. Hydronephrosis and nephrolithiasis might require operation; certain cases of stubborn nephralgia might require incision into the capsule. The field of the surgery of the gastro-intestinal tract had been greatly extended, as in the establishment of gastric fistulæ in stenosis of the œsophagus, pylorectomy, partial or complete extirpation of the stomach, gastro-enterostomy, removal of carcinomatous growths of the lower bowel, appendicitis, ulceration of the stomach and intestines, especially peptic ulcer and the perforative ulcer of enteric fever. What the speaker had to say had no bearing upon the purely surgical lesions followed by extravasation of the intestinal contents and infection of the peritoneum, for it was well known that in suitable cases immediate operation was the only hopeful procedure. Aside from the traumatic and gynæcological cases, the list of diseases in which acute general peritonitis might arise was most extensive: (1) In the alimentary canal: (*a*) peptic ulcer, gastric ulcer, and duodenal ulcer; (*b*) enteric fever; (*c*) appendicitis. (2) Other hollow viscera, the contents of which might be infected: (*a*) the gall bladder; (*b*) the contents of the kidney; (*c*) the urinary bladder. (3) Rupture of abscesses: (*a*) purulent pleurisy; (*b*) subphrenic abscess; (*c*) hepatic abscess; (*d*) abscess of the pancreas; (*e*) appendicular abscess; (*f*) other pus collections in regions in relation to the peritoneum. (4) Necrotic processes involving abdominal viscera: (*a*) internal strangulation; (*b*) intussusception; (*c*) volvulus; (*d*) embolism and thrombosis of the mesenteric vessels; (*e*) gangrene of the pancreas or the spleen; (*f*) displaced kidney or spleen with twisted pedicle; (*g*) acute hemorrhagic pancreatitis; (*h*) fat necrosis. In some of these conditions the previous underlying disease could be readily determined if the patient had been under observation prior to the accident which caused the peritonitis; but in other cases the patient, while out of health, was able to be about and attend to his duties up to the time of his accident. In the first cases a clear pathological relationship to processes of the antecedent condition might be arrived at and a reasonably accurate diagnosis of the immediate cause of the inflammation of the peritoneum reached. The distinction between the cases in which an immediate diagnosis could be made and those in which it could not be made was a matter of theory rather than of practice. It was the acute fulminant peritonitis that required immediate consideration. Here was a question of diagnosis. In the early stages, when operative interference was advisable and not without hope, the symptomatology might be grouped as follows: (1) Pain, general, becoming local; or local, becoming general, according to cause. (2) Tenderness, general, becoming local; or local, becoming general. (3) Rigidity of the abdominal muscles. (4) Vomiting green, and exceptionally absent. (5) Rise of pulse and temperature, exceptionally also absent. (6) Shock, varying in depth. (7) Diminished peristalsis. In fully developed peritonitis, in which the wisdom of interference was questionable, the symptoms were: (1) Pain, lessened or absent. (2) Tenderness, general. (3) Distention excessive, replacing rigidity. (4) Vomiting excessive, dark, and fæcal. (5) Obstipation; peristaltic movements not heard. (6) Rapid and fee-

ble pulse. (7) High or low temperature. (8) Lividity of abdominal skin; cold extremities. (9) Peritoneal facies. (10) Mind clear. In hopeless cases these symptoms were increased by collapse; the patient was moribund. (Richardson and Cobb: Park's "Surgery by American Authors," vol. ii., p. 386.) The importance of the condition of the abdomen could not be overestimated. The early rigidity of the abdomen was a symptom of the utmost importance, and its value was not sufficiently recognized by the practitioner. In a recent series of six cases of perforating ulcer of the stomach reported by different observers, in which the operation was performed within a few hours after the development of the symptoms indicating perforation, five patients recovered. In Keen's "Surgical Complications and Sequels of Typhoid Fever," there was a table of eighty-three cases of operation for intestinal perforation in enteric fever. As a general result, they give sixteen recoveries, or 19.36 per cent. of cures and 80.64 per cent. of deaths. When this was contrasted with Murchison's unchallenged figures of ninety or ninety-five deaths without operation, we could well take courage for the future. As regarded the time of operation, in the cases operated upon within twelve hours the percentage of recoveries was 26.7 per cent.; between twelve and twenty-four hours, 30 per cent.; after twenty-four hours the mortality was total, except in one operation after twenty-six hours, and in two cases in which the patients recovered in between two and three days. In conclusion, the speaker formulated for discussion the following propositions: As regards operation in acute general peritonitis due to perforation and analogous conditions: (*a*) A definite causal or local diagnosis of the lesions can be made in comparatively few instances. (*b*) The diagnosis of acute general fulminant peritonitis is of itself sufficient to justify interference in proper cases. (*c*) The earlier the operation the greater the prospect of success. After twenty-four hours, especially if great distention of the abdomen has shown itself, operation is not likely to be followed by recovery. (*d*) A small proportion of the cases are manifestly hopeless from the onset. (*e*) When the patient is not obviously past hope the fear of death upon the table should not deter the surgeon from operating.

Dr. W. W. Keen, of Philadelphia, said that the catalogue of diseases which caused perforative peritonitis was great enough to challenge attention. First, in regard to the symptoms the previous speaker had given he was not entirely in accord, although with the rest that he had said he agreed. He thought the pulse and temperature in perforative peritonitis were of unequal value. While, as a general rule, he thought the temperature to be the best index of a septic condition, still it was not always to be relied upon. The temperature, in his experience, was of not much moment. In regard to the statistics given by Dr. Wilson, he would like to speak further. This was a matter of extreme importance. If the case was seen twenty-four hours after perforation, one could assign the patient to the grave; we were bound to confess that perforation in typhoid fever meant that ninety-five per cent. would die. Drs. Weir and Tinckler reported that cases operated upon within sixteen hours gave a mortality of over thirty per cent. In cases of appendicitis in which perforation had taken place, especially if there were no adhesions or localized abscess, but there was general peritonitis, he thought that all present would agree that the only practical hope was offered by operation, and the earlier it was done the better. As regarded the incision in these cases, he did not care if it was two or six inches long, so far as it influenced the mortality. In these cases of perforation he recognized the fact that general and complete cleanliness of the abdomen was all-important. He did not believe it wise to clean nine-tenths of the abdominal cavity and leave one-tenth to be a focus of infection. He believed, too, in general agglutinative peritonitis, in making incision not only on one side but also on the other, and in thoroughly cleansing the abdomen. He was pleased that the section had taken up this topic for discussion, for it was one that touched every physician and surgeon and one in which all should unite and go arm in arm in the march for life and humanity.

Dr. J. H. Musser, of Philadelphia, said he would speak only from his personal experience on the topic under discussion. He looked upon pain continuing from twelve to twenty-four hours as very significant, and this, to him, was a symptom to be greatly dreaded. No symptom other than the occurrence of pain, which was usually localized in the course of the disease, gave him so much dread. If opportunity was given to examine these cases after death, one usually found that the perforation had been preceded by localized inflammation, and that there was a considerable amount of lymph covering the intestines in that region, matting them together. The phenomenon preceding perforation was the pain, the degree of which depended upon the intelligence of the patient at the time. In typhoid fever the patients were not susceptible to pain or else their state of mind did not admit of their complaining unless their attention was called to the pain. Pain and localized tenderness, the antecedent history, and slight rigidity followed by symptoms of shock should call attention to the possibility of an accident. Symptoms of shock in the course of typhoid fever, hemorrhage being excluded, were the ones to be relied on in the making of a diagnosis. He was in accord with the surgeons who wished to make exploratory incisions for diagnosis. The speaker referred to the case of a young girl, seen in the first week of typhoid fever, in whom the diagnosis seemed undoubted, although the reaction did not verify the disease. The temperature, mental and intestinal and other symptoms all pointed to the fact that she had typhoid fever. At the end of the first week she complained of some pain in the abdomen, but there were no rigidity and no tympanites. The next day the pain was more severe and was referred to the back. In order to exclude pelvic disease, an examination was made, which disclosed a large mass in the pelvis. The patient dying, there were found a pelvic tumor and also evidences of typhoid fever. The complication was not quite sufficient to lead astray, but it might have given rise to a mistake; this also showed the importance of early diagnosis. An early exploratory incision would have removed any question that might have arisen in regard to diagnosis.

Dr. C. G. Stockton, of Buffalo, N. Y., thought it was best first to discover whether the viscus was a hollow one containing air, like the stomach or intestines, or whether it was the gall bladder, urinary bladder, etc. The symptoms differed materially in different cases. There was not much difficulty in diagnosing a perforation following a peptic ulcer. He cited the case of a patient who was picked up on the street, complaining of intense pain and who was in collapse. The pain was in the region of the bladder, and it was thought she had rupture of the bladder. For some reason operation was not performed. The patient survived nearly a week and then died. The autopsy showed a perforation of the stomach. There was a round ulcer from which discharged the gastric contents into the abdominal cavity, and, in this instance, the patient survived several days. In the speaker's mind the symptoms that stood out as the best guides to perforation of the stomach, intestines, gall bladder, or urinary bladder, were those of suddenness of the symptoms or of the onset. It was true that perfora-

tion might be preceded by a slow inflammatory process producing tympanites before the symptoms of shock appeared. He referred to one case of peritonitis in which the pain was referred to the region of the kidney. The patient succumbed, and on post-mortem examination a number of renal calculi were found, one of which was just passing through the ureter. His views were in accord with those already expressed, he wished, however, to state that it often happened that there was an absence of symptoms that one most expected.

Dr. L. F. Bishop, of New York, believed that opium obscured the diagnosis and gave false confidence. He called attention to the fact that ice bags would relieve the pain in these cases.

Differential Diagnosis between Dengue and Yellow Fever, with Some Account of the Epidemic of 1897 in Texas.—Dr. H. A. West, of Galveston, Tex., read a paper with this title. He said that the following hypotheses had been assumed in relation to the recent epidemic: (1) The disease was dengue only. There was no yellow fever in Galveston, Houston, or the State of Texas in 1897. (2) There were anomalous cases of dengue, presenting all the symptoms of yellow fever, but proven not to be that disease by the indisposition to spread from numerous foci and the low mortality rate. (3) During the progress of an intense epidemic of dengue throughout the State, in Galveston, Houston, and possibly other places, yellow fever made its appearance, and in consequence of its mild form and resemblance to the prevalent disease was generally unrecognized. (4) An imputed hypothesis that the epidemic of 1897 in Texas was yellow fever only. (5) A few cases terminated fatally, and others, attended by marked jaundice and albuminuria, were denominated acute infectious jaundice (Weil's disease). It appeared from the above that the symptoms which had heretofore been relied upon to differentiate between yellow fever and dengue were the occurrence in the former of albuminuria, the characteristic facies (inclusive of jaundice), the divergent pulse and temperature, excessive irritability of the stomach, and increased disposition to hemorrhages. The absence of such symptoms in the main, the presence of an eruption in the large proportion of cases, and the lack of mortality were characteristic of dengue. Admitting that there was a greater similarity in the symptomatology of the two diseases than had been heretofore acknowledged, the question arose, "How could they be differentiated? In the speaker's opinion this was to be done chiefly by the symptom complex of an acute nephritis in yellow fever and its absence in dengue. In the latter, simple parenchymatous changes might occur in the kidneys and be manifested by an evanescent and mild albuminuria, while in the former in a series of cases many would afford incontestable evidence of the occurrence of a severe nephritis—viz., scanty urine of high color and specific gravity, intense and persistent albuminuria, hæmaturia, casts, decided tendency to suppression, and the accompanying uræmia.

Second Day—Wednesday, June 8th.

Diabetes Mellitus at the Massachusetts General Hospital, from 1824 to 1898. A Study of the Medical Records.—This was the joint production of Drs. Reginald H. Fitz and Elliott P. Joslin, of Boston, read by the latter. He said that from 1824 to 1898 the total number of cases treated was 172. Within the last thirteen years there were as many cases as in the previous sixty-one years. Of the whole number of patients 127, or 74 per cent., were males; 45, or 26 per cent., were females. The average age of 40 female patients was 39.1, being higher than in 121 males, in whom it was 31.4 years. Tables showing the proportion of diabetic cases to other medical cases in the hospital, as well as the classification of the diabetic cases as regarded age, nationality, occupation, heredity, and trauma, were presented. There was only one negro in the 172 cases. In the early days the impression prevailed in the hospital, as in the literature of the time, that more urine was passed than liquids were ingested. Sugar was determined by taste till 1851, sometimes by the patient, at others by the doctor. In 1835 occurred the statement: "A curious smell in the breath which he has had since entrance." After that time frequent allusions were made to the odor of the breath and urine—long before the tests for the acetone were discovered. In one case the disease had lasted twelve years, in another two weeks. The average duration was one and one-half years. Tables were also given which showed that the duration in nearly seven-eighths of all the fatal cases was less than two years. Of 172 patients, 47, or 27 per cent., died. The mortality among 172 males was 30.7 per cent.; of 45 female patients, 8 died, giving a mortality of 17.7 per cent. The lowest mortality was in the period from 1824 to 1840, but the total mortality from 1824 to 1885 was the same as from 1885 to 1898. In 18 of the 47 fatal cases the patients died comatose. It was noteworthy that of the patients dying with complicating diseases, only 6 had pulmonary tuberculosis and only 6 chronic nephritis; disease of the pancreas was present in only one instance. The diet of the first period was "animal food and bread in small quantities." Since then there had been no essential change. Opium was the only drug continuously used. In the period between 1840 and 1855 experiments were made with yeast, and between 1870 and 1885 with glycerin, but with poor results. Eight of the comatose patients were treated with subcutaneous or intravenous injections of salt solution or bicarbonate of sodium. All died. In some there was a temporary improvement.

Dr. West, of Galveston, Tex., thought that the small proportion of cases occurring in the negro might be due to the small number of negroes in that section, although in his experience he had never seen a case occurring in that race. He had found diabetes and gout frequently associated. Diabetes pursued a rapid course in the young. Albuminuria was said to be found in about sixty per cent. of the cases, and yet the autopsies failed to show kidney lesions; this to him was quite remarkable.

Dr. Tyson, of Philadelphia, said that about three years ago he gave a clinical lecture in which he made the statement that he had never met with a case of diabetes in a negro. There happened to be present a negro physician who had a large number of negroes in his practice. In a few days three negroes came to him with unmistakable diabetes. The speaker thought the disease was more common in this race than was supposed.

Dr. Bond, of Indiana, said he thought this trouble was more common in the Hebrew race than in the Christian, because the former had a peculiar life, giving parties, and often congregating together and having evening meals. They had the disease more than any other people.

Influence of Sunlight on Tuberculous Sputum in Denver, and of Immunity against Tuberculosis in High Altitudes.—This paper, by Drs. William C. Mitchell and H. C. Crouch, of Denver, was read by the former. The statement was made that in high altitudes both the absolute and the relative moistures were low, and this, together with much lessened atmospheric pressure and almost constant winds of greater or less force, greatly facilitated evaporation. Thus were created conditions extremely favor-

able for the abstraction of moisture by the atmophere from whatever substances it came in contact with. The moist surface of the lungs must suffer considerably more loss from moisture in this altitude than at lower ones, and it was this eternal battle for moisture compensation, especially as it occurred in the lungs, that the writers believed to be one, and by no means the least, of the factors which either aided in granting such a large measure of immunity against tuberculosis here, or in arresting or retarding such processes in their incipiency. It was known that the tubercle bacilli grew but sparsely if at all on media deficient in moisture, and, while it hardly seemed possible that there could be moisture enough extracted to leave the alveolar linings in a state too dry to offer a suitable nidus for the invading bacillus, yet it was not improbable that this constant and rapid pulmonary evaporation created conditions extremely unfavorable to its development. When the animal organism was subjected to increased atmospheric pressure, the blood was caused to recede from the capillaries of the skin and mucous membrane, thus producing an anæmia of these parts. In extremely high altitudes the diminished air pressure caused a great dilatation of the capillary vessels of both skin and mucous membrane, giving rise to a mechanical hyperæmia. These vessels were often ruptured, and there might be hemorrhages from the mucous membrane of the mouth, the nose, or even the lungs; the tympanum was bulged outward, the respiratory and cardiac movements were quickened, and muscular motions were facilitated. In short, we had the conditions described by adventurous mountain climbers and known as mal de montagne. There were two things which militated against the spread of tuberculosis in high altitudes: (1) The powerful influence of the solar rays acting through a thin atmosphere rapidly destroyed the virulence of the exposed tuberculous matter. (2) The vital functions were so operated on by the various meteorological phenomena that they were specially fortified against the invasion of the tubercle bacillus. The authors believed that their experiments clearly demonstrated that the immunity did not proceed from the first named of these theories, and that they had every logical right to attribute it to the second proposition.

Course and Management of Complicating Myocarditis.—Dr. Louis Faugères Bishop, of New York, read a paper with this title. He said that in the course of the practice of medicine, as diseases and conditions were unconsciously classified, ideas gradually developed themselves that it was not always easy to formulate into the language of exact scientific observation. One of these impressions had been that in the debility following severe diseases there was some more definite underlying condition than was generally formulated. The explanation alone of an exhausted and deteriorated nervous system was not sufficient. His attention was drawn to the heart muscle, and clinical observation, confirmed by the pathological observations of others, had led to the belief that complicating myocarditis was an important factor in the course and progress of many conditions. The signs of disease of the heart muscle should therefore be studied with care. In acute diseases and wasting diseases, whatever their nature, there came times when it seemed evident that the heart had participated in the debility and degeneration that were visible in the other tissues of the body. So were found in the milder cases a condition of simple weakness of contraction, and in the more severe cases signs more suggestive of myocarditis, namely, irregularity in force and rhythm. When after an acute disease or in the course of a chronic affection these signs were noted, it became important to interpret their meaning and study their indications. The conception of the condition under consideration was that it was an inflammatory state of the myocardium following acute diseases, occurring in the course of chronic wasting diseases, or beginning as an extension of inflammation from an endocarditis or a pericarditis. It was not proposed to consider conditions secondary to diseases of the coronary arteries or excessive hypertrophy. The object did demand an extended reference to pathology. A form might occasionally originate in an acute interstitial myocarditis, but more frequently it was a parenchymatous degeneration. Dr. Osler had remarked that it was probably the effect of a toxic agent, and that there was no definite relation between it and high temperature. Every one was familiar with the appearance of the heart muscle in a patient dead of an acute prolonged illness. It differed in appearance from the heart of a person who had been killed by accident while in good health. In the former the muscle was pale and grayish looking, while in the latter it was firm and red and of a healthy color. Probably in many diseases there was this low grade of inflammation, that was not more than a slight degeneration. These cases were too often diagnosed as "general debility," or as instances of disturbed cardiac innervation. It was important that the real condition should be recognized, because the treatment might otherwise be prejudicial. Stimulants directed to the heart itself were certainly philosophically contraindicated. We might whip a lazy horse or we might improve the behavior of a nervous horse by discipline, but a sick horse should always be rested and fed. So in the case of the heart that was feeble and behaving badly on account of myocarditis following a severe illness, muscle stimulants should be avoided. Especially was the care of the heart important in those cases of acute infectious diseases in which a valve lesion had unfortunately been developed by complicating endocarditis. In severe endocarditis myocarditis also probably existed, so that there was a double call upon the forces, as the heart must not only regain its normal power, but must also learn to do greater work to make up for the lesion in the valve. Particularly was it important for such patients to follow a long and strict regimen, avoiding indiscretions of diet, sudden exertion, and dissipation of all kinds. The treatment of degeneration of the heart fibre when far advanced was a difficult problem. Indeed, often when on account of the evidence of well-marked symptoms we could say definitely that such a process was going on, it was too late to accomplish a great deal. The hopeful cases and those which it was especially desired to call attention to at this time, were those of complicating myocarditis met with as an accompaniment of acute diseases. One of the dangers to the person suffering from myocarditis was the possible result of sudden overexertion, causing an acute dilatation of the heart, from which recovery was not easy. The proper regulation of the muscular activity of the patient was therefore of the utmost importance. Exercise undertaken to improve the general bodily nutrition, and that of the heart muscle in particular, should be light, slow, and systematic. Next to exercise came diet. The food should be concentrated, so that nourishment was administered in small volume, leading to an easy performance of the functions of the stomach without the tendency to distention, such as might mechanically embarrass the functions of the heart and lung. With the principle of a small volume of food, much latitude as to variety might be permitted. The use of alcohol without its abuse was very difficult in cardiac cases. Probably a small quantity with meals was not harmful, but any excess was always followed by injury. The use of tea and coffee was a good deal a matter of experience with particular patients, but the extreme frequency of cardiac symptoms produced in persons

with normal hearts by tea, and the fact that both tea and coffee were recognized as cardiac stimulants, should make the physician take the stand with patients that these, being cardiac drugs, should be controlled by him. The use of tobacco would better be discontinued. The picture presented by the convalescent from an acute disease, who had escaped with a healthy heart, was very different from that of the one who had suffered from degeneration of the heart muscle. The former regained health and strength rapidly; the pulse became strong, the color returned, and the patient was soon in good health again. The patient with complicating myocarditis lingered along in a state of semi-invalidism. The disease from which he originally suffered had entirely disappeared. There was apparently no reason why he should not recover strength and health, but the heart for a long time remained weak unless its state was recognized and particular measures were employed to restore its integrity. This chronic complicating myocarditis explained symptoms so often witnessed after diphtheria, grippe, scarlet fever, and other diseases characterized by a violent infection.

Differentiation of the Cardiac Incompetency of Heart Disease and that of Chronic Nephritis.—Dr. Frank Billings, of Chicago, read this paper. Certain phenomena common to both of the above conditions he enumerated. Special phenomena, however, were sometimes present which, although they may be common to both, were more often the result of a primary heart or a primary kidney lesion alone, and these signs or conditions were of some aid in a differential diagnosis. He said that if the urine, even though scant, showed a relatively low specific gravity, with diminished total solids, lessened urea, much albumin, and casts of all varieties; if the arterial fibrosis was marked and the pulse full and sustained, or without arterial thickening if the pulse was sustained; if the dropsical effusion contained urea in a considerable amount; if there was a tendency to inflammation of serous surfaces, pericarditis and pleuritis especially; if there was a tendency to persistent morning nausea and vomiting of stringy mucus; if there was a tendency to periodic diarrhœa; if there was much headache, especially severe frontal and occipital pain; if there was a tendency at one time to unrest and mental excitement or at another to somnolence or to coma; if cerebral hemorrhage occurred; if the dyspnœa of exertion became of the Cheyne-Stokes type; if severe epigastric pain occurred; if the eye showed the changes common to albuminuria, and if the patient presented a pale, waxy, puffy face, a heavy expression, and a general anæmia—the diagnosis was in favor of nephritis. If there was a history of antecedent disease in which endocarditis may have occurred; if the heart showed physical signs of valvular disease with characteristic murmurs; if there was an irregular heart action, persistent in character; if the pulse was weak and not sustained, with or without arterial fibrosis; if the dyspnœa of exertion was attended with cyanosis; if there was a normal amount of red cells and hæmoglobin or only a moderate degree of anæmia; if the dropsical effusion began in the lower extremity, appearing during the day, and if the dropsical effusion was rich in albumin, and if the dropsical effusion contained little or no urea; if there were much enlargement of the liver and tenderness of the left lobe; if the urine was scant, of high specific gravity, with much deposit, with little or no albumin, a high percentage of urea, although the total urea in twenty-four hours was deficient, and there were a few casts only slightly hyaline or finely granular; if there were little or no headache, no eye changes; and if venous thrombosis or embolism occurred, the diagnosis was in favor of intrinsic heart disease. The recognition of an incompetent heart was usually not difficult. The dyspnœa of exertion, the sense of poststernal weight and constriction of the chest, the cough of exertion and upon assumption of the recumbent position, the enlarged liver with often tenderness and pain or a feeling of weight in the epigastrium, the indigestion of portal congestion, the usually scant urine, the œdema of the feet, or all of the above-mentioned symptoms, were much exaggerated, until constant dyspnœa with orthopnœa, general anasarca, excessive physical weakness, marked pallor, and cyanosis gave unmistakable evidence of cardiac weakness. The local signs of valvular disease might be absent or present. Signs of cardiac enlargement with dilatation of the chambers of the heart were present and could usually be recognized. These symptoms were usually present in varying degrees of severity in an incompetent heart. When due to intrinsic heart disease, a valvular lesion or some other cause of dilatation of the heart and weakness of the heart muscle was present. In chronic nephritis, cardiovascular changes occurred, and especially in the form classed as diffuse interstitial nephritis. In the later stages especially of chronic nephritis the heart might become so dilated as to be incompetent and cause the symptoms and signs enumerated to appear. The urinary findings, the symptoms of uræmia, and other characteristic signs might plainly indicate the primary nephritis. In many cases, however, the differentiation could not be easily made, and in a few examples the diagnosis might remain in doubt until the light side of the dead-house cleared up the darkness. It was with these doubtful cases that this paper had to deal.

Dr. West, of Galveston referred to the therapeutic test in determining which condition was the primary disease.

Dr. Bond, of Indiana, said there was one important factor in both diseases, which was an arterio-sclerosis; he doubted if it was possible to have either disease without this condition being present.

Diabetic Gangrene.—Dr. N. S. Davis, Jr., of Chicago, read this paper. He detailed the history of three cases. The first and third cases typified well the milder forms of spontaneous gangrene in diabetes. The successive invasion of different toes in the last of his cases was noteworthy. The diminution and even disappearance of glycosuria in two of the cases, while mummification existed and spontaneous amputation of the phalanges was progressing, were interesting. A similar marked diminution or disappearance of glycosuria the speaker had observed in several cases when tuberculous disease of the lungs was active. Both cases were upon diabetic treatment, which consisted mainly in a regulation of the diet, the use of arsenical preparations, and at times of opiates. The second case was one of mal perforant, which was an occasional complication of diabetes. The association was no more an accidental one than the association of diabetes and gangrene proper. Diabetic gangrene occurred much more often in the legs and feet than elsewhere. Those cases of gangrene occurring in the course of diabetes which were associated with or superimposed upon inflammation, were undoubtedly chiefly due to the low vitality of tissues in diabetes and the consequent ease with which putrefaction took place in them. The frequency of gangrene in the lungs in diabetics who also had tuberculous or other disease of the lungs could be accounted for in this way. The cause of spontaneous gangrene which was not preceded by visible wounds or infection was of more interest. Neuritis and atheroma had both been assigned as causes of the spontaneous gangrene of diabetics. Both lesions frequently accompanied diabetes. Godlee admitted two varieties of spontaneous diabetic gangrene—one due to neuritis, in which he advised operation close to the point of necrosis; and

one due to atheroma, in which he advised amputation at the knee or above. According to Heidenhain's view, spontaneous gangrene in diabetics was pathologically identical with senile gangrene. The speaker also called attention to the very frequent occurrence, even in early life of adults, of arterio-sclerosis in diabetics. Hunt claimed that areas of gangrene in diabetics were mapped out by a less-defined line of demarcation than in cases of senile gangrene. Surgeons had been disinclined to operate upon diabetics because of their susceptibility to infection. Recent experience had shown that amputation could be performed upon them with good success, if only sufficient care was taken to prevent infection. Heidenhain (*Deutsche medicinische Wochenschrift*, 1891, xvii.) recommended that if gangrene was confined to the toes, the physician should wait until a line of demarcation developed, and if there was no evidence of general infection, that the dead tissues be allowed to separate spontaneously. If, however, the sole or the dorsum of the foot was involved, the leg should be amputated at the knee or above it. The speaker believed that amputation of the toe after a line of demarcation had become well established was preferable to the tedium and pain of spontaneous amputation. The greatest care should be taken gently to remove the sloughing tissues, and by the free use of antiseptics to limit putrefaction.

Use of Iron and Opium in Bright's Disease.—Dr. James Tyson, of Philadelphia, read a paper with this title. In 1880, in speaking of the treatment of chronic interstitial nephritis, he stated that iron was an important and indispensable drug, and might be given in the form of the acetate or in Basham's mixture. Since writing the above he had been led to believe that a good deal of mischief had been done in Bright's disease by iron, and he was not sure but it would have been better for the patient if the gallons of Basham's mixture used had been poured into the street gutter rather than into the stomachs of the patients. Not every case of Bright's disease was anæmic, and as iron had no specific curative effect it was clearly not indicated in non-anæmic cases; nay, more, it was often harmful. It locked up the secretions and checked elimination already restricted by a diminished function of the kidney. It might be laid down as a rule, to which there was almost no exception, that iron was not indicated and should not be prescribed in cases of acute Bright's disease. Iron, too, was contraindicated in chronic interstitial nephritis. In this form iron was more promptly and dangerously harmful than in any other form of Bright's disease. The form of Bright's disease in which iron was best borne was chronic parenchymatous nephritis, especially as this was more likely to be associated with anæmia. Here doses were usually given in too large amounts. The speaker held that if iron appeared in the fæces this unabsorbed portion was useless, and it was this useless portion that acted as an astringent and caused constipation. In regard to the belief that Basham's mixture was a diuretic, he did not think this was true, except it was so on account of the amount of water that it contained. As to the use of opium in this disease, he said he had seen a fatal uræmia produced by a couple of spoonfuls of paregoric. Opium was certainly contraindicated in chronic interstitial nephritis; in this form of the disease he had seen many patients launched upon their last sleep, and the danger was especially great in those not suspected of having the disease. He emphasized the importance, therefore, of always examining the patient's urine before administering opium. The greater the destruction of the kidney the greater the danger from the use of opium. The treatment of puerperal convulsions by the hypodermic injection of morphine was justifiable, on the ground that most of these cases were of the acute form; but even here caution must be used. We should be certain that cases of disease requiring the use of morphine were not complicated with chronic Bright's disease.

Dr. West, of Galveston, Tex., thought that iron was of use in acute Bright's disease. In uræmic convulsion he thought many lives could be saved by the heroic administration of morphine.

Dr. Stockton, of Buffalo, thought that hypodermics of morphine had saved many lives when all other remedies had failed. In regard to the use of iron, he did not agree with the reader of the paper. He did not think that small doses of this drug were so beneficial as large doses, for not so much was absorbed.

Dr. Brown, of Cincinnati, Ohio, thought that both iron and opium were dangerous in any form of Bright's disease.

Rare Cases of Arrhythmia.—Dr. J. M. Anders, of Philadelphia, read this paper, concluding it by restating in sequence some of the most interesting points embodied in the report of the cases given. (1) The presence of reduplication of both first and second sounds (double reduplication) in the first two cases—one of tobacco poisoning, the other of exophthalmic goitre. (2) The occurrence of a typical pulsus biferiens in one case, dependent upon the toxic effects of tobacco, in the absence of combined aortic regurgitation and stenosis. (3) The presence of a cyclical increase in the rapidity of the movement of the heart, followed regularly by a brief pause; and the striking mechanical effect of the respiratory function upon this peculiar variety of arrhythmia. (4) The temporary production of apical systolic murmurs during the inspiratory element of the respiration. (5) All the cases developed in subjects in whom previously existing valvular lesions of the heart, so far as determinable, were absent.

A Consideration of Four Cases of Epilepsy, with Reference to the Cause.—Dr. Charles S. Bond, of Richmond, Ind., detailed the history of these cases and said: "It will be observed that these cases present great variety as to age. They include three boys and one girl, but they all have something in common, some form of irritation originating in the alimentary canal, causing, according to the best of belief, a cortical disturbance which in turn produces unconsciousness directly and reflex tonic and clonic spasms of peripheral muscular fibres. This causal relationship has been traced in a number of cases under observation; and these cases are worthy of careful study as adding to our knowledge of peripheral irritants in epilepsy—a fact which a few bright minds in the profession are wont very rapidly to appreciate. Whether we believe in the causative influence of uric acid or leucomain products from this group, or whether confidence is given to the total toxic effect of maldigestion, the fact still remains that a very strong relation exists between these products and those cortical disturbances seen in the various forms of so-called idiopathic epilepsy. Other sources of extrinsic irritation are numerous and have received due credit in most instances long since, while this more obscure field, and therefore all the more interesting one, still presents much for careful study in the differentiating of such irritants. If the rationale of this phase of the disease is, therefore, that irritants from the digestive tract, through the blood, come in contact with the cortex, thereby causing a constant or intermittent efferent current, in like manner controlling the muscles, it would seem the highest service to such patients must come in the prevention of these products from entering the blood current. Under this view it is difficult to understand how the bromide salts can do more than palliate and thereby perpetuate an evil which

is quite removed from the drugged cortex. Indeed, I shall venture the opinion that in many of these cases, in the end, the bromides do much harm—more than good; in the first place by suppressing to a certain extent the evidence of an evil which at that period is the most amenable to treatment; in the second place, by injury which these drugs often inflict upon the already diseased digestive tract; and lastly, on account of the unusual effect which sometimes occurs in the cortex itself."

Dr. Stockton, of Buffalo, said he had seen just such cases as Dr. Bond had described. His own opinion was that cases of epilepsy could be relieved by attention to the gastro-intestinal tract. Some cases of epilepsy were aided by aiding digestion. Again there was a class of cases in which no improvement followed attention to this portion of the canal.

Dr. Lockard, of Colorado, said that on the 12th of May last he had been called to see a child of twelve years who was in a convulsion. Upon questioning the parents he elicited the fact that on the paternal side the grandfather had been subject to epilepsy since childhood (he was now sixty-four years of age); also that when he moved to Colorado the attacks became fewer. He also learned that one or two members of the family on the paternal side were victims of epilepsy. He therefore felt reasonably sure of the hereditary condition. Thinking of the possibility of poisoning, he administered a hypodermic of apomorphine and produced emesis. After the contents of the stomach were evacuated the child got better and has been well since.

Dr. Tyson, of Philadelphia, thought that the explanation of these cases might often be, as Dr. Bond had stated, that they were due to reflex irritation and absorption of toxic substances. He referred to the case of a young girl who had convulsions, who got well upon the expulsion of a tapeworm. Another case was that of a man who was the victim of convulsions for two or three years; the relief of a chronic constipation afforded him relief from his attacks.

Dr. Jones, of Buffalo, spoke of the probability of the reflex disturbances causing irritation, which produced these seizures. He related the instance of a boy, aged nine years, who had nocturnal convulsions. He tried to eliminate some factors which might have a causative influence on these attacks and he soon discovered a catarrhal gastritis with hypochlorhydria and gastric dilatation. After regulating the patient's diet and his manner of eating, etc., for fourteen or sixteen weeks, the boy had no evidences of any more seizures.

Dr. Anders, of Philadelphia, understood Dr. Bond to speak against the use of bromides in epilepsy. He thought it was the duty of the physician to use the bromides in epilepsy, this being the best-known way to ameliorate the attacks and lessen their frequency.

Dr. Robins, of Illinois, reported a case of epilepsy occurring in a child of six years. Upon careful examination he found the child's head covered with boils or abscesses; he concluded that the child was pyæmic. These abscesses upon the child's head had existed since birth and the blood was so poisoned. The treatment directed to that condition cured the child.

Constipation sometimes seen in wasting infants may often be successfully treated by frequent and long-continued kneading of the abdomen with the oiled hand; by small enemata of warm water, or soap and water, or containing a drachm or two of castor oil; or with a few drops of castor oil occasionally repeated by the mouth. Other drugs, such as senna, aloes, or cascara, may be tried. As soon as a proper diet is well taken this medication may almost always be discontinued.

Reviews and Notices.

Daydreams of a Doctor. By C. Barlow, M.D. Buffalo: The Peter Paul Book Company. 1898.

There have been a few philosophers who could moralize on their own emotions to the limit of many editions and without nauseating their readers; but C. Barlow, M.D., is not one of them. Perhaps a reverence for Thoreau's impromptu treatise on watermelon seeds or Dr. Holmes' delightfully impersonal personalities inspired the author to surround himself with his dictionaries and microscope, and all his available professional paraphernalia, and then call in his admiring audience to watch him "invite his soul," after a hard day's work. He points out to his imaginary friends, who have no conception of anything, the infinite detail, the terrible anxiety, the heroism, the magnanimity and self-sacrifice of the hard-working physician's life.

In his preface he calls attention to the justice with which he treats women in his book, and, with a delicate desire to include them gracefully in his dedication, he inscribes the work "to his wife, to physicians and their wives and their husbands." In his chapter upon woman he briefly reviews the superior women of history, beginning with Eve immediately after the rib episode, and skipping lightly from Semiramis, Hygeia, and Esther down to Joan of Arc and Isabella, and ending up with "that magnificent lady, Louisa M. Alcott."

There is a fine moral tone in the book. The "lady doctor," who has a chapter to herself, expatiates upon the foul tobacco habit and upon the sin of drunkenness. The imaginary guest who accompanies her upon her round of calls is deeply impressed and asks leading questions, calling forth a series of pretty illustrative anecdotes that merit reproduction by the Tract Society. The combination of scientific and religious and philanthropic sentiments portrayed in these pages makes the book a rare one of its kind. It should be in every Sunday-school library and old ladies' home. We ought also to mention that it has a beautiful green cover.

Atlas and Essentials of Pathological Anatomy. Vol. I. By Dr. O. Bollinger. Wood's Medical Hand Atlases. With 60 Plates and 18 Illustrations in the Text. New York: William Wood and Company. 1898.

While it is given to but few to have the opportunity to make many post-mortem examinations, indications seem to be pointing to a more enlightened sentiment on the part of the relatives and friends of the dead in this matter, so that all physicians are having more and more occasion to perform such autopsies and thus can reap the benefits of this important branch of their science. To have a trustworthy guide in such examinations, other than that given by verbal descriptions, has been hitherto denied the general practitioner, and the present volume, with its finely colored plates, cannot but prove of much service to the student of gross pathology. The work treats of the more common diseases of the circulatory, respiratory, and digestive apparatus, including the liver, bile ducts, and pancreas. The succinct and accurate text helps to make clearer the interpretation of the changes produced by disease. The book is a timely and much-needed work on gross pathology, and will be an invaluable aid to the student, the post-mortem worker, and the practising doctor.

Text-Book of Physiology. Edited by E. A. Schäfer, LL.D., F.R.S., Jodrell Professor of Physiology, University College, London. Vol. I. New York: The Macmillan Company. 1898.

We have nothing but the highest of praise for this first volume of a new text-book of physiology. Although its various chapter subjects—chemical constituents of the body; the food; the tissues and organs; the blood, hæmoglobin; general considerations of diffusion, osmosis, and filtration; lymph production and absorption; chemistry of the digestive processes; the salivary glands; mechanism of the secretion of the gastric, pancreatic, and intestinal juices; mechanism of the bile secretion; chemistry of the urine; mechanism and secretion of the urine and milk; secretion and absorption by the skin; chemistry of respiration; animal heat; metabolism; and the ductless glands—have been treated by different authors—Halliburton, Gamgee, Schäfer, Reid, Starling,

Langley, Paton, Pembrey, and others—the contributions have been so ably edited that there are a distinct coherence and a lack of over-lapping rarely seen in a book of such composite character. There is also a good balance between the subjects treated, so that the integrity of the work is maintained throughout.

Through and through the book is carefully written, scientific, and up with the latest literature. It is full of good information, and not padded out to an enormous size nor interlarded with numerous non-explanatory cuts, though in this latter matter more illustrations would not come amiss in this volume. There are some features of the work which are, we believe, especially commendable. The discussions of mooted points are full and yet not too diffuse, and they give to the careful student more incentive to thought than dogmatic statements taken from a single monograph or a recent article. Full citations of literature are given, a feature especially valuable to the advanced worker.

A Compendium of Insanity. By John B. Chapin, M.D., LL.D. Philadelphia: W. B. Saunders. 1898.

This small work, with a preface stating that the book was intended for the student and trained nurse, would be warmly commended; but, when it is presented "with the hope that it might be of service to the physician and lawyer," we believe it to have missed its vocation, for it is distinctly popular in tone, and, though very readable, can hardly be conceived to be a trustworthy guide for the seeker of exact and co-ordinated information on a subject fraught with a multitude of difficulties. The work is well printed, and is an excellent non-technical presentation of the subject from a layman's point of view.

How to Become a Trained Nurse. A Manual of Information in Detail. With a Complete List of the Various Training-Schools for Nurses in the United States and Canada. Edited by Jane Hodson. New York: W. Abbatt. 1898.

Every young woman who thinks of taking up nursing as a profession should send for this book as her introduction to the details of the life she will lead. It is a clear, concise handbook of practical directions, not about nursing, but about the routine duties and the system of hospital life. It contains a detailed description of every training-school in the country, the number of nurses on the staff, the number of beds, the hours of work, the amount of remuneration, the regulations concerning probationers, and the name of the proper person to address for information. More than half the book is taken up with this index. The literary part is a series of short contributions by well-known nurses on various topics of interest. These are interspersed with many good illustrations of uniforms, etc., giving to the reader a very good idea of the nurse's life and duties. It is a neat, attractive, and well-printed book, that cannot fail to be interesting and profitable to the lay reader and to the profession.

Diagnostik und Therapie der Darmkrankheiten. Von Dr. J. Boas. 1. Allgemeine Diagnostik und Therapie der Darmkrankheiten. Mit 22 Abbildungen. Leipzig: Verlag von G. Thieme. 1898.

Boas, whose work on diseases of the stomach is so well known to every practitioner, has just issued his book on diseases of the intestines. The present work is masterfully written and is of great help to every one who tries to steer clear of the entanglements which the intestinal tract presents. We quote a few sentences which show how very practical the present volume is. On page 147 Boas says: "If a patient with good teeth, living on a diet containing a moderate quantity of meat, constantly shows in his fæces coarse undigested particles of muscular fibres and at the same time an abundant amount of mucus, the diagnosis of catarrh of the small intestine is almost certain." . . . "The theory of indigestible and easily digestible substances grows more and more uncertain; each patient has brought with him into the world his individual digestibility." . . . "The usefulness of opium in inflammatory processes of the intestines is best shown in appendicitis. The stage in which the process exists is of the greatest importance. The administration of an opiate in appendicitis is indicated only in the stage of excitation, in which fever, pains, metorism form the principal symptoms and the general condition is satisfactory. If after a repeated dose of an opiate (as, for instance, tr. opii, twenty drops every three hours) the above symptoms disappear, the opiate has done its duty. Though its further application is not harmful, it is by no means necessary. If the excitation stage has disappeared for the last three or four days, the opiate should not be used any further. Its administration may evoke a paresis of the intestine which can be overcome only with great difficulty." The present work forms a most valuable addition to the literature of gastro-enterology, and will be read and studied with great benefit by the medical profession at large.

Die Störungen des Kreislaufs und ihre Behandlung mit Bädern und Gymnastik (Nauheimer Methode). Von Dr. S. Ch. Gräupner, Arzt in Bad-Nauheim. Berlin: Verlag von S. Karger. 1898.

The much-discussed Nauheim treatment of cardiac diseases is given full expression in this work of one hundred and fifty pages. Before discussing the treatment by means of exercise and hydrotherapy, the author deals with the innervation of the heart, the normal and hypertrophic cardiac muscle, and the consequences of valvular and myocardial lesions. The various methods of exercise and bath treatment are set forth with scientific exactness, and the indications for each case are clearly defined.

Transactions of the Ohio State Medical Society, 1897. Edited by R. Harvey Reed, M.D., Columbus, Ohio. Norwalk, Ohio: The Laning Printing Company.

This book contains many able and interesting articles, together with their discussion by various members of the society. It certainly shows great care and exactness in its compilation, and the editor has beyond a doubt succeeded in his object—namely, that of making this volume superior to any of its predecessors.

The American Academy of Railway Surgeons. Report of the Third Annual Meeting, held at Chicago, Ill., September 23, 24, and 25, 1896. Edited by R. Harvey Reed, M.D., Columbus, Ohio. Chicago: American Medical Association Press. 1897.

In this report, Dr. Reed has once more shown a thorough acquaintance with the workings of medical societies. In a report of this kind one would naturally expect to find much of a medico-legal interest and he does not have to look very far to find it, for the first articles deal directly with this subject. The book also contains much of a practical nature, particularly such topics as are not found in text-books. The discussions by the members are exceedingly interesting.

A Laboratory Text-Book of Pathology for the Use of Students and Practitioners of Medicine. By Horace J. Whitacre, B.S., M.D. Philadelphia: P. Blakiston, Son & Co. 1897.

While this compend of pathology will prove of service to the student during his laboratory hours or before an examination, it can hardly be considered a book of reference for the practitioner. The subjects are discussed very abruptly and superficially, although the arrangement of the subject matter is very commendable. The photo-micrographs are for the most part good, but those dealing with the blood in general and with malaria in particular would hardly convey a clear idea to one not already familiar with the conditions. In the discussion of renal diseases the author follows the classification of Delafield very closely, and hence presents the subject very clearly; in fact, throughout the entire work the teachings of Delafield are apparent.

An Index to the Transactions of the Clinical Society of London. Vols. I.–XXX. London: Longmans, Green & Co. 1898.

To those familiar with the transactions of this society, and for a ready reference to the authors and the discussion of their subjects, this index (covering a period of thirty years, from 1868–1897) is invaluable. The book is divided into two parts, the first giving an alphabetical arrangement of the authors' names and their articles, the second dealing with the subjects themselves. The work covers two hundred and six pages.

Sanitary Engineering. By William Paul Gerhard, C.E. New York: Published by the Author. 1898.

While in the strictest sense of the word, this little book of some one hundred and thirty pages is intended for the use of civil engineers, there is much in it which might prove of in-

terest and worth to the physician. The subject is discussed very concisely and the writing shows evidence of a thorough experience. The appendix on "the work of the sanitary engineer in time of epidemics, in time of war, and in sudden calamities in civic life" should prove of especial interest in these turbulent times.

A Clinical Text-Book of Surgical Diagnosis and Treatment for Practitioners and Students of Surgery and Medicine. By J. W. MacDonald, M.D., Graduate in Medicine of the University of Edinburgh, Licentiate of the Royal College of Surgeons, Edinburgh; Professor of the Practice of Surgery and of Clinical Surgery in Hamline University, Minneapolis, etc. With 328 Illustrations. Philadelphia: W. B. Saunders. 1898.

The author's aim has been to put into the student's and practitioner's hands "a single volume containing the most practical part of practical surgery." This he has in a measure accomplished. A good feature is the endeavor to lay down rules as to methods of examination in injuries. The belief is entertained, and probably with justice, that too much attention has been paid by writers and students to operation and too little to surgical diagnosis. The endeavor to supply a want in this direction is praiseworthy. There are three hundred and twenty-eight illustrations, but with the exception of a few *x*-ray pictures there are not many that can be praised; indeed, many appear crude, and it seems almost a shame to waste colored inks on such a plate as Fig. 131; Fig. 130, however, is decidedly instructive.

Illustrated Skin Diseases. An Atlas and Text-Book. By William S. Gottheil, M.D.

Parts XI., XII., and XIII., deal with the various atrophic changes of the integument and its appendages, and include scleroderma, albinismus, vitiligo, canities, and the important subject of alopecia in its different forms. A full description with formulæ is given for the harmless coloration of the hair, our only remedy for whiteness. The section on alopecia contains one colored and four plain illustrations, showing its commencement forms; its treatment is detailed at some length, more especially that method so successfully used by Lassar and bearing his name. Part XIII. ends with a brief outline of the cosmetics of the skin; a subject usually left in the hands of lay empirics, but concerning which the practitioner is not infrequently consulted. The hygiene of the healthy skin, the various kinds of soaps to be employed, and the cosmetic powders, lotions, and creams that can be recommended, are described. The part terminates with brief directions for the care of the hair, for the stimulation of its growth where deficient, and for its temporary removal by depilatories when that becomes necessary. The very complete index is an unusual feature, and will doubtless greatly enhance its value as a work of reference for the practitioner.

Aids to Aseptic Technique. By A. D. Whiting, M.D., Assistant Surgeon to the German Hospital. Philadelphia: J. B. Lippincott Company. 1898.

This little work of one hundred and fifty-seven pages gives an excellent insight into the proper manner of preparing surgical dressings and materials for operation. There are six chapters arranged for practical instruction and they are so written as to accomplish their purpose with the least loss of time.

Annuaire des Eaux Minérales. Paris: Maloine. 1898.

This is a convenient guide to the health resorts and mineral springs of France, which has now reached its fortieth year of usefulness.

A Text-Book on Surgery, General, Operative, and Mechanical. By John A. Wyeth, M.D., Professor of Surgery, New York Polyclinic, late Surgeon to Mount Sinai Hospital, Consulting Surgeon to St. Elizabeth Hospital, etc. Third Edition, Revised and Enlarged. New York: D. Appleton and Company. 1898.

This work has already proven its popularity, and the present issue shows considerable improvement over that of 1886. The advances in surgical pathology and in operative technique have received due consideration, and much care has evidently been bestowed upon the revision to bring it up to the critical requirements of the day. Students and those in the actual work of surgical practice will find the work a trustworthy guide.

Introduction to Chemical Methods of Clinical Diagnosis. By Dr. H. Tappeiner, Professor of Pharmacology and Principal of the Pharmacological Institute of the University of Munich. Translated from the Sixth German Edition, with an Appendix on Microbiological Methods of Diagnosis, by Edmond J. McWeeney, M.A., M.D., L.R.C.P.I.: Professor of Pathology and Bacteriology, C. U. Medical School; Pathologist to the Mater Misericordiæ Hospital, Dublin; Examiner, Royal University of Ireland. New York: Longmans, Green, & Co. 1898.

Dr. McWeeney was well inspired when he made up his mind to translate this most practical little guide to the modern chemical methods of diagnosis, and he rendered still greater service to the busy physician in giving him in the appendix such an excellent description of the microbiological procedures which are now so necessary in many cases in order to arrive at a correct diagnosis. He says that he has striven to compress a large amount of practical information in small compass, and we can but congratulate him upon his successful accomplishment of so difficult a task. "Infinite riches in little room" might well have been chosen as the motto of this welcome little work.

Premature Burial: Fact or Fiction? By David Walsh, M.D. Ed., Physician to the Western Skin Hospital, London; Hon. Sec., London Roentgen Society. New York: William Wood and Company. 1898.

The subject of premature burial has attracted some public and professional attention of late through the sensational presentation of more or less incredible tales of persons who had been buried alive and had recovered consciousness either just in the nick of time or too late. Dr. Walsh has taken up some of the least silly of these narratives and has shown how little credence they are worthy of, for scarcely one is based on evidence that would stand the first breath of scientific criticism. The subject is hardly worth discussing at all, yet so many persons have been made unhappy by this foolish agitation that it is well to have the rational side presented in a rational manner by a rational man. We would advise any one who is distressed lest he or some one dear to him meet such a dreadful fate to get Dr. Walsh's book and set his mind at rest by a careful perusal of it.

Sir James Young Simpson and Chloroform, 1811–1870. By H. Laing Gordon. New York: Longmans, Green & Co. 1897.

This is another of the "Masters of Medicine" so attractively put forth by the New York publishers. A delicately tinted frontispiece portrays the pleasant features of the subject of the sketch of two hundred and twenty-two pages, exclusive of appendix and index. The work and struggles of so interesting a character, and one who has done so much for humanity, cannot be anything but interesting, and the author has done extremely well in bringing out the features which make them doubly so. The binding is handsome and the presswork attractive.

The Elements of Clinical Diagnosis. By Prof. Dr. G. Klemperer. With 61 Illustrations. Authorized Translation by Nathan A. Brill, M.D., and Samuel M. Brickner, M.D. New York: The Macmillan Company. 1898.

This little book, which contains the rules governing the clinical diagnosis of medical cases, has had seven editions in as many years in Germany. The present work is a translation of the last edition and will undoubtedly be very useful to the American students and practitioners. With regard to the Roentgen rays in medical diagnosis we quote the following:

"The lungs are visible as filling the thoracic cavity as a weak shadow, and their size can thus be easily judged. The diagnosis of emphysema can thus be made without further difficulty. Pleuritic effusions, adhesions, and large infiltrations are readily recognized by the deeper shadows they produce. It is not yet certain if small infiltrations, whose presence we have as yet no objective methods of demonstrating, can be made recognizable by means of the skiagraph. Tumors of the lungs or of the pleuræ can be diagnosticated

with certainty much earlier than previously. This is beyond doubt an important step in the progress of diagnosis.

"The observations so far upon the abdominal organs have not been very satisfactory. Large tumors have been easily seen, but an early diagnosis of them has not yet been accomplished. It is frequently impossible to differentiate the outlines of various organs. The œsophagus and stomach can be more readily distinguished by the preliminary passing of a stomach tube surrounded by a spiral of metal or filled with small shot. Even this measure has not furthered diagnosis."

Cataphoresis, or Electric Medicamental Diffusion as Applied in Medicine, Surgery, and Dentistry. By William James Morton, M.D. New York: American Technical Book Company. 1898.

The present book contains invaluable information, not alone in regard to the mere practice of the art of electric diffusion, but also as to the fundamental principles which govern this art. There is a great interest at present centred in the application of the principle of cataphoresis to dental practice, but according to Morton it takes no special prescience to foresee a time, and that not far distant, when this interest will spread into medicine and surgery, particularly as to its relations to the production of an effective local anæsthesia in minor surgical operations.

The author has succeeded in giving in a clear style all the known literature, including his own extensive work, upon electric medicamental diffusion. The perforated electrodes devised by the author make possible an extension of electric cocaine anæsthesia into surgery hitherto impossible.

We quote the following from the chapter on antisepsis or sterilization of the teeth:

"There is, in addition to all this, the possibility of carrying medicaments into the peridental membrane for the treatment of acute infectious inflammatory conditions of that tissue. It seems to me that in the application of the cataphoric principle there is the promise of not only painless dentistry, but of absolute thoroughness in the therapeutic treatment of pulpless teeth and the many disorders to which they are liable. We may then accept it as a fact, and one of prime and novel importance, that electricity by reason of its property of cataphoric action is a sterilizer of the tooth and of its surrounding tissue, and that in the case of a tooth thus sterilized alveolar abcess is not likely to occur."

William Harvey. By D'Arcy Power, F.S.A., F.R.C.S. Eng. Vol. II. of "Masters of Medicine." Pp. 263. Edited by the late Ernest Hart, D.C.L. London: T. Fisher Unwin. 1897.

This handsomely bound volume is intended quite as much for the layman as for members of the profession to which this great worker and discoverer belonged. The manner in which he became interested in the blood's circulation, and the circumstances which led up to his refutation of the erroneous views concerning it which had prevailed up to his time, will always be numbered among the interesting things in the history of medical progress. The original works of Harvey have been freely used by the author, and forcible quotations are introduced here and there to give the reader an insight into the scientist's true nature and methods of work and reasoning. The peculiar charm of his life, filled as it was with eccentricity of action making the term "original" apply almost as much in its French as in its English sense, is forcibly brought out in the author's happiest style.

Die Zuckerkrankheit und ihre Behandlung. Von Prof. Dr. Carl von Noorden. Zweite vermehrte und umgearbeitete Auflage. Berlin: Verlag von August Hirschwald. 1898.

Those familiar with the writings of Dr. von Noorden will hail with delight the second enlarged edition of his book on diabetes. To say that he presents the subject in an interesting, systematic, and novel manner, leaving no phase of the disease untouched, would be expressing it mildly. The work covers two hundred and fifty pages, and is divided into seven chapters. Beginning with a definition and history of the disease, the author devotes two chapters to the physiology of digestion and the theories of diabetes mellitus. These are discussed so clearly as to be easy of comprehension, and one enters upon the following chapters with the full conviction that each succeeding one will prove more interesting and instructive. The third chapter treats of the etiology, presenting the influence of country, race, age, and sex, heredity, contagion, psychical conditions, other diseases, and occupation upon the production of the disease. The fourth division contains a discussion of the most prominent symptom of the disease, namely, glycosuria. The various degrees of this symptom, that is, the mild, medium, and severe forms, are entered into and the methods of determining which one we have at hand are set forth with clearness and precision. This chapter also contains the remaining characteristics of diabetic urine, as well as enters into the chemistry of the other secretions, blood, gastric and intestinal juices, saliva, spermatozoa, etc. The next chapter treats of the complications. Here, every organ that was, is, or perhaps ever will be affected during the course of this disease receives attention. There is no specialist in medicine who will not find something of interest in this chapter. By this time one's interest has been thoroughly aroused; and, the two closing chapters on the general clinical picture, with its course and prognosis, and the treatment of the disease, form a fitting climax to this most interesting work. The chapter on treatment covers one hundred pages and leaves no room for questioning, so thoroughly is it discussed. Toward the end four excellent diet tables of the various food stuffs for the different conditions are given. The author has certainly mastered the subject, and his acquaintance with the literature is by no means a small one, as can easily be seen from the very numerous references at the end of the work. This book of Dr. von Noorden forms so valuable a contribution to the literature of the subject that it is to be hoped, in the near future, an Anglicized version will appear for the benefit of those not familiar with the German language.

Ueber den therapeutischen Wert des Alkohols bei acuten Krankheiten. Eine kritische Studie. Von Dr. B. Kantorowicz, Hanover. Berlin: Verlag von Oscar Coblentz. 1898.

In this brochure of thirty-seven pages the author discusses his subject in an argumentative and interesting manner. The article abounds in reference to works on the subject and the conclusions are clearly drawn. Altogether it forms agreeable reading-matter.

The Aphasias and their Medico-Legal Relations. By F. W. Langdon, M.D. Cincinnati.

This little book of forty pages is the embodiment of a paper read before the Ohio State Medical Society. So far as we can determine from reading the booklet the title is a misnomer, as the medico-legal relationships of aphasia are not considered except in two short paragraphs on page 31. The remainder of the text devoted to this part of the subject is made up of quotations, mainly from Bateman, who, it may be contended without fear of contradiction, had a very insignificant conception of the meaning which attaches to aphasia to-day. It cannot be said that the status of aphasia and its medico-legal relationships is particularly advanced by Dr. Langdon's brochure, although the article is a very readable one.

Brief Essays on Orthopædic Surgery. By Newton M. Shaffer, M.D., Surgeon-in-Chief to the New York Orthopædic Dispensary and Hospital; Clinical Professor of Orthopædic Surgery, University of New York (Medical Department); Consulting Orthopædic Surgeon to St. Luke's and the Presbyterian Hospitals, New York; Consulting Surgeon, New York Infirmary for Women and Children. New York: D. Appleton and Company. 1898.

In this collection of essays the author contends for the recognition of orthopædic surgery as a mechanical art, in opposition to those of his colleagues who would extend it to cover all methods of treatment of deformities whether by operation, by exercises, or by the application of mechanical apparatus. While we cannot agree with the author in this strict limitation of orthopædics, we are nevertheless forced to admit that the case is well argued from the viewpoint of the mechanician, who, if he would be nothing else, should drop the honorable title of surgeon.

The Care and Feeding of Children. By L. Emmett Holt, M.D. Second Edition. New York: D. Appleton & Co.

This little book is arranged like a catechism. It is intended to convey to the beginner the rudiments of feeding and nursing of a baby; it is well adapted for this purpose.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

GENERAL COUNCIL SESSION—A DENTAL MEMBER—THE PRESIDENT AND MR. HORSLEY—PROPOSED INQUIRY INTO THE LEGAL BUSINESS REFUSED—CLINICAL SOCIETY—CASES OF INTUSSUSCEPTION—OPERATION OR INJECTION—PERFORATION OF VERMIFORM APPENDIX DURING TYPHOID.

London, May 27, 1898.

The General Medical Council met on Tuesday. It seems a pity the business could not have been done at the late special session and so reduced the enormous cost of the meetings. Mr. C. S. Tomes, F.R.S., F.R.C.S., L.D.S., took his seat as the new crown member. The appointment of this distinguished man gives great satisfaction to the dentists.

I hoped that the new president would omit the useless opening address, but he followed the old precedent and told the council things they all knew from the newspapers and medical journals. It must be tedious to listen to a *réchauffé* of subjects which have been threshed out in the press, and the time and money of the council are too precious to waste in this way. On the present occasion there was one bit of spice in the address. The president was of course expected to give some explanation of the course he had taken in interrupting Mr. Horsley's investigations into the archives of the council, which he had carried on from November last up to April. I have previously informed you that the president then directed the registrar to supply no further documents to Mr. Horsley without the authority of the council or the executive committee. In his address Sir W. Turner sheltered himself behind the opinion of the standing counsel, which he had taken on the question as to whom the documents belonged to. No authority but his own seems to have been obtained for taking counsel's opinion on a matter which common sense and the usage of most bodies should have sufficed to settle. The president pointed out that the present meeting would afford an early opportunity to Mr. Horsley to apply for permission, but he does not seem to have perceived that it would have also been time enough for him to submit his own view to the same meeting, if he was so fully convinced that a member of the council should be denied the opportunity of studying its history. Since Mr. Horsley protested against the assumption of the new president, I have talked with both London and provincial men of note, and they all regard the president's action as unwise and unconstitutional. Some looked forward to the address with keen interest, as likely to produce some explanation, and all were astonished that Sir William, with his experience and sound sense, should so hastily have committed himself to a policy of obstruction directed against the most active and most eminent direct representative of the profession.

Mr. Horsley raised the question on the first day, and showed that the opinion given by Mr. Muir Mackenzie was totally at variance with that of Mr. Farrer given in 1882. He said he would like to see the case submitted—so much depending on that in all legal opinions. This was produced, and Mr. Horsley at once said it was not parallel with his position.

Then the obstructives came out in full force. The old fogies were shocked that the president's action should be called in question by the junior member, and proceeded to testify their sympathy with and support of the president. Then a red herring was drawn across the scent—it was altogether too dreadful for Mr. Horsley to have communicated the facts to the medical press, and it was pretended that doing so was a personal attack. Even Dr. Glover, who is a direct representative, urged that there was no "obligation to publish the charge against the president" before the present meeting. He should have seen there was no obligation on the president to interrupt Mr. Horsley's work until the same time. To talk of a simple statement of facts as a "charge against the president" or a "personal attack" upon him, is not calculated to blind the profession to the fact that their energetic champion has been deliberately obstructed in very useful work on their behalf.

Mr. Horsley subsequently moved for a committee to inquire into the legal business of the council and its cost. Then the obstructives again gave tongue. Another red herring was brought out. It was pretended that the motion was a vote of censure on the legal advisers. Mr. Horsley retorted that when he wished to censure he would do it in plain English. His innocent motion was no such censure.

There was much talk as to whether Mr. Horsley should be a member of such a committee, but the *vis inertiæ* was not to be overcome, and the lawyers were held up as infallible and almost as terrible fetishes as the president himself.

Some voices gave support to Mr. Horsley. On this point Dr. Glover and Mr. Brown, his co-direct representatives, supported him, but the council refused inquiry by eighteen to nine. In this no one outside is likely to approve the decision.

The subject of abdominal surgery was again prominent at the last meeting of the Clinical Society, intussusception furnishing several cases. Dr. David Lees and Mr. Quarry Silcock related the case of a boy, aged four and one-half, treated by rectal injection and discharged from the hospital apparently cured, who had to be readmitted two days later for the same symptoms. These were relieved by injection and subsided, but recurrence took place several times. Eventually operation was performed and intussusception found at the lower end of the ileum and the cæcum. It was irreducible and excision was done. The ileum was divided two or three inches above the ileo-cæcal valve, the colon some inches below the cæcum. The cut ends were then united by Lembert and quill sutures, and the lad made an uninterrupted recovery. The specimen showed that the posterior wall of the cæcum, carrying with it the appendix, had been invaginated into the ascending colon, and the ileo-cæcal valve, being dragged upon, had carried with it about an inch of the ileum. Clearly complete reduction by injecting air or water was impossible.

Dr. W. S. Colman and Mr. T. H. Kellock then related a case of chronic intussusception of the cæcum in a boy of eight, the symptoms being extremely misleading; the authors called them latent. Severe attacks of pain and vomiting, returning almost daily, with no change in the motions and nothing to be felt in the rectum, and at length a definite sausage-shaped tumor, one end of which was very hard, led to operation. A large intussusception was found in the transverse colon and splenic flexure. It was reduced with some difficulty. There was a perforating ulcer close to the root of the appendix. The ulcer was excised, and the edges were united by Lembert's sutures. Two days later the wound had to be reopened for pyrexia and pain over the cæcum, when some pus was evacuated, but the child died and a post-mortem was refused.

Dr. Lees then described a case of six weeks' duration which he had successfully treated by irrigation and ice bags locally, the child's feet and legs being at the same time kept warm with hot-water bottles, and fomentations being sometimes employed over the bladder to aid micturition. The ice was continued for eight days, and after another enema the lump had quite

disappeared. Evidently there had been no adhesions to prevent reduction, although the symptoms had lasted six weeks before treatment. Large enemata reduced the size of the lump, but Dr. Lees thought that the cold applications reduced the congestion of the intestine and allowed the last enema to complete reduction. He thought in similar subacute cases the treatment deserved a trial, but in acute cases he would not recommend it, on account of the tendency to collapse.

Mr. Barker remarked that the most important question suggested by this interesting series of cases was whether to resort to injections or to operate at once. That some patients recovered under the use of injections he admitted, but there were others in whom they could not succeed. Of the fifteen cases he brought before the society this session, three were ileo-colic and could not have been reduced by injections. Five of his patients died, three being gangrenous when operated on. His results encouraged him to earlier operations, as injections involved delay and were not without risk.

The president (Mr. Langton) was also in favor of operation, which he thought less dangerous than delay.

Dr. Guthrie said that diagnosis was the chief thing, and he held that injections were dangerous in acute cases, for the actual condition of the intestine could not be known nor could we be sure that irrigation had completely reduced the invagination.

Dr. Poynter insisted on the necessity of careful and frequent examinations to fix the diagnosis.

Mr. Kellock said the experience of the Children's Hospital showed that laparotomy is extremely dangerous in them, whatever the cause for undertaking it, and he could not admit that the risk is so slight as is often represented.

Dr. Lees concurred in the view that the operation is a very serious one. He had known a number of recoveries from irrigation, and when that failed surgery also sometimes failed. He mentioned that three cases at the same hospital received in one day were handed over to the same surgeon, and all three were fatal.

A case of perforation of the vermiform appendix in the course of ambulatory typhoid was related by Dr. Rolleston. On laparotomy fibrinous peritonitis was found, due to perforation of the appendix close to the cæcum. The appendix was removed, the peritoneum washed out, and a drainage tube left. The case proved fatal and at the post-mortem typhoid ulceration was found. Attention was directed to the frequency of lesions of the appendix in typhoid, and statistics on the subject were cited.

Dr. Goodall was surprised at the frequency of the complication, as he had not met with it at the fever hospitals.

Mr. Barker remarked that without operation the cases were uniformly fatal, but after operation twenty-three per cent. went on to recovery.

OUR PARIS LETTER.

(From our Special Correspondent.)

TUBERCULOSIS—NOT INCURABLE AND HEREDITY ALONE NOT SUFFICIENT TO CAUSE IT—ZONA AND FACIAL NEURALGIA CAUSED BY IODIDE OF POTASSIUM—PROFESSOR DIEULAFOY'S NEW WORK.

PARIS, May 28, 1898.

WHEN we think that every year in France 150,000 people die of tuberculosis, it is not surprising that its prevention and cure are subjects of constant, burning interest. In Paris, with a weekly mean mortality of eight hundred to one thousand, tuberculosis claims alone from two hundred to two hundred and fifty. Professor Grancher, in his interesting and valuable report, read recently before the Academy of Medicine, deals with the subject of family tuberculosis, attributing the heavy mortality rate largely to the fact that the disease is not taken in time. Tuberculosis is not considered as an incurable disease. It becomes so because it is left to itself—because at the beginning, when it might be cured, the doctor and the family think only of deceiving the patient, if not themselves, forgetting that by that very act they interdict to the patient the treatment most indicated and really the only means of saving him or her. Having disposed of this fallacious doctrine of silence and deception, Professor Grancher touches briefly and pointedly on heredity. It is contagion and not heredity that is most at fault in the propagation and spread of tuberculosis. What family, either in the direct or collateral line, is not tuberculous? If, he adds, heredity is sufficient to create the disease, everybody in Paris would be tuberculous. Heredity may prepare the ground, but it is contagion that spreads the disease. The bacilliferous sputa are the direct means. These two great points—that tuberculosis is not incurable and that heredity is not sufficient to create the disease—are the most potent arguments against that silence and deception regarding the diagnoses that have sent so many tens of thousands to the grave. And how are we to impose upon our patients the long and severe treatment that their cases demand, if we do not open their eyes to the true nature of their malady? If a tuberculous patient is to get well, such a one must will to get well; and, being apprised that tuberculosis is not incurable, the will will be forthcoming and the requisite treatment can be inaugurated and carried out. As for the rest, do we not find after post-mortem the remains of old tuberculous deposits in the lungs healed long since, the lungs remaining otherwise perfectly healthy, the patients having died of a disease in which the lungs were not in any way involved? And if tuberculosis can and does heal of itself, how much more readily ought it to heal under proper treatment and hygienic surroundings? With reference to the latter, he is inclined to consider them the more important of the two. It is, as already noted, the sputa that are the real means of spreading the disease. First of all, the declaration of the disease ought to be made by the doctor with authorization of the family. The disinfection of the apartment should be done every now and then, and always after a death from tuberculosis. But it is against spitting that our chief effort must be directed. A pocket spittoon should be provided for each and every patient, especially in hospital practice; spitting on the floor prohibited; and every room occupied by a tuberculous patient disinfected as soon as left. Above all, no sweeping should ever be allowed, but the broom should be replaced by cleansing with a wet sponge or mop.

At a recent meeting of the Société Médicale des Hôpitaux, Dr. Jacquet presented an interesting case of ophthalmic zona and facial neuralgia caused by iodide of potassium. The patient had received daily two grams, or about thirty-five grains, of iodide of potassium for four days, at the end of which time a slight ophthalmic zona on the right side with a neuralgia of the right facial nerve appeared, the neuralgia extending to all the branches of the right facial nerve. There was no paralysis of that nerve nor of the trigeminus. Four years before, the same dose of iodide of potassium had caused in the same patient a paralysis of the left facial nerve.

Professor Dieulafoy has just issued a very attractive and valuable volume entitled "Clinique Médicale de l'Hôtel Dieu de Paris, 1896-97." This is a compilation of the first eighteen lessons delivered by himself at the Hôtel Dieu in the chair of clinical medi-

cine, occupied by the late Prof. Germain Sée. The volume begins with Professor Dieulafoy's inaugural address and ends with a chapter on peritonitis by pneumococci. A considerable portion of the work is devoted to appendicitis. Brightic œdema of the lung, syphilitic lesions of the aorta, tabetic angina pectoris, and a case of mortal chorea occupy the first eight lessons. Then follows a chapter on Jacksonian epilepsy, followed in turn by two chapters on Basedow's disease. The twelfth, thirteenth, and fourteenth chapters deal respectively with perforation of simple ulcer of the duodenum, transformation of stomachal ulcer into cancer, intestinal lithiasis, and sandy entero-colitis.

The work is profusely illustrated and contains a sepia plate of Professor Trousseau on his deathbed, and on the title page is an engraving of the Hôtel Dieu and the cathedral of Notre Dame.

It is written in Professor Dieulafoy's clear, lucid, and limpid style, and is the first of a series that will be one of the most important and elaborate of our day and generation. It is published by Masson et Cie., "libraires de l'Académie de Médecine."

Professor Raymond is just issuing his third volume of "Clinique des Maladies du Système Nerveux." This is also a compilation of lessons—those given by Professor Raymond at the famous "Salpêtrière" in Charcot's clinic.

A SUIT FOR MALPRACTICE.

To the Editor of the Medical Record.

Sir: Under any circumstances a suit for malpractice excites widespread interest among medical men. But a case came to trial recently in Part VII. of the supreme court of this city, before Justice McAdam, of much more than ordinary importance to the profession. This trial had features which should make it celebrated in medical jurisprudence, not alone on account of the purely technical aspects of the case, but also because of the relation of medical men to it and its well-nigh sensational culmination in favor of the defendant. The facts in this case are so instructive and valuable to medical men, in whatever line of practice, and touch their highest interests so vitally and palpably, that to allow the lessons which they teach to go by unnoticed, would be an irreparable loss to the profession.

On the morning of February 26, 1896, a woman in middle life slipped and fell on the ice, severely injuring her left wrist. Her family physician, a man of high standing as a surgeon, was called and responded immediately. That the joint had been severely injured was apparent, but after very careful examination, with a view of ascertaining the possible existence of Colles' fracture, the conclusion was reached that there had been a severe sprain but no fracture.

Treatment consisted in the application of soothing lotions, with an injunction of absolute rest for the joint. After the acute symptoms had subsided sufficiently, a felt splint was applied. The surgeon continued his visits daily for a month, making frequent examinations of the joint and beginning passive motion as soon as the painful character of the injury permitted. For some time longer the case was under frequent observation, and the surgeon was able to confirm his diagnosis to his entire satisfaction. About the middle of April the woman removed to New York and placed herself under the care of a physician there, who promptly decided that the case was one of Colles' fracture, whereupon the husband wrote to the surgeon who had treated his wife, acquainting him with the discovery, and stating that his treatment had been wrong, that his position was a grave one, and asking what he proposed to do about it. The surgeon's reply was prompt and decisive, "Nothing." In due time a suit for $25,000 damages was entered. To a suggestion of compromise the defendant refused to listen, declaring that, while he might have made a mistake, this was a fatality which attends the work of every surgeon, however skilled or eminent; that the charge of neglect could not justly be brought against him; that he had exercised the best skill and judgment of which he was capable in the care of the case, had been assiduous and painstaking in its treatment, had indeed neglected nothing within his power to do to forward a good result. Further, that if he were to compromise, its influence would be to encourage such suits, and he owed it to the profession to fight the battle to a finish. It might serve to encourage and save some other unfortunate in a similar crisis of dire extremity.

Such was the issue which came to trial in the supreme court on April 13, 1898. The attitude of the court was that of impartial justice. The jury was all that could be desired in general intelligence and interest in the proceedings. The theory of the plaintiff was that a Colles' fracture had been treated as a sprain. Upon this hypothesis—and this alone—was suit brought for $25,000 damages. The medical testimony is all that need concern us for the purposes of this statement. It was plain at the outset that the physician who made the discovery of a Colles' fracture was not to be the chief dependence of the plaintiff. His statements were oracular, too oracular indeed to weigh heavily in the minds of the jury, and the cross-examination placed the plaintiff's case in serious jeopardy. It is no disparagement of this witness to say that the inspiration which animated and encouraged the prosecution did not have its source in him. The secret was out in the next move, when the plaintiff's attorney unconcernedly offered a letter in evidence. The writer is a surgeon of this city, who enjoys the distinction of being a professor in surgery in an advanced medical college, visiting surgeon to its hospital, and has recently been appointed to assist the executive surgeon at one of the large hospitals up town. This letter plainly was the corner stone of the prosecution's case. On it they built their plans, and in it centred their hope of securing from the defendant the trifle of $25,000, besides inflicting upon him the impairment of prestige and the mental agony which a suit for malpractice involves. The writer had given the weight of his name and influence to cast a brother practitioner into the slum pit of a malpractice suit in heavy damages, qut was not present in person to face the ordeal of cross-examination. All this, not because of any want of assiduity or painstaking interest in the case on the part of the defendant, but wholly on the theory that he had mistaken a Colles' fracture for a sprain.

The next medical witness was also from the Harlem district. He had been employed on the case only the day before the trial. Why the prosecution had delayed to secure the aid of this witness till this late day, and what means were employed, must be largely a matter of conjecture. Did their professor leave them in the lurch at the last minute and finally write a letter as a salve to allay their irritation at his non-fulfilment of contract? Did he name the person to whom the letter was to be shown? This letter, which bore the name of a professor of surgery with many appointments and associations, would be potent to influence a credulous man, ambitious of preferment and fame, in the belief that the office he was asked to perform was quite within the domain of ethical propriety.

It is certainly of interest to note that the author of the letter which was offered as evidence by the prosecuting attorney and the medical witness last referred to are members of the New York Academy of Medicine and of the Medical Society of the County of New York.

The defendant, himself an accomplished surgeon, was supported by four other surgeons, one of them surgeon-in-chief to a large up-town hospital, by whom some of the most brilliant work in American surgery has been done, and whose name would easily occur to any one who should attempt a list of the few great surgeons of the world. The others were all surgeons of wide experience in both hospital and private practice, who have achieved large success in their work, and whose opinion would carry weight in any company of medical men.

After careful examination of the plaintiff's wrist and close comparison of it with the other, these men all declared that there was no Colles' fracture and never had been. While the joint was somewhat thickened, it showed none of the characteristic deformities of a Colles' fracture. The styloid processes sustained precisely the same relation to each other in both wrists. The thickening was entirely consistent with a severe sprain, and this they believed the injury to have been.

The jury had ample opportunity to observe the injured joint and compare it with the other, and they were intelligent enough fully to comprehend the explanations made of the characteristic deformities of a Colles' fracture by the medical witnesses. They promptly rendered a verdict for the defendant. Indeed, the intrinsic merits of the case were too striking and obvious to admit of a different result.

Such in brief is the history of the case. Inquiry is stimulated as to the genesis of such suits. Doubtless occasionally they are undertaken from ingenuous motives and sense of great injury, but even then under the most obvious misconception of the physician's benevolent attitude toward human ills. The great majority, however, spring from purpose of blackmail, pure and simple, in which division of spoils is the incentive to financial and legal backing. They must also have medical support, and, humiliating as is the fact in the face of our oft-vaunted nobility and benevolence of purpose, they get it. What is the motive? Why should a physician lend his name and influence to such ignoble ends? Doubtless, the reasons are various. In one instance it may be jealousy or revenge—a desire to humiliate a hated rival. In another, cupidity—a longing to share in spoils, or to earn a generous fee. In still another, vanity—a distorted notion of personal importance or ambition to bask for a brief hour in the light that beats on the eminence of public notice. Did either or all the medical witnesses for the plaintiff in this case yield their aid for such base reasons to rob a brother practitioner of his hard-earned savings and well-merited reputation? May the fates grant not. But what was the motive? Who knows? Only one other is possible, viz., that they had reluctantly, from a conscientious sense of duty, thrown themselves in the breach to right a grievous wrong. Let us consider this incentive from their viewpoint. No claim was made of negligence or malicious intent, only that a mistake had been made in treating as a sprain what was really a Colles' fracture. In order to habilitate and justify this reason, we must assume that no surgeon of experience and reputation can make a mistake without liability of pursuit as a criminal by accusing justice.

Now let us ask these men a few questions and let the medical profession of the world be their jury. They could ask none higher or better. Did you ever make a mistake? Has your judgment in every instance been infallible? Has your skill never been at fault? Have the revelations of a post-mortem never surprised you? Have you never been pained with the thought that if you had pursued a different course some cherished one might still live to comfort those who loved him? If not, then truly, as was said of Hamilton, "you stand on an eminence and glory covers you." A countless multitude of common practitioners will hasten to lay the oblation of reverent, devout worship at your feet.

Brief comment may be pertinent and possibly helpful in fixing the lesson which this case inculcates. Of all the learned professions ours is the only one whose members are exposed to the humiliation and loss of malpractice proceedings, albeit in none other probably are sympathy and benevolence so frequently the only incentive to heroic, unrequited personal sacrifice to minimize the measure of human suffering. In none other is the lofty ideal of disinterested charity toward human ill more conspicuously held forth, and it is a curious commentary on these reflections that the only standing which such proceedings have or can have in a court of justice is derived wholly from the aid and support which medical men for one consideration or another, in violation of a solemn oath registered at their graduation, in violation of every moral consideration, are willing to extend. More curious still, when moral considerations fail to restrain, that self-interest does not deter, for no physician in active practice is beyond the menace of this danger, always constant, always imminent. Alas, it is doubtless too true, notwithstanding all our vaunting, that men in our ranks, as in all other fields of human activity, are ready to venture to the very verge of the precipice, trusting their agility or the complacence of moral mentors to save them from the gulf in the enjoyment of ill-gotten advantage, financial or other.

To sum up in a word, the medical witnesses for the plaintiff in this case, one of them acting as monitor for the prosecution attorney during the trial, had lent themselves in a supreme effort, for some unassigned reason, to the spoliation of a brother practitioner in the sum of $25,000, his good name, and bodily freedom; for, not being able to pay judgment in an adverse verdict, he must go to prison, and all on a hypothesis that was clearly proven to have no foundation in fact. Truly the medical profession has not yet emerged into the glories of the millennium. When our mental and moral consciousness grasps firmly the fact that the medical profession is not a money-making institution in the usually accepted sense of this term; that while it gives competency to many it brings wealth to none; that the great majority of its members are poor; that the highest and noblest attribute of our professional labor is its philanthropic purpose and aim; and that its highest emoluments are to be found in the pleasures which flow from a consciousness of deeds well done for humanity's sake; when these considerations have permeated all the strata of medical life to the very bottom, we shall hear less of malpractice suits, except as they are invoked to bring the criminal to justice.

HIPPOCRATES.

THE TUBERCULIN TEST.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. H. P. Loomis, in an article in your issue of May 21, 1898, describes the method of applying the tuberculin test in man and advocates its usefulness as a criterion of cure for patients who have apparently recovered under the usual climatic and open-air treatment. His reference to myself as making use of "practically the same method" may give the impression that I use the test as a criterion of cure and consider it reliable for this purpose, and it is in order to correct this impression that I ask for a few lines of your space.

I have had recourse to the tuberculin test as a means of diagnosis on rare occasions only, in cases of suspected pulmonary tuberculosis, when a careful study of the rational and physical signs failed to enable a

positive conclusion to be reached. Satisfactory as the test has proved in my hands in throwing light on these obscure cases, I have not made use of it as a criterion of cure nor do I believe its application for this purpose can prove reliable, as it is well known that patients in whom arrested lesions are present, even though they have remained quiescent for a long time, perhaps years, may nevertheless give a reaction when injected with tuberculin. E. L. TRUDEAU, M.D.

SARANAC LAKE, May 25, 1898.

ELECTROLYSIS IN DERMATOLOGY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In reading Dr. Jackson's very interesting article on electrolysis in the MEDICAL RECORD of two weeks ago, I was pleased to see that he advocated the removal of certain tumors, xanthoma, etc., by means of a knife-like instrument. Having employed this method for a number of years, I can state that it is much superior to the older way of using a round needle and leaving the withered excrescence to fall off in the course of time.

In an article entitled "Some of the Uses of Electrolysis in Dermatology," which I published in the MEDICAL RECORD of January 25, 1896, I described a method of removing growths by the use of a flat-bladed, sharp-edged needle, or to all intents a small knife-shaped instrument. Up to this time the method had, so far as I am aware, not been suggested or put into practice. I demonstrated my instrument before the Lenox Society, and subsequently to the New York Dermatological Society, at whose meetings I have also mentioned the method on several occasions and shown patients operated upon. Dr. Jackson states that he has as yet had no opportunity to test his little knife in xanthoma. I may say that in a number of these cases I have succeeded at a single sitting in removing quite large xanthoma growths, to the great satisfaction of the patients.

At a meeting of the German Medical Society about a year ago, Dr. Klotz presented the method as one of value and stated that it had originated with me. I am glad others are also finding it as useful as I have.

CHARLES W. ALLEN, M.D.

A LIVER WITH SIXTEEN LOBES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In reference to Dr. Smith's criticism of my article in your issue of May 7th, that the liver then demonstrated was syphilitic, is it possible, but the evidence is negative. Fissures and hence lobulations do occur in syphilis, but they are due to cicatricial bands—an interstitial hepatitis. The surface of the organ in specific hepatitis is not smooth, but rather granular, like the cirrhotic or "gin-drinker's liver." The fissures, to one who has seen specimens of both, are different. In one word, fibrous bands, the yellowish discoloration of the organ, sometimes seen in syphilis, gummata, and the granular condition of the syphilitic liver, were conspicuous by their absence. It is true the organ was smaller than normal, but this anomaly was not due to contraction as the result of syphilitic hepatitis. In accessory lobes fine intralobar adhesions or bands are seen, similar to those I have noted in anomalous lobulations of the spleen. Dr. Smith's theory of "atavism" is good.

WILLIAM MOSER, M.D.

BROOKLYN.

Splenectomy for hydatid cyst of the spleen (Hartmann). Contraindication is found in leucocythæmia (Jonnesco).

Medical Items.

The Evils of Overeating. — Large eaters are generally deficient in activity and endurance. I used to know one who tried hard to be a Christian, but failed because of too much dinner. That man was a curiosity. He worked in a small wood-turning shop and ate five times a day. When he consulted me about his "poor stomach," I told him flatly that he was a pig. He replied: "You are mistaken. I am faint half the time, and have to eat extra meals to keep up my strength." I went at him with fact and physiology. At length he was convinced and promised me that he would follow my prescription, which was this: Take but two meals a day. In fifteen days his faintness had disappeared and he rapidly recovered. To-day he is a healthy, active man and a warm advocate of two meals a day, and moderate ones. Temperate people with good digestion never feel their stomach- forget they have a stomach; while these big eaters are always hungry, faint, or bloated, troubled with eructations, acidity, diarrhœa, or some other unhappy condition of the digestive apparatus. Persons having a good stomach to begin with can by practice learn to digest an enormous quantity of food. If they give their whole force and vitality to this business of grinding grist, they can in even the course of a short life grind through immense quantities. But the wiser, the more human way, is to find just how much food is needed to run the machine, exactly what will keep the system at the best working-point, and never pass those bounds. —*Journal of Hygiene.*

War Loans.—We take pleasure in commending the following circular to the attention of such of our readers as desire to make a safe investment:

1898.
Department Circular No. 102.
Division of Loans and Currency.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
WASHINGTON, D. C., June 13, 1898.

To the Press of the United States:

It is intended to give the bonds of the war loan authorized by the act to provide ways and means to meet war expenditures, the widest distribution possible, in order that all the people may have an opportunity for participating in the loan.

I have the honor, therefore, to ask the co-operation of the press in disseminating information which will give a better understanding of the nature, characteristics, and incidents of a government loan, and to that end I will thank you to lend your aid by publishing in your columns the statement inclosed, which is intended to give, in as brief a manner as possible, a description of the registered and coupon bonds of the United States, and how to subscribe for them.

Respectfully yours,
L. J. GAGE, *Secretary.*

UNITED STATES BONDS.—United States bonds are recognized as the most secure and stable form of obligation that investors can hold. They are attractive, not only because of the absolute security offered, but because there is at all times a public market for them on which holders can quickly sell; and they also offer the most desirable form of collateral if the holder wishes to secure a temporary loan. The fact that United States bonds are not subject to taxes of any character—federal, State, or municipal—is a valuable feature of that form of investment. United States bonds are issued in both coupon and registered form.

Coupon Bonds. A coupon bond is payable to the

bearer. It may be bought and sold without formality as freely as any kind of property and without indorsements of any kind. Owing to the freedom of transfer, coupon bonds are usually preferred by persons who expect to hold them but a short time. Their disadvantage for the person who wishes to make a permanent investment lies in the danger that they might be lost or stolen, in which case the loss to the owner would be as complete as would be the loss of a bank note. The coupon bonds take their name from the method by which interest is collected by the holder.

Printed on the same sheet with the bond is a series of coupons or small certificates of interest due, which are so designed that one is cut off at each interest period. Each coupon bears the number of the bond and shows the date of the coupon's maturity. The holder of a coupon bond, at each interest period, detaches the coupon due that day and collects it. The coupons are payable at any subtreasury, and may be collected through any bank, and will usually be accepted by any merchant having a bank account, with whom the holder of the bond has dealings. The holder of a coupon bond may at any time have it converted into a registered bond free of charge.

Registered Bonds.—A registered bond is payable to the order of the owner, and can be transferred only by being properly indorsed and assigned by the owner. Such assignment is made by the owner filling in the blank form on the back of the bond, and must be witnessed by some officer authorized by the regulations of the treasury department to witness assignments. The owner of the registered bond who wishes to part with it writes his name on the back of the bond in the presence of the officer; then the witnessing officer writes his name in its proper place and affixes an impression of his official seal.

The officers who are authorized to witness assignments are a United States judge, United States district attorney, clerk of a United States court, collector of customs, collector or assessor of internal revenue, United States treasurer or assistant treasurer, or the president or cashier of a national bank, or, if in a foreign country, a United States minister or consul. In cases where there is no officer within a reasonable distance, or when, through sickness or for some other good reason, the owner of registered bonds cannot go before one of these officers, the treasury department will designate some person near the owner to act as witness.

When the owner of a registered bond disposes of it and has properly assigned it, he delivers it to the new owner, who should at once forward it to the register of the treasury for transfer on the books of the department. The register cancels the bond so forwarded and issues a new bond in the name of the new owner, and sends it to him by registered mail. The department makes no charge for transferring bonds.

If the owner of a registered bond loses it, or if it is stolen from him, he should at once notify the secretary of the treasury. A stoppage will be entered against the bond, and, if it should be presented for transfer, the department will hold possession of the bond until the ownership is clearly established. If a lost or stolen bond is not recovered within six months, the department will issue a duplicate bond upon proof of loss and a bond of indemnity being furnished.

The interest on registered bonds is paid by the government by means of checks. In order that no mistake may be made in the payment of interest, the books of the department are "closed" for a period, varying according to the importance of the loan. The books of the four per cent. loan of 1907 are closed for the whole month preceding the payment of a quarter's interest. On other loans the books are closed for fifteen days preceding the interest payment. During this period no transfers are made, and the time is devoted to preparing "schedules" which contain the names of the owners, the amount of bonds each one holds, and the amount of interest due each one. When these schedules have been prepared and proved, they are sent to the treasurer of the United States, who immediately has checks and envelopes addressed, and in due time each check is mailed to the address of its owner. The checks for the more distant points are first mailed. Interest checks are obligations of the United States, and, of course, are good everywhere.

Coupon bonds are issued in denominations of $20, $100, $500, and $1,000. Registered bonds are issued in denominations of $20, $100, $500, $1,000, $5,000, $10,000.

How to Subscribe for the New Bonds.—The war loan which is now being offered will be sold to subscribers at par during the period of subscription, which ends July 14, 1898. The method of subscription has been made as simple as possible. Blank forms may be obtained at every money-order post office, and at most of the banks and express offices, and on these forms is clearly indicated all that it is necessary for the subscriber to fill out. The subscriber may himself mail to the treasury department at Washington the blank form filled out, together with his remittance covering the par value of the amount of bonds for which he wishes to subscribe. That remittance may be in whatever form best suits the subscriber's convenience—in currency, bank draft, check, post-office money order, or express money order. The day the currency is received, or the day the proceeds are received from the checks, drafts, or money orders, the subscription will be entered and will immediately begin drawing interest. When the bonds are delivered, a check will accompany each delivery covering the interest at three per cent. from the day the subscription is entered to the 1st of August, the date of the bonds, and from which date the bonds will carry their own interest.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DISEASES OF WOMEN. By Dr. H. N. Lewers. Fifth edition, 8vo, 526 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia. Price, $2.50.

PATHOLOGICAL ANATOMY. By Dr. O. Bollinger. Vol. II. 8vo, 232 pages. Illustrated. William Wood and Company.

HYGIENE AND SANITATION. By Dr. Seneca Egbert. 8vo, 368 pages. Illustrated. Lea Brothers & Co., New York.

RETINOSCOPY. By Dr. J. Thorington. Second Edition. 8vo, 70 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia. Price, $1.50.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Edited by Dr. F. M. Crandall. Vol. IX. 8vo, 218 pages. Illustrated.

DISEASES OF THE HEART AND AORTA. By Dr. G. W. Balfour. Third Edition. 8vo, 479 pages. Adam and Charles Black, London. Price, $4.00.

DIABETES MELLITUS. By Dr. R. T. Williamson. 8vo, 417 pages. Illustrated. The Macmillan Company, New York. Price, $4.50.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. X. 8vo, 389 pages. Illustrated.

ELECTRO-PHYSIOLOGY. By Dr. W. Biedermann. Translated by Frances A. Welby. 8vo, 500 pages. Illustrated. The Macmillan Company, New York. Price, 17s. net.

AN AMERICAN TEXT-BOOK OF GENITO-URINARY DISEASES, SYPHILIS, AND DISEASES OF THE SKIN. Edited by Dr. L. B. Bangs and Dr. W. A. Hardaway. Royal 8vo, 1,229 pages. Illustrated. W. B. Saunders, Philadelphia. Price, cloth, $7.00; sheep or half morocco, $8.00.

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Original Articles.

A CLINICAL SYNOPSIS OF THE DIAGNOSIS AND TREATMENT OF CHRONIC RENAL DISEASES.

BY WILLIAM H. McENROE, M.D.,

NEW YORK.

THE primary cause of every form of renal disorder is the inability of the kidneys to perform their normal function of elimination, and, as a result of this inaction, there is an absorption of the excrementitious and poisonous products of the urine into the circulation.

This produces a number of very definite symptoms, and is a common complication of a large number of morbid conditions in which renal suppression takes place. This is notably so in the various forms of the acute fevers, following operations on the genito-urinary tract, in tuberculous and cancerous disease of the kidneys, and, finally, complicating every form of Bright's disease.

Many attempts have been made to classify the different conditions found in the kidneys after death, and to give to each form a definite clinical history. The result of this has been greatly to confuse the nomenclature of this very intricate subject.

I have adopted the following classification:

1st. Parenchymatous nephritis.

2d. Amyloid or lardaceous degeneration.

3d. Interstitial nephritis or renal cirrhosis.

There are three distinct anatomical portions of the kidney, in one of which every form of disease of this organ has its origin. These are, first, the uriniferous tubules; second, the walls of the blood-vessels; and last, the interstitial tissue or the renal stroma.

In some cases parenchymatous nephritis commences as an acute disease complicating many of the acute fevers. It is often caused by exposure to cold. In these cases the patient quickly passes into a condition of general anasarca, the urine containing large quantities of albumin. This may continue for some time, the patient meanwhile passing into an apparently hopeless state, when suddenly the urine becomes more copious. The nervous symptoms are greatly modified and the nausea disappears. There is an apparent recovery. The albumin, however, remains in the urine, and there are swelling and œdema along the line of the tibia and the internal malleolus. The usual course of this malady is chronic from the start. The urine at first is highly colored and diminished in quantity. Later on it becomes pale in color and more copious. Albumin is constantly present, and large hyaline and granular casts are found. The face is pale and glossy. Dropsy is constant and may become very extensive. There is a great tendency to the development of secondary inflammations and attacks of uræmia are frequent. There is a marked disturbance of vision. Total amaurosis may occur. Retinitis albuminurica is often present. The optic papilla is cloudy and swollen. The retinal veins are tortuous and white patches are found on different portions of the retina. Disturbance of vision is so common in renal disorders that it is often the first symptom to attract the patient's attention. Amaurosis dependent on neuro-retinitis may be recovered from; more often, however, it progressively increases, or it may remain stationary for an indefinite period after having reached a certain limit. Paralysis involving a single muscle may follow an attack. Hemiplegia and paraplegia often occur. In some instances after an attack of convulsions and coma there is for the time being a total disappearance of all symptoms; even the albumin is not found in the urine. Everything is held in abeyance for a greater or less period of time, when another attack is precipitated. Excessive enlargement of and valvular changes in the heart do not occur so often as they do in granular kidney. The disease may be prolonged for several years. I have known complete recovery to take place after the third year.

Amyloid or Lardaceous Degeneration.—This form of renal disease comes on slowly and is always found in persons who are debilitated by some wasting disorder. It frequently complicates syphilis, pulmonary tubercle, caries, scrofula, and many other wasting diseases. The quantity of urine passed at the beginning of this affection is very large indeed, and this symptom should excite suspicion. As the morbid condition advances, the polyuria gradually lessens and ultimately ceases. Convulsions are seldom, if ever, observed.

Interstitial Nephritis or Renal Cirrhosis.—This process is slow and insidious in its development, and may remain latent in the system for some time. It occurs more often in persons past middle life. Its principal causes are the chronic use and abuse of alcoholic spirits, a gouty diathesis, and chronic poisoning by lead. The urine at first is copious in quantity, pale in color, and contains a small quantity of albumin with hyaline and granular casts, which may be absent at times. General dropsy rarely complicates this affection. Cardio-vascular changes are constantly present and often reach an extreme degree. Cerebral hemorrhage may occur at any time, owing to the degree of arterial sclerosis present in these cases. There are a number of important symptoms in this condition that indicate impending apoplexy: a loss of memory, due to anæmia and malnutrition of the brain; vertigo, generally worse in the morning after rising; a persistent tendency to wake too early in the morning; painful cramps in the calves of the legs, just before or after getting out of bed. The patient complains of a vague sense of some impending danger. The intellectual faculties are dull and impaired. This is without doubt a frequent cause of declining health during the period of middle life, producing a condition of premature old age.

Albuminuria.—The presence of albumin in the urine is a constant pathological symptom of every form of kidney disease. Albumin has been found temporarily in the urine of apparently healthy persons, and its presence is no longer considered positive evidence of renal disease. Albuminuria may be caused by a number of conditions, of which a correct appreciation is of great importance to a proper understanding of its pathological significance. Therefore, as it is an important and common symptom, it should be carefully looked

for in every specimen of unhealthy urine. The question is often asked: How is it that albumin is not found in normal urine; what prevents it escaping with the water and other matters that are filtered off through the renal glomeruli? There is no doubt that it is kept back by the layer of epithelium which surrounds and covers the capillary tufts. At one time it was supposed that albumin was present in the transudation from the glomeruli, but was again taken up from the urine and restored to the blood by the action of the epithelial cells lining the convoluted tubules. This theory is no longer tenable. When albumin is present in the urine it undoubtedly has found its way out through the renal glomeruli, because certain nutritive changes have taken place in the epithelium covering the glomeruli, thus rendering them incapable of resisting its passage. Therefore anything that causes a change in the renal circulation may produce it. It has been demonstrated that whenever a full stream of arterial blood is not maintained in the capillary tufts, there is a marked change in their epithelium, so that they can no longer fulfil their normal function. Albuminuria is also caused by any obstruction or impediment to the outflow in the renal veins. In all these cases the epithelial cells of the glomeruli are greatly changed in appearance. Albumin has been found in the urine of apparently healthy persons. It can be temporarily produced by a cold bath, by great mental distress, and sometimes by severe exercise. Some authorities claim that its presence in the urine in these cases is due to a congenital loss of power in the epithelial cells, rendering them unfit to resist the passage of the albumin. It is claimed that the occurrence of temporary albuminuria may lead eventually to the development of chronic renal disease. If the patient is young, and the albumin is not constantly present but paroxysmal in its recurrence, and the patient has never had acute renal disease, it is quite certain that under these conditions chronic disease would not follow.

There is another pathological element in the urine that is quite as constantly present as is the albumin—the bodies known as casts. The most typical and those most frequently present are the hyaline and granular. They are partially transparent and colorless, but with well-defined outlines. They are undoubtedly caused by the coagulation of the fibrinogen forced out of the glomeruli, under the influence of some product caused by the disintegration of the leucocytes. In some cases they make their appearance in the urine a day, or even two days, before the albumin appears, but as a rule the two are found together. The number of casts in a given case is directly proportionate to the amount of albumin. It is generally supposed that the presence of casts in the urine is very significant of kidney disease: this is not always so, for they are found in albuminuria caused by temporary changes in the glomeruli, owing to acute pyrexia or as the result of obstruction in the renal veins.

Dropsy.—Dropsy or œdema is a constant symptom of all the affections of the kidney. There are two varieties. The first is very similar in all its aspects to that form found in cardiac disease and pulmonary emphysema. It is caused by some obstruction in the systemic veins and is but indirectly of renal origin, for it is caused by failure of the heart to maintain the normal circulation. This form of dropsy is more marked in the dependent portions of the body, and especially involves the legs. It is generally associated with dyspnœa, orthopnœa, and great lividity of the face; it is often found in parenchymatous and cirrhotic disease.

The second form has always been associated directly with the kidney, and is peculiar to it. It makes its appearance first in the face, and especially underneath the eyelids; it may remain in the face during the entire course of the disease. More often, however, it passes to the lower extremities and may involve the entire body. It sometimes passes over the face and obliterates the normal facial outlines. It does not occur often in the granular form of kidney disease, and it has been estimated that fully one-third of these cases run their entire course without dropsy. The degree of œdema corresponds as a rule to the quantity of urine passed, but it bears no relation to the amount of albumin present.

There are cases of œdema or dropsy presenting the same characters as those found in renal disease, but at no time is the urine albuminous and the kidneys appear to be in a healthy state. Such cases are often called essential dropsy.

Many theories have been advanced as to the origin of dropsy. It is caused by a change in the elements of the blood, and this is due to perversion of the normal functions of the kidneys. It has been found by a series of experiments that the specific gravity of the blood serum when dropsy exists is greatly reduced. It is sometimes reduced as low as 1.012, the normal density being 1.030. This change in the blood is due to a deficient excretion of water and a loss of albumin, which has escaped through the glomeruli.

The loss of albumin is never very great; rarely as high as four per cent. Cohnheim found by experiment that the injection of very large quantities of one-half-per-cent. solution of sodium chloride failed to produce the slightest degree of dropsy, even with the renal arteries ligatured. It is not known what amount of water is thrown off by the skin and the lungs. There is ample clinical evidence that even in cases of complete urinary suppression dropsy does not necessarily follow. The theory that is more generally accepted is that of Cohnheim. He says a change takes place in the walls of the renal capillaries, and as the result of this change they allow the passage of fluids that under normal conditions would be retained.

Secondary Inflammations.—Very often during the course of chronic renal affections complications occur, and in many instances they are the direct cause of death. The serous cavities are freqeuntly attacked—the pleuræ, the pericardium, and the peritoneum. The inflammatory process is generally suppurative in character; meningitis is very rare. These secondary inflammatory conditions are considered to be the result of a depraved state of the blood, owing to deficient renal excretion.

Cardio-Vascular Changes.—Enlargement of the heart is a common complication of the parenchymatous and cirrhotic forms of kidney disease. It is rarely found in the waxy or lardaceous form, unless secondary inflammation of the renal cortex has reached an advanced stage. The enlargement is generally in proportion to its duration, the greatest hypertrophy always occurring in the cirrhotic form. The enlargement is most often confined to the left side of the heart. The change that takes place in the arteries is caused by a non-suppurative inflammatory process, which begins with hyperæmia and is followed by an increase in the number of the cells of the affected tissue and fatty degeneration, and finally by a marked increase of the connective tissue. This process is called cirrhosis in the kidney and sclerosis in the arteries and the nerves. Coincident with the cirrhotic process in the various organs and tissues of the body, the walls of the arteries and capillary blood-vessels become the seat of characteristic changes, those of chronic endarteritis, with an exudation of a hyaline material on the outside of the blood-vessels. The coats of these vessels become greatly thickened and their calibre is diminished, and in the case of the smaller arteries their cavity is completely obliterated. This increase of connective tissue in the various organs of the body

never occurs without injury to the cells of the part pressed upon, and as this shrinks the process goes on and finally destroys all the cells of the inflamed part, so that there is ultimately nothing but a mass of fibrous tissue left. This condition of sclerosis of the arteries and capillaries is invariably found in renal cirrhosis. It gives the hard and incompressible pulse, so characteristic of this disease; it causes a general derangement in the blood supply to the various organs of the body; it is also the principal cause of cerebral hemorrhage or apoplexy that so often occurs in this disease. These morbid conditions are preceded by a number of very definite symptoms that are caused by imperfect circulation and malnutrition of the brain.

The consideration of the pulse, as appreciated by the examining finger, elicits the following characteristics: First, it is persistent. It cannot be obliterated during the interval between the cardiac beats. It is long and full and does not fall away. If the arm is raised the radial and even the brachial arteries are distinctly visible, full, and tortuous. The pulse is hard and incompressible, requiring considerable force to overcome it. In all these cases cardiac hypertrophy and dilatation are invariably present.

Retinitis Albuminurica. — This characteristic symptom complicates the parenchymatous and granular form of the disease. The process consists of numerous white spots situated near the optic disc and the macula lutea. They often appear as round in shape, and in some instances as large irregular patches that may subsequently coalesce. Hemorrhage often takes place into the substance of the retina. A condition of optic neuritis is usually present, or there may be great œdema or swelling of the retina, sufficient completely to hide the optic disc. The veins are distended and are tortuous. Sometimes a hemorrhage occurs, forming a streaky appearance along the new fibres. This condition, as a rule, is a late manifestation, and it is claimed by some authorities that this does not occur until enlargement of the heart takes place. The retinal arteries are extremely small in size compared with the veins, and very often a condition of endarteritis obliterans is present in them. When retinitis is once established it persists, as a rule, during the life of the patient. It is not always absolutely characteristic of chronic renal disease, for a condition exactly similar to it is caused by various lesions in the brain. It frequently changes in appearance. Old hemorrhages disappear and new bleeding points make their appearance. In some cases the white spots gradually fade away and may disappear entirely.

Uræmia.—Many efforts have been made to determine the exact identity of the poisonous agent in uræmia. It has been maintained by some authorities that this toxic state is due to the retention of urea and to its subsequent decomposition into many different poisonous products. Experiments have demonstrated, however, that this condition is due to many causes, among which may be mentioned the absorption of decomposed intestinal products, the accumulation of ammonium carbonate, the presence of potassium salts, the numerous products of degenerated tissue, and the absorption of the various secretions—bile, saliva, etc. As already stated, there is no doubt whatever that uræmia is caused by the poisonous action of these materials on the nerve centres. It is undecided, however, which one produces the actual poisoning. In many cases an attack is brought on by some disturbance of bodily function. The induction of profuse diaphoresis in a dropsical patient by a hot bath followed by hot packing has caused at once a series of uræmic convulsions. They are also caused by sudden cardiac failure, the heart being unable to maintain an active circulation through the renal vessels, so that the excretory function in an already damaged kidney is quickly suppressed.

The character of the urine in chronic cases changes materially before the development of uræmic symptoms. These changes vary greatly from each other. In most instances there is a marked diminution in the quantity of the urine passed for several days before active symptoms develop, or there may be complete suppression of the urine. In other cases the normal quantity of the urine is maintained, but there is a marked decrease in the amount of urea. In some exceptional cases the quantity of the urine is greatly increased. In all cases the specific gravity is less than normal. It is a well-known clinical fact that all the most prominent symptoms of chronic renal disorders are cerebral in character, but there is a great diversity of opinion in regard to their mode of origin, for the characters of these symptoms vary greatly in the different cases. The phenomena to which the term uræmia is applied consist of convulsive movements, defects of vision, headache, stupor, coma, and often persistent vomiting. The onset of the attack may be sudden, or in some cases it begins insidiously, with headache, stupor, vomiting, and many other symptoms. The convulsive attack itself closely resembles an epileptic fit, and may consist of a single paroxysm; more often, however, attacks follow each other at intervals of a few minutes or even hours, the patient meanwhile lying in a state of profound insensibility. The face is pale, the pupils are dilated, and the stertorous breathing is constant. The temperature is greatly elevated, in some cases as high as 104° F. The coma is usually very profound, but in some cases, if seen early, it is possible to rouse the patient. The coma follows the convulsive movements, the patient passing slowly into complete stupor during the course of a day or more. In those cases in which the onset is sudden the patient falls down and becomes quickly comatose. This state closely resembles a number of conditions with which it may be confounded. It so closely simulates an epileptic fit that the diagnosis is always difficult to make, and to determine that the attack is due to uræmia it is necessary in many cases to make an examination of the urine. The catheter can be used when necessary to obtain a specimen. In uræmia the face is deathly pale and the breathing is easy. In epilepsy the face is blue in color and has a turgid, choked appearance. In apoplexy there is inequality of the pupils, with strabismus and hemiplegia. In uræmia the pupils will not react to light, and there is a urinous odor from the surface of the body and the temperature is greatly elevated. In the coma caused by opium or morphine poisoning there is symmetrical contraction of the pupils, so much so as to be likened to a pin's head. This is a very important sign and should at once arouse suspicion of morphine poisoning. As opium is a cardiac stimulant and powerful diaphoretic, there will be profuse warm perspiration; the respirations are characteristically affected in poisoning by opium. They may be reduced as low as five or six a minute, but this is an extreme degree. In every case they are markedly diminished in frequency. The respirations are stertorous and there is a marked pause before expiration. During the first stage of opium narcosis the patient can be roused and his articulation is good, but owing to his return to complete unconsciousness he very rarely completes his answer. One of the common forms of coma is that caused by excess in the use of alcoholic spirits. In this case the pulse is increased in frequency during the first stage, becoming weaker later on. If the patient is aroused, he returns to a drunken consciousness; his answers are not rational and his articulation is bad, the first effect of intoxication causing thickness of speech. He is generally irritated by interference

and uses profane language. There is a form of coma that is caused by injuries to the head, producing a condition of concussion of the brain; and, as this is often due to criminal assault, it is very important that it should be recognized quickly. Owing to the nature of the injury, the control of the brain over the spinal cord is lost, and as a result of this the reflexes are set free, so that the least external impression leads to muscular twitching. This may be severe enough to produce active movement of the whole limb; therefore whenever there is jactitation it indicates some injury of this kind, and it should never be overlooked.

Hysterical convulsions sometimes closely simulate uræmia. These attacks are made up principally of subjective symptoms. There are embarrassed respiratory movements, a sensation of fulness in the throat (the globus hystericus), great anxiety, and vertigo. These symptoms precede the attack, which is short in duration. The patient is highly emotional when consciousness is restored. In some cases, instead of active convulsions there is a state of muscular relaxation with loss of consciousness. The abdomen is greatly distended with flatus, and following the attack a large quantity of pale urine is passed. There seems to be every degree of consciousness at the beginning. The patient places herself in a position where little or no harm can possibly come to her during the attack.

Treatment.—Hygienic measures are of great importance. The patient should wear flannel next to the skin, and a certain amount of outdoor exercise should be taken. Disorders of digestion should be remedied. Salol and bismuth are often very useful for this purpose; milk as an article of diet is of great value. There are several preparations of milk which answer this purpose admirably. Some patients prefer buttermilk.

Diuretics are remedies which have the property of increasing the amount of urine excreted by the kidneys. They act as follows: first, by increasing the general blood pressure; second, by causing dilatation of the renal blood-vessels; third, by directly irritating the renal structure. In the treatment of chronic renal diseases the specific gravity of the urine is the index of its course. During the early stages of the disease the specific gravity of the urine falls to about 1.010 and remains there for a long time, and falls again near the end of the disease. When it reaches 1.006, great danger is imminent. No remedy equals calomel as a diuretic. It increases the watery constituents of the urine but not the solids. Calomel, gr. i.; pulverized scilla, gr. i.; and pulverized digitalis, gr. i., make an excellent diuretic pill. If the pulse becomes intermittent the digitalis must be left out. Digitalis acts as a diuretic by increasing the force of the cardiac systole and raising general arterial pressure. It causes a full flow of pale urine of low specific gravity. When once the action of digitalis is secured it is often continued for several days, producing a condition of great prostration, and this should never be forgotten. When there are idiosyncrasies its action cannot always be depended on. It should not be given if arterial degeneration is present, as there is great danger from the rupture of a blood-vessel, owing to the increased arterial tension produced by this drug. I have overcome this difficulty, however, by using nitroglycerin with the digitalis. Nitroglycerin, gr. $\frac{1}{100}$, and pulverized digitalis, gr. i., make a good diuretic pill. Nitroglycerin dilates the heart and the whole arterial system, and aids digitalis in its action on the kidneys, as it is a diuretic itself. Pilocarpine can be used if the heart is strong but not otherwise, as it is a powerful cardiac depressor. The dose is one-eighth grain by hypodermatic injection.

Hydragogue cathartics are far more reliable than diuretics, for in some cases the kidneys will not respond; but I have found diuretics efficient in many cases. The employment of diaphoretics, however, as eliminatives is of great value, especially if the œdema is very great or the patient is comatose. It should not be forgotten that the skin is an eliminative organ to a small extent only, and will not act as such except when the natural organs of elimination fail. Whenever, therefore, the skin is to be used for this purpose, it should always be prepared for this vicarious action. The first indication is to remove any tension that may exist, for, when the skin has been dry for any length of time, the epithelial layers are brought closely together; the mouths of the glands are thus closed, and in this way the discharge of the secretions is prevented. This condition of the skin is almost invariably found in dropsy. The dryness of the skin is due to the subcutaneous effusion acting as a mechanical obstacle to the capillary circulation, and thus arresting the secretion of the sebaceous glands by diminishing their blood supply. Inunctions of olive oil are valuable adjuvants to the diaphoretics in these cases, as they open up the glands and separate the epithelial layers. After the inunction the patient should be wrapped in a hot wet pack. It is well known that diaphoretics will not act when the other eliminative organs are in abnormal activity; therefore diaphoresis should not be attempted when the bowels are under the influence of a cathartic. I have found that small doses of antimonial wine are very useful in producing a moderate diaphoresis. The dose should not exceed ten drops. Spirit of mindererus or the liquor ammoniæ acetatis is also useful; the dose is one teaspoonful and more if needed, repeated several times through the day. The best method of acting on the skin is by the use of the hot bath. The patient should be placed in a bath of the temperature of 100° F., and hot water should be gradually added until the temperature reaches 104° or even 106° F. He should remain in the bath for at least half an hour, and in some extreme cases even an hour. He should then be closely packed in warm woollen blankets for at least three hours, during which time profuse sweating occurs. The hot-air bath is another means. A lamp can be placed in the bed near to the patient's body, while the clothes can be raised around him in the form of a tent; this procedure can be repeated every day. I have seen a number of cases of general anasarca promptly relieved by these measures. The hot bath is not indicated in cases of great prostration and marked dyspnœa; in these cases pilocarpine can be tried, combined with nitroglycerin. The first effect of pilocarpine is to cause flushing of the neck, which quickly passes to the face and is following by vertigo; this passes away suddenly. If the dose is too large, salivation will occur. The dose is from $\frac{1}{8}$ gr. to $\frac{1}{3}$ gr., with $\frac{1}{100}$ gr. of nitroglycerin. It is well to administer a full dose of brandy immediately before giving the pilocarpine. In severe cases when it was impossible to use this by the stomach or bowels, the application of infusion of digitalis, ℥ i. to ℥ xvi. of water, to the abdomen on spongiopiline or hot cloths, has been followed by good results.

In the more acute forms of convulsions venesection or the abstraction of blood is often of great value. From ten to twenty ounces of blood may be drawn. Inhalation of chloroform will often check the violence of the convulsive movements.

Acupuncture is sometimes necessary. This is done with a needle, which is plunged into the subcutaneous tissue in the thigh or the leg. The needle should be turned from side to side so as to leave an opening for the fluid to escape. Small incisions are sometimes made to accomplish the same result. Before the needle or knife is used the skin should be well oiled to prevent any maceration of the cuticle. The fluid should be

collected by using woollen blankets, which should be wrapped around the limb. These should be changed often and the open surface washed with a solution of creolin or carbolic acid.

Anæmia is a prominent and persistent symptom of all forms of chronic renal diseases. I greatly prefer the muriated tincture of iron combined with the sweet spirit of nitre for these cases: it is remarkable to see what improvement follows.

It is well known that a large number of the most prominent symptoms of renal disease are cerebral in origin. The pathology has been explained already. This pathological state of arterial sclerosis is a constant companion of the granular kidney. It is a common cause of declining health in middle life, producing premature old age. This is illustrated by examination of the urine. Albumin and casts are found, but a far more serious symptom is also found: low specific gravity, even as low as 1.010. The urine is very light in color.

Against this very frequent cause of declining health in middle life there is fortunately a constitutional remedy of the highest value. I refer to mercuric chloride or corrosive sublimate. The first effect of this remedy is to bring back the natural color of the urine. The specific gravity also rises and may reach 1.018. There is no other remedy known to the science of medicine that in its action is so nearly a specific for these conditions as corrosive sublimate. This fact is not generally known by physicians. I have seen a large number of patients suffering from granular disease of the kidneys, in whom this remedy brought about a cure. I have found by practical experience that almost every case of granular kidney is complicated with chronic meningitis or chronic pachymeningitis, caused by the universal sclerosis present. During the early stages of this disease, where there is throbbing of the arteries of the neck and head, the combination of ergot with the bichloride is of great value. Each and every symptom of this protean disease is promptly checked, the memory is improved, the pulse becomes soft and compressible, the headache and vertigo disappear, the painful cramps in the calves of the legs are no longer felt, the intellect becomes clear. For prolonged treatment I employ the following prescription:

℞ Hydrargyri corrosovi chloridi . . . . . gr. i.
Tinct. ferri chloridi . . . . . ʒ ij.
Spiritus ætheris nitrosi . . . . . ʒ i.
Aquæ . . . . . ʒ i
Elix. simplicis . . . . . ad ʒ iv.
M. S. One teaspoonful in water after meals

The mortality in the various forms of chronic renal disorders is very large, and they usually terminate in death sooner or later, unless the patient succumbs to some one of the numerous intercurrent complications. They vary considerably in duration, and, as they are slow and very insidious in their development, they may have existed for a long time before there were any manifestations of active symptoms. In many cases the progress of the disease is checked, and may remain stationary for an indefinite time, the patient having apparently recovered. In these cases the albumin and casts may disappear from the urine for a time.

An important element in the prognosis is the persistence of the albumin in the urine. If the quantity is large and there is marked œdema with great pallor of the face, the prognosis is unfavorable.

Melancholy. There is nothing which cheers up your spirits like a dose of Epsom salts. They have gone out of vogue, but a tacit compliment is, notwithstanding, constantly being paid to them, for people still find the efficacy of the more expensive bottled waters which contain the salt.—Charles J. Hare.

THE BLOOD COUNT IN ANÆMIA AND CERTAIN NERVOUS AFFECTIONS.

By Mary Putnam Jacobi, M.D.,

New York.

A few months ago, upon making the blood count in a patient affected with an hysterical vasomotor neurosis, I was astonished to find that the red cells numbered 8,084,444, and the white 102,222. On previous occasions the results of a similar examination had been very different. Thus, on October 18th, the red cells were 2,680,000; on November 12th, 3,892,000; on December 16th, 3,393,000—white, 60,000; on January 6th, 3,215,555—white, 22,222; on January 20th, 5,480,000—white, 51,000. The abnormally high count was taken on December 11th, thus midway between counts of three million plus.

On consulting the records of other apparently anæmic and certainly nervous patients, I found that the microscopic proofs of anæmia upon which we have become accustomed to rely were lacking in a number of cases. Thus:

a. W. November 4th, 5,109,077.

b. A. S. November 11th, 5,948,800; anæmia, dysmenorrhœa without endometritis, chronic mucous colitis.

c. H. November 18th, 5,704,400—white, 37,000: hysterical ovaralgia.

d. D. March 13th, 6,660,000—white, 37,777; exhausted school teacher, great pallor.

e. H. March 3d, 5,100,000—white, 8,400; neurasthenic college student.

In other cases, and after a brief period of medication with iron or other drugs, the red corpuscles increased with great rapidity, and quite out of proportion to improvement in the conscious well-being of the patient, even when this was observed to some extent. Thus:

a. W. November 4th, 5,109,077, placed upon a beef preparation without other treatment. December 2d, red cells were 6,128,888.

f. B. December 9th, the red cells were 4,424,000—a number which corresponded with the signs of anæmia presented by the patient. On February 2d, the red cells were 5,695,500, yet the patient was only moderately improved, the treatment prescribed having been carried on very irregularly.

g. E. A case of profound and constitutional anæmia from childhood. On October 21st, red cells, 2,974,000. October 28th, a day or two before menstruation, and after a week of peptomangan, the cells had gone up to 4,898,000. On December 2d and 30th, the counts were over 5,100,000 each time, but the condition of the patient had changed very little. On January 6th, when she had been suffering rather more than usual from headache, drowsiness, and sense of fatigue, the red cells numbered 5,151,100.

This discrepancy between the clinical symptoms of anæmia and the results of the test with which the brilliant invention of Malassez has enriched the resources of the physician, has attracted the attention of several observers, but has been variously interpreted.

Dr. Robert Edes, in a paper on the nutrition of neurasthenics, published in the last volume of the Transactions of the Association of American Physicians, observes that "the nerve centres have a nutrition of their own, and receive according to their own requirements a larger or smaller share of the nutriment offered by the general circulation. . . . The nervous substance can select and utilize from a solution bearing the appropriate pabulum, in quite widely varying degrees of dilution, enough to carry on its ordinary functions without exhaustion." And conversely, according to Dr. Edes' estimates, neurasthenics

may gain in weight, while nevertheless their nervous symptoms remain quite unimproved—a statement which runs counter to the doctrine at the basis of Dr. Mitchell's celebrated essay on fat and blood.

Dr. Edes' paper records no blood counts, but contains a table of estimates of hæmoglobin, which would seem to show that a fair degree of health was compatible with a much lower percentage of hæmoglobin than is usually supposed. It is regrettable that, in pursuing this special line of thought, Dr. Edes had not investigated the apparent richness of the blood of his neurasthenic patients, in regard to the red and white corpuscles. As he has not done so, his paper touches upon the subject of the present note only by the single suggestion that the nutrition of the nerve centres does not necessarily proceed on parallel lines with that of the somatic tissues, including the blood, but may be fairly active when the latter is imperfect, or depressed when the blood is rich and other tissue than nervous is well-nourished.

Dr. J. K. Mitchell, in an essay in the *American Journal of the Medical Sciences* in 1894, notes that many neurasthenic cases presented a full normal or even a supranormal corpuscular count, together with a good percentage of hæmoglobin, and nevertheless showed every external sign of poverty of the blood; namely, pallor of the skin and mucous membranes, cold extremities, anorexia, indigestion, dyspnœa on trifling exertion. The interpretation of this paradox offered by Mitchell is either that the total volume of the blood in the body is reduced, or, in some hitherto inexplicable way, the usefulness of the corpuscles is impaired. On the current view that the function of the corpuscles is unique, that, namely, of carrying oxygen to the tissues, it is difficult to suppose that their "usefulness was impaired," while their amount of hæmoglobin—as shown by the color index—remained normal. The capacity of tissue elements—especially of the neurons of the nerve centres to appropriate oxygen—probably varies within wide limits, but such variation does not necessarily imply incapacity in the oxygen-carrying elements themselves. The suggestion that the total volume of blood may be reduced, while the corpuscular richness of each cubic millimetre is yet maintained, seems to me interesting and fruitful, however difficult to prove.

It is, however, rather surprising that Dr. Mitchell's attention has not been attracted to an element in the problem which his own experiments should serve to emphasize rather pointedly—I mean the degree of concentration of the blood drop at the moment of observation.

In thirty-five persons, some healthy but most neurasthenics, Dr. Mitchell examined the blood before and immediately after an hour's general massage. The uniform result of the massage was to cause a very marked increase in the number of red corpuscles—sometimes also in the white—the hæmoglobin suffering little change.

MITCHELL.

	Before Massage.		After Massage.	
	Red.	Hæmoglobin.	Red.	Hæmoglobin
Healthy	5,675,000	110	7,950,000	120
Neurasthenia	5,150,000	75	5,600,000	72
Simple anæmia	4,275,000	....	5,450,000	
Hysterical torticollis (appallingly anæmic)	5,900,000	...	6,750,000	
Neurasthenia (dysmenorrhœa)	3,637,500	55	6,025,000	60
Toxic anæmia (chronic lead poisoning)	5,000,000	100	5,925,000	
Neurasthenia following dysmenorrhœa	5,612,500	....	8,062,500	

Oliver, in a Croomian lecture for 1896, comments upon Mitchell's observations, and remarks rather slyly that it is natural that physicians who have used massage a great deal should want to interpret such phenomena at once as a proof of therapeutic improvement, which they are not, although indicating changes which may result in improvement. For massage, like several other agencies whose effects have also been carefully studied, does not directly affect the composition of the blood, but the tension of the walls of the blood-vessel. As the lumen of the latter diminishes the pressure of the intravascular fluids increases, with the consequent force of transudation of the latter into the intervascular spaces. With the rise of tension in the arterioles, the transudation of the fluid portion of the blood through the capillaries increases, the capillary blood becomes therefore more concentrated, the proportion of corpuscles to the cubic millimetre rises, although their absolute number is by no means increased.

Text-books like Cabot's lay stress on the necessity of correcting a blood count, under circumstances which should cause a general depletion of the watery parts of the blood, such as a profuse diarrhœa or a Turkish bath. Cabot maintains with less emphasis the agencies which cause an apparent concentration of the blood by constricting the small blood-vessels, as cold, pain, the suprarenal extract. Winternitz[1] has demonstrated after cold baths a special increase of the white cells, which rise from a proportion of 1–400 to 2–3, with the same amount of red. Oliver observed a marked increase in the proportion of the red blood corpuscles in any limb in which vigorous muscular contractions had been effected, either through volition or by the faradic electricity, and attributes the polycythæmia to the stimulation of the lymphatic circulation, with augmented exchange of fluid from the blood to the tissues and consequent concentration of the blood.

Cheron[2] similarly interprets the marked effects of massage, dry friction, and static electricity, which within ten minutes, he says, caused in one case a rise of red corpuscles from 2,430,000 to 4,080,000. Long ago Vigoroux described a similar result of static electricity, and adduced it as a proof of the rapid effect on nutrition of this agent. It is evident that justly to estimate such effect, the observation must be made at least twenty-four hours after the static electricity shall have been applied. In fact, in all cases in which high vascular tension is known to exist, a high proportion of blood corpuscles to a given cubic millimetre of blood cannot be accepted as satisfactory evidence of the composition of the blood. Polycythæmia is frequently observed in chronic interstitial nephritis, as also in chronic gout; and to this same high arterial tension is probably to be attributed the apparent corpuscular richness of the blood of many neurasthenics, especially the so-called lithæmic neurasthenics. Possibly the leucocytosis assigned to gout is similarly apparent rather than real.

Oliver marks the improvement of patients, not by the absolute rise or percentage of the blood corpuscles, but by the rise of the blood decimal or color index. This is found by dividing the percentage of the red cells, calculated on a basis of 5,000,000 as normal, into the percentage of hæmoglobin, as calculated on the Fleischl or Gowers scale:

	August 3d.	August 7th.	August 13th.	August 23d.
Corpuscles	110	98	90	87
Hæmoglobin	105	96	91	96
Blood decimal	0.95	0.98	1.0	1.09

The prompt influence of any vasoconstricting agency in causing an apparent increase of blood cells is shown

[1] Centralblatt für klinische Medicin, 1893, p. 177.
[2] Comptes Rendus de l'Académie des Sciences, vol. ii., 1895

by a pretty experiment of Cheron's. Having made the blood count of a fairly anæmic patient, he injected hypodermically five cubic centimetres of a one-per-cent. solution of common salt. The blood count taken immediately after showed a rise from 2,480,000 red cells to 4,080,000. Simultaneously the arterial pressure rose from eleven centimetres to sixteen centimetres. "Every stimulation of a large sensitive surface determines," says Cheron, "the same phenomenon in anæmic subjects. Thus in the ascension of mountains or under the prolonged influence of high altitudes, in consequence of the immediate stimulus of the central nervous system, the entire vascular system reacts, the muscular coat of the vessels contracts, the total capacity of the circulatory system diminishes; the liquid part of the blood, forcibly compressed, escapes into the perivascular tissues, and the red corpuscles, bathing in a less quantity of liquid, appear much more numerous in a given space. There is not then a sudden hyperglobulia, but the result of the concentration of the blood. Probably many anæmias, if not all, are really hydræmias, consecutive to a sort of vascular paresis or neurasthenia." I repeated Cheron's experiment on a patient whose blood count gave 4,433,333 red corpuscles and 6,222 white, the hæmoglobin being seventy-five per cent. After the salt injection the count was 5,620,000 red cells, 57,777 white.

With these data I return to my patient with the amazingly high blood count, both in red and white cells, and note that the prominent symptom in her case at the time of observation had been an extreme vasomotor irritability manifested by frequent chills; also hysterical nervous attacks which seemed attributable to vasomotor spasm of the cerebral blood-vessels. There was marked contraction of the visual field. These symptoms had been particularly marked at the time the blood counts in question had been taken. I inferred that the richness of blood was only apparent, and due to its concentration through narrowing of the lumen of the superficial blood-vessels by increased vasomotor tonicity or spasm. A count was made, but only of the white cells. After two weeks' sojourn at Altantic City, and when the patient was feeling perfectly well, all the vasomotor symptoms having for the time disappeared, the white cells then numbered 4,400.

The possibility of such an occurrence considerably confuses the estimate of the state of the blood which can be made clinically in neurasthenics. In them vasomotor irritability is so common that, in view of the above considerations, it must remain difficult to decide whether a given neurasthenic be or be not anæmic.

Observation of the contemporaneous sphygmogram may serve to correct the blood count, for if the sphygmogram show a high pulse tension in a person with clinical signs of anæmia, yet a high blood count—precisely such cases as are commented upon by Mitchell with surprise—the phenomena may be attributed to vasomotor irritability, which is itself an expression of a marked anæmia. This combination of conditions is to be anticipated in the numerous cases of neurasthenia associated with or dependent upon lithæmia. On the other hand, the rapid improvement in the blood count that is sometimes observed, even in a few days after the use of certain remedies, may depend not on any real increase in the number of blood cells, but on an increased tonicity of the small blood-vessels.

When the blood is locally concentrated through vasomotor spasm, the white cells must be affected together with the red, and in the cases I have cited an apparent leucocytosis did indeed coincide with the apparent polycythæmia. One of these patients, a woman aged thirty-nine years, showed symptoms of a premature menopause, and in her blood the proportion of white cells always remained very high, even when, apparently together with vasomotor relaxation, the proportion of red cells fell. It has occurred to me that leucocytes may always tend to accumulate in the blood when their normal periodical derivation through the adenoid tissue of the endometrium is interrupted, and that in some way such a leucocytosis would help to explain the nervous phenomena which are so common at the menopause, especially if, spontaneously or through surgical interference, this be prematurely induced. But this, as Mr. Kipling would say, is another story.

BACTERIOLOGICAL DIAGNOSIS OF TYPHOID FEVER.

By JAMES H. REILLY, M.D.,

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When Stillé and Gebhart, of Philadelphia, and Louis, of Paris, differentiated between typhoid and typhus fever, and gave, as a more correct term for typhoid, enteric fever, it was thought there was little else if anything to learn as to its pathological anatomy; but since the advent of bacteriological research, we have been confronted with so many conditions foreign to our idea of enteric or typhoid fever, that the question might well arise, What is typhoid fever? Certainly our ideas of typhoid fever will have to undergo a change, in the light of modern bacteriological research.

Heretofore we have always associated with typhoid or enteric fever an ulcerated condition of the patches of Peyer, more or less diarrhœa and elevation of temperature, and other symptoms, such as epistaxis, gurgling in the right iliac fossa, characteristic tongue, and rose spots. Very true, that a great many cases were not of the classical type: very true, that a great many cases coming under the observation of intelligent physicians did not have all the so-called classical symptoms; some of the minor ones might be absent, but the course they pursued justified the diagnosis of typhoid fever.

What are the conditions that confront the clinician to-day? He is practically told by the bacteriologist that the symptoms he elicits from a patient, in the absence of bacteriological examination of the blood or some of the secretions, are of little value. In some cases this might be very true, but, so far as it refers to cases of so-called typhoid fever, it has not a tendency to give him that confidence which is essential to true research.

It would appear to the honest investigator that clinical symptoms should not be ignored in connection with bacteriological examination, but such is the case very often, and as a result we have the so-called peculiar cases of enteric fever reported, and by men eminent in the profession.

My purpose in writing this paper is not to discourage bacteriological investigation—far from it, I am a thorough believer in the germ cause of disease; but I do not think that the present tendency of some observers, in reporting cases of so-called enteric fever with no bowel lesion, as typhoid fever, merely on the finding of the bacillus typhosus, gives the clinician that confidence that is essential to honest and careful research. I do not mean to imply that we may not have other lesions than that of the intestines in typhoid fever. I appreciate how often we have to contend with a secondary infection of the respiratory tract and of the kidney; but I do contend that it is just as inconsistent to say that one may have typhoid or enteric fever according to the accepted pathology of this disease without any bowel lesion, as to say one might have meningitis with no involvement of the meninges.

Either the pathology of enteric fever will have to be

rewritten, or we shall have to enlarge our knowledge on the bacillus typhosus.

In 1890 Valliard, of Paris, in a paper before the Society of Hospital Physicians, reported a case of infectious disease in which he discovered the presence of the bacillus typhosus and the streptococcus, without there being any intestinal lesion. The history of the case was as follows:

"A young soldier, convalescent from slight grippe, presents successively great lumbar pain and cerebral excitation, with high temperature and abundant epistaxis. There soon follows coma vigil, with complete anæsthesia, contraction of the nape of the neck and of the muscles of the pharynx, and obstinate constipation, death occurring on the tenth day after a brief warning of cerebral symptoms. The autopsy revealed general congestion and localized œdema of the cerebral and spinal meninges. The lungs were congested, the spleen was swollen and softened, and weighed ten ounces; there were no alterations of the intestine. Cultures on different media were made with the splenic pulp, blood from the lungs, and part of the spinal marrow; they revealed a bacillus morphologically like the typhoid bacillus described by Eberth, Gaffky, Chantemesse, and Widal. Valliard claims that in this case typhoid fever ran its course without any enteric lesion, and asks why typhoid infection should not be able to exist without manifesting the usual intestinal lesions. Besides there was found in the spleen and meningeal exudates the streptococcus which has been described in cases of fatal grippe. The patient therefore succumbed to a mixed infection of the streptococcus and typhoid bacillus."[1]

Banti has reported a case of typhoid fever without any intestinal lesion, but in which the typhoid bacillus was found in the spleen and mesenteric glands.

Adnot cites a case of meningitis without any intestinal lesion, in which he identified (proof not positive) the bacillus typhosus.[2]

The deduction made from the cases reported by these distinguished observers is that typhoid fever is not a fever with the lesions confined to the intestines, but one of systemic infection primarily, with any of the serous membranes or organs of the body involved, and not alone the patches of Peyer, as has been taught since 1829.

Of all the unusual cases of typhoid fever that have come under my observation, in which the diagnosis was made on the discovery of the bacillus typhosus microscopically, not a single case did I find in which a biological test was made to differentiate it from the bacillus coli communis; and when we recall the fact that they cannot be differentiated morphologically, it seems strange that, in cases in which lesions were found so far remote from our understanding of typhoid lesions, the observers did not pursue their investigations further, and demonstrate without a doubt that the bacillus isolated was the typhoid and not the coli communis.

That the bacillus coli communis has pathogenic properties has been demonstrated without a doubt. In a paper read by Dr. Welch before the Maryland Medico-Chirurgical Faculty in 1891, and published in the MEDICAL RECORD the same year (vol. xl., page 720), he states that he found this bacillus in thirty-three of two hundred and fifty autopsies which he performed, and that all the subjects had dysentery, a diphtheritic condition of the mucous membrane, hemorrhages, ecchymoses, and typhoid ulceration.

In the MEDICAL RECORD (vol. xlv.) a case is reported by Dr. Hermann Biggs, demonstrating the pathogenic property of this bacillus also. The case is one of acute purulent pachymeningitis following a case of typhoid fever. At about the seventh or eighth week the meningitis suddenly developed and caused death.

Bacteriological examination of the exudate revealed pure culture of the bacillus coli communis. Valliard, in his unusual case of typhoid fever, a report of which I have given above, states that he finds the bacillus typhosus in the meninges, but does not state whether or not any means were taken to differentiate the bacillus found from the coli communis. The inference to be drawn is that this was not done. In Dr. Biggs' case we are not left in doubt as to the bacillus found, and in the future study of this bacillus this case will be of interest, while in the case reported by Valliard, as well as in about all of the so-called atypical cases of typhoid fever reported, no positive deduction can be drawn, and consequently they will not help in the study of this disease.

The method most generally used to differentiate the bacillus typhosus from the coli communis is known as the Ellsner method. This consists in the preparation of a culture medium upon which no species of micro-organism can grow, except the typhoid bacillus and the bacillus coli communis. Such a medium is prepared as follows: To half a kilogram of chopped potatoes add one litre of water and boil for one and one-half hours; strain through a cloth, and add ten per cent. of glycerin; the degree of acidity of this mixture must be such that each 10 c.c. shall require 2.5 c.c. of a decinormal soda solution to neutralize it; one per cent. of potassium iodide is finally added, and the medium is completed; the potassium iodide should not be added until shortly before use. Upon this medium nearly all micro-organisms, except the bacillus coli communis and the typhoid bacillus, either do not grow at all or are greatly inhibited. At the end of twenty-four hours the colonies of the colon bacilli can be easily found with the aid of a low-power objective, while those of the typhoid bacilli are scarcely visible. At the end of the forty-eight hours the colonies of the typhoid bacillus appear as small, very finely granular points, while those of the colon bacillus are larger, coarser, and more highly colored.

As this is apparently a simple procedure, one might think that there should be no trouble in differentiating the bacillus typhosus and the colon bacillus, and the fact is that there would not be if the character and growth of the colonies in apparently the same media were not subject to variations; to overcome this objection, and in an attempt to establish a broad and practical differentiation between these two forms of organisms, based on their growth peculiarities in semisolid media, especially media becoming semisolid between 30° and 40° C., Dr. Philip Hansen His, assistant bacteriologist to the New York City health department, after a series of experiments, has devised the following method for their differentiation by the culture method:

An agar-gelatin mixture of 0.5 per cent. agar and 8 per cent. gelatin was adopted as a stiffening-basis. The first medium of this kind tried contained 0.5 per cent. meat extract, 0.5 per cent. common salt, 2 per cent. peptones, and 1 per cent. glucose, and showed a reaction of 1.5 per cent. acid to phenolphthalein.

The inoculated tubes were allowed to remain in the incubator at 37° C. for twenty-four hours; the cultures of bacillus typhosus showed a uniform clouding of the medium, extending completely across the tube and downward to an even base to a varying extent depending upon the time and depth of the puncture, but generally becoming completely clouded in twenty-four hours. The growth along the line of puncture was hardly more dense than throughout the rest of the medium.

The colon culture, on the other hand, developed a growth only along the lines of inoculation, at times

[1] MEDICAL RECORD, vol. xxxviii., p. 179.
[2] *Ibid.*, p. 180.

with some outspreading of isolated colonies. Later, in some parts of the medium, a local clouding sometimes developed. Gas was formed, and in the wake of ascending bubbles streaks and patches of growth occurred, giving in twenty-four to forty-eight hours a medium generally clear with a varying number of these patches scattered throughout it.

Dr. His has also demonstrated a method of plate culture and various differential tests for the identification of the bacillus typhosus, and those who would like to investigate this subject I would refer to his original article in the *Journal of Experimental Medicine*, vol. ii., No. 6. I would also state that the His test is now used in connection with the Widal test, by the health department of the city of New York.

As to the Widal test for diagnosing typhoid fever, I will say that we have heard its merits discussed from various standpoints during the past year; we have also observed, from the reports of many observers during the past year, that their success was varied. I think no fairer value can be accorded the test than that given it by Dr. Gilman Thompson,[1] who draws the following conclusion from the study of five hundred cases in which the Widal test was applied:

1st. While the test is positive in the large majority of cases of enteric fever, and negative in the greater number of other diseases, there is a margin of error of eleven or twelve per cent. on each side of what might be termed the normal line between cases in which the test fails when it ought to succeed, and those in which it succeeds when it ought to fail, in order to make it of real clinical value.

2d. This total of twenty-three per cent. possible error unfortunately includes just those cases in which there is a greater doubt upon the purely clinical side.

3d. As a genuine diagnostic aid, the test has about the value of the diazo reaction in typhoid fever or the study of leucocytosis in pneumonia; that is, it is confirmatory in connection with the appropriate symptoms, but misleading if positive reliance be placed upon it.

4th. The fact that an expert bacteriologist is required to make the test is offset by the ease of transportation of dry blood, which long retains the power of reaction, and it is greatly to be hoped that further possible improvement in technique may place this most ingenious test upon a firmer practicable basis than can at present be claimed for it.

Vaughan states that there are reasons for believing that too much reliance has been placed upon the Widal test, and that normal blood serum will often have a similar effect upon the typhoid bacillus, and that the difference in behavior between the typhoid and colon germs toward the blood serum of typhoid patients is not so marked as has been generally believed.[2]

It has been claimed by Rodet and Roux, of Lyons, that the bacillus coli communis and the typhoid bacillus are varieties of the same species. If this be true, the pollution of drinking-water with normal fæces may cause typhoid fever; it is therefore evident that a positive decision on this point is of great importance.

Attempts to reach such a decision were first made by rendering animals immune to one of these germs, and then ascertaining whether or not this immunity held good against the other. The results reached by experiments of this kind were contradictory. Sanarelli and Demell and Orlandi found that animals immunized against the typhoid bacillus were also immune to the colon bacterium, and those protected in like manner to the latter became immune to the former.

These investigators reached the conclusion that the products of these germs are biologically equivalent. On the other hand, Neusser found that animals protected against from twelve to twenty times the ordinarily fatal dose of the typhoid bacillus died when treated with from two to three times the usual fatal quantity of the colon bacillus, and that those immunized against from ten to twelve times the fatal dose of the colon germ succumbed to three times the fatal quantity of the typhoid bacillus.

A second method of studying this question is founded upon the discovery of Pfeiffer, that the blood serum of the animals immunized against the typhoid or cholera bacillus protects other animals against the germ used in securing immunity, and not against others; *i.e.*, that the immunity is specific. The typhoid bacillus has been compared with the colon germ by the application of this test. Experiments of this kind have been made by Pfeiffer, Loeffler and Navel, Dunbar, Frank, and others. All have reached similar results.

The blood serum of animals rendered immune to one of these germs does not give equal immunity against the other. In other words, judged by this test, the typhoid bacillus cannot be regarded as a variety of this germ.

It is a well-known fact that the typhoid bacillus has not met all the requirements of Koch's law (the fulfilment of which he considered as necessary in order to identify an organism as the etiological factor in a given disease), which are as follows: The constant presence of the organism in the affected tissue of the diseased animal, its isolation from the pathological lesions, and its continuous cultivation in pure cultures under artificial conditions through many generations, the power of such cultures to reproduce the disease when inoculated into susceptible animals, and the detection of the organism in the lesions found in the animal thus inoculated.

Notwithstanding the fact that the bacillus of Eberth has not fulfilled this one essential requirement of the Koch law, it has been generally accepted as the particular micro-organism which produces the disease. But when we find this bacillus associated with lesions so far remote from our general understanding of enteric fever, a doubt might well arise whether we have in the Eberth bacillus the bacillus typhosus. On the other hand, considering the element of uncertainty which there has been in the Ellsner method of differentiating between the bacillus of Eberth and the coli communis, the question might still arise, "Was the bacillus isolated, in the cases reported of enteric fever without any bowel lesion, the bacillus of Eberth or the coli communis?"

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[1] British Medical Journal, December 18, 1897.

[2] "Twentieth Century Practice of Medicine," vol. xiii.

The Treatment of Hemorrhoids, Dittel's Method.—Dr. Zuckerkandl (*Wiener medizinische Presse*) recommends Dittel's elastic ligature, after employing it with good result in two hundred and sixty-nine cases, as a simple and radical means. General anæsthesia is not necessary; the Schleich infiltration anæsthesia suffices to deaden the pain. The operation is applicable only for internal hemorrhoids with prolapse of the mucous membrane. By pressing, the patient forces the masses as far out as possible: then with a polyp forceps curved on the flat and directed by the index finger of the left hand the pedicle is grasped and the forceps are twisted to an angle of ninety degrees. This procedure develops the hemorrhoid, which is then tied off with tensely stretched elastic ligatures. Three or four such ligatures are sufficient. After from eight to ten days the ligated masses necrose and fall off, leaving a clean granulating wound, which heals in as many more days.

[1] "Twentieth Century Practice of Medicine," vol. xiii.

THE ADVANTAGES OF VAGINAL SECTION FOR PELVIC SUPPURATION AND CIRCUMSCRIBED HEMORRHAGE.[1]

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An acceptance of the invitation conveyed through our worthy president to prepare a paper on abdominal surgery, with the object of creating a general discussion to be participated in by the surgeons from the many regiments in camp, would have placed me in the position of practically duplicating my paper recently read before the Florida State Medical Association, many of the members of this society being present at the time.

I have chosen instead, as a suitable theme this evening, a branch of operative gynæcological work comparatively new, demonstrating, through individual clinical work, the advantages of vaginal incision under limited conditions, and also as an exploratory measure for the purpose of differential diagnosis. To decide always upon the proper operative procedure to adopt and which will be for the good of the patient, at the same time accomplishing the best results, is not always an easy matter. To follow blindly also in the train of any group of enthusiasts is at all times injudicious. From a personal experience of thirty-four cases, and having assisted other operators at fully as many more in New York City, the advantage is given me of surveying an area far beyond the horizon of my own individual efforts.

No department of surgery has progressed more rapidly than pelvic surgery by vaginal section, for but a few years ago nothing short of an abdominal section could be entertained when pelvic suppuration and hemorrhage, whether tubal or otherwise, existed. It is true that when Péan, Jacobs, Segond, and other French surgeons entered into the treatment of suppurating appendages by removal of the uterus in connection with pus tubes, by vaginal section, they met with greater success in the more serious cases than by abdominal section. Their argument was that as the appendages were diseased beyond recall the uterus was of little if any service by itself, it being considered in the nature of a foreign body demanding removal. A reaction has since set in, it being the experience of surgeons more conservative that, in many cases of suppurating appendages or pelvic suppuration, the condition can practically be eradicated and the patient cured by a measure much less formidable—vaginal incision and drainage. In some instances, when the minor operation is but a relief measure and not a cure, the local conditions may be so changed that a subsequent operation for removal of the appendages and uterus would not be relatively dangerous. It is needless to open the peritoneal cavity, and there is much less danger in operating per vaginam, if success can be attained as well by so doing.

Vaginal section, having for its object the breaking up of adhesions and thus the removal of vague pelvic pains, was done by me eight times, complete success attending in six instances with disappearance of the pain, adhesions with consequent pain recurring in two.

As an exploratory measure and as a means of differential diagnosis—the character of the neoplasms with accompanying adhesions making the diagnosis otherwise uncertain—vaginal section was performed six times. In two instances the neoplasm was diagnosed as of malignant character.

Operation by the inexperienced is little to be preferred to expectant measures of treatment. It is to be remembered that the condition present is often one that requires a sharp eye and a delicate touch—an educated index finger, in fact—and that success is attendant upon skill obtained by practice.

We will assume that the general aseptic principles governing the preparation for any operation have been taken preliminary to operation. The uterus being drawn down by a double tenaculum or volsellum, a longitudinal or semicircular incision is made through the vaginal tissue into the posterior cul-de-sac by means of a scalpel, the forefinger carried within the incision with a boring motion, the abscess or hemorrhagic sac entered by means of sharp-pointed scissors, and the contents are then removed. A protective wall of lymph, which nature has built up, protects the abdominal cavity in almost every instance from more serious complications. If multiple in character, all pockets must be felt for and freely opened. If a pus sac be the case, either tubal or ovarian, and adhesions to the uterus or rectum be present, the adhesions must often be broken up to anticipate the remote as well as the immediate good effects of the operation. The cavity, after evacuation of the contents, may be thoroughly swabbed out or irrigated, as the case may demand, followed by the introduction of strips of iodoform gauze, which should be packed not too firmly, the vagina retaining the excess of gauze. After remaining in place from two to four days, the dressings may be renewed once or twice, as the case may be, and if the contents have been thoroughly removed and good drainage has been secured, convalescence is usually rapid. The instances are not many, comparatively speaking, which require entering of the abdominal cavity, though the fear of this should not deter one in the least in his efforts to do a thorough operation, ideal drainage being the requirement and the danger of infection correspondingly diminished. The incision should be large and free, thus avoiding probable premature closing and the necessity for a second operation. Ligatures are usually unnecessary, forceps and torsion being the chief dependence.

The adoption of the Trendelenburg position in operating by the vagina has facilitated and rendered possible results in cases in which otherwise such would not have been.

Though a pus tube or ovarian abscess may be successfully treated by vaginal incision and thorough drainage, it is not to be expected that all cases are entirely cured by this method, improvement usually more or less marked merely following in some instances.

The chief advantage of vaginal incision and drainage is that it lessens the seriousness of operation by abdominal section, and when the indications are such that the operation can be done thoroughly there is no question that it is much to be preferred to the abdominal route.

In this connection I desire to report the two following cases as examples of the two conditions referred to in the paper:

Mrs. J——, aged twenty-six years. Diagnosis of pelvic abscess, retro-uterine; bulging inward of vault of vagina, posteriorly and laterally; exquisitely tender to the touch. Fixation of uterus considerable. Temperature, 103.2° F. History of gonorrhœal vaginitis and endometritis. Free incision through posterior vaginal wall into abscess sac, and contents evacuated; cavity gently curetted, irrigated with hydrogen-peroxide solution, and packed with iodoform gauze; subsequent drainage excellent, and closure of the wound at end of second week.

Mrs. X——, aged twenty-one years, married two years. Encysted hæmatocele, attended with suppuration, the result of ruptured ectopic gestation ten days previous to operation. Patient gave a history of sharp

[1] Read at a meeting of the Duval County Medical Society, Jacksonville, Fla., June 7, 1898.

pain in the left side of the pelvis some ten days previous to my being called into consultation. No history of pregnancy obtained, patient having menstruated regularly, though her last menstruation had been intermittent and prolonged, but not increased as to quantity. Temperature, 102.6° F.; pulse, 130. Upon examination a diagnosis of pelvic abscess, the size of a grapefruit, was made, although a suspicion of ruptured tubal pregnancy was entertained. Advised immediate operation. Incision into the sac let out a quantity of grumous liquid, blood clots, and broken-down tissue, which, when subsequently examined with the microscope, proved to be decidual tissue. Hemorrhage was considerable, to check which three serre-fine forceps were used, which remained on the sac wells for forty-eight hours. The patient made an excellent and uneventful recovery.

Ectopic or tubal gestation is of more or less general interest, inasmuch as one may at any time be confronted with this condition, and if rupture takes place and such remains unrecognized or unoperated upon, the result may be an untoward one. The hemorrhage may be into the folds of the broad ligament, or into a space formed by pre-existing adhesions—extraperitoneal and circumscribed in character; or free into the peritoneal cavity — intraperitoneal type, which does not concern us in this paper, except to state that it is almost invariably fatal if surgical interference by abdominal section be not immediately resorted to.

GONORRHŒAL PYELITIS AND PYELONEPHRITIS.[1]

By J. HENRY DOWD, M.D.,

GENITO-URINARY SURGEON TO THE BUFFALO HOSPITAL AND TO THE HOSPITAL OF THE SISTERS OF CHARITY, ETC.

Pyelitis or pyelonephritis, when secondary to gonorrhœa, and especially in the subacute or chronic stage, seems not to be recognized as readily as it should. The only excuse that can be offered is that authors say so little about it, some almost questioning such a malady being due to gonorrhœa in any stage.

Finger says: "This rare complication of gonorrhœa is also the least known;" but, on the other hand, Morris says: "Pyelonephritis, when secondary to disease of the bladder, is too often unrecognized until found at the post-mortem examination." Stimson[2] says: "In certain forms the affection may exist for months or even years, without giving rise to symptoms that attract much attention and without seriously affecting the health of the patient." The above statement is indisputable, and explains why such a condition can complicate a gonorrhœa without giving evidences of its existence. An individual is rendered a chronic incurable invalid, liable at any time to the serious complication of pyelonephritis, ending in the loss of one of the most important organs of the body. The misleading point has been in assuming that an inflammation of the bladder must precede an involvement of the kidney pelvis. I have in a number of cases found the bladder free from any involvement, the cystoscope showing only one or two reddish streaks, apparently under the mucous membrane, extending from the urethral to the ureteral openings. The condition appeared to be simple extension by the lymphatics, and not by continuity. As regards the symptoms, there seem to be two extremes—one where the onset is scarcely noticeable by the patient or his attendant, and the other where severe local and constitutional disturbances manifest themselves.

A daily visual, or possibly microscopical, examination of the urine from a gonorrhœal case is an absolute necessity. The microscope, however, is the only positive means of determining the involvement of the pelvis when the process is unaccompanied by severe constitutional symptoms. A chill, high fever, and full, bounding pulse, with excruciating pain in the back, may or may not be the first symptom present. There is frequency of urination, and if the secreting portion of the organ is involved the urine may be decreased in quantity to twelve or fourteen ounces in twenty-four hours. The face at times shows the effects of the involvement of these important organs. Great pallor, most anxious expression, twitching of the lips, and, in one case lately seen, purpura hæmorrhagica almost covering the entire upper part of the face are the symptoms noted. There is great prostration, the patient at times, owing to this and the pain, having to take to his bed. The urine is the only positive means of diagnosis, but the examination of it must be thorough. Blood is usually present, but at times in such small quantities that only a three-minute centrifugalization or the microscope will reveal its presence. Casts will generally be found—if not tubular, mucous cylinders showing kidney congestion. The pelvic epithelium, especially if in shingle-like form with clumping of the pus cells, is the most positive indication of pelvic involvement. Hyperacidity, with albumin in excess of that due to pus, is a constant condition. As the inflammation becomes chronic, anæmia, flabbiness of the muscles, nervousness, constant brooding about one's self, nightly calls to urinate, and a long train of other symptoms arise. It is not my purpose to speak of any but the acute condition, for it is only in this that a permanent cure can be hoped for. These patients can be cured if they are discovered early and heroic measures are used. Confinement to bed with milk diet is indispensable.

As a routine measure it is advisable to place several dry cups over each loin, and the bowels should be made to move every day. The main indications sought for with drugs are to lower arterial tension, increase the quantity of urine, rendering the same as unirritating as possible, and act on the pelvic and renal mucous membrane with an astringent. The above are carried out nicely and effectively by the administration of aconite, lithium citrate, and hamamelis, in large doses every three or four hours in a glass of water, preferably distilled. If the case is discovered early, recovery is prompt, even though the tubules have been extensively involved.

The urine should be watched for some time thereafter, as an indiscretion in diet or malt beverages may bring on a relapse; in fact, all food rich in the oxalate of calcium and liquors, except possibly a little light wine, should be avoided for months. A brief history of two cases will show the extremes to which the symptoms may manifest themselves.

Case I.—E. C——, referred to me in March, 1898, with a first gonorrhœa of two months' duration. Examination showed a free discharge; right epididymis swollen; both glasses of urine containing pus; no albumin, sugar, blood, or casts; no history of Bright's or any disease that would favor such a condition. Under appropriate treatment the discharge quieted down at once and the urine cleared. On the fifth day I noticed the upper part of the face and forehead covered with dark red blotches (purpura). The urine was very red, and upon examination I found an immense quantity of tubular casts, blood corpuscles, renal and pelvic epithelium. There was no doubt of the diagnosis of ascending pyelonephritis, and without a symptom noticeable to the patient, except possibly the dark red spots already referred to. When I closely questioned him as to the amount of urine passed, he said that for half a day he had made but very little water. It must be remembered that I saw this patient only twenty-four

[1] Read before the surgical section of the Buffalo Academy of Medicine, 1898.

[2] Morrow's "System of Genito-Urinary Disease."

hours before the examination that revealed the casts, etc. The before-mentioned treatment was at once ordered and examinations of the urine were made daily; not a cast or pelvic cell could be found on the fifth day. It is now about three months since the attack, and frequent examinations have failed to show any change.

Case II. will show the most aggravated symptoms. M. S——, gonorrhœa in 1886, no cystitis or epididymitis. Second attack in 1891; cystitis, but after a long siege entire recovery. Third attack in 1893. For two years there was blood following urination, when he was suddenly seized with severe pain in the left groin; the urine was thoroughly mixed with blood, and the patient had to pass the same every hour or so. As I did not see this case until about a year later, it is impossible to speak as to involvement of the secreting portion of the kidney, but on my first examination I found clumping of the pus cells and pelvic epithelium in shingle-like formation, the urine being cider-like in appearance, due to the pus. Deep pressure over the left loin caused slight pain, and cystoscopic examination showed a free discharge of pus from that side (left kidney). His mother having died of phthisis, a careful examination was made for tubercle bacilli several times, but none could be found. This case is incurable on account of its chronicity.

Of four or five cases lately seen by me, this is the only one that had any symptoms of cystitis and in which the cystoscope showed any bladder involvement. Several other cases showing symptoms even less pronounced than the first might be cited, but I think the above will suffice to show that it is always well to be on the lookout for serious conditions which can arise during the course of a gonorrhœa.

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Progress of Medical Science.

Tuberculosis of the Kidney.—Speaking of the disease generally, Dickinson states that both kidneys are affected as often as one kidney alone, and only one case in seven occurs in which the disease does not affect other organs. Aldibert has collected twelve cases of children in whom nephrectomy was performed. Of these nine recovered and four died, two of the deaths not being traceable to the operation or to the original disease. No recurrence had taken place in one at the end of eight years, and none in another after three. Gross' tables give twenty instances of removal of the kidney at all ages for scrofulous disease; twelve patients recovered; eight, or forty per cent., died. Tubercle was limited to one kidney in only sixty-five per cent. In eight cases of preliminary nephrotomy relief was not afforded, so that this proceeding is not recommended. Morris, on the contrary, recommends that nephrotomy should first be tried in cases that are not advanced, in the hope that it may check progress by opening and draining the abscess cavity. Nephrectomy may be performed later if strength improves or if lardaceous disease threatens. He adds: "It is in the scrofulous kidney especially that we so much need the means of ascertaining the working-capacity of the other kidney, and it is in these cases also that the difficulty of doing so is almost insuperable." Gross, from this point of view, recommends the operation in an early stage by means of a ventral incision, by which both kidneys can be examined, and of which he states the mortality to be 14.28 per cent. against 53.84 per cent. by lumbar method. Newman's tables, published in 1888, record two cases of nephrotomy for this condition in children, both of whom ultimately recovered, though one (Morrant Baker's) subsequently had the kidney successfully removed; and five cases of nephrectomy, four of which ended in recovery. To these may be added a case of Wright's, in which at intervals nephrotomy, cystotomy, and nephrectomy were performed, the child dying with much ulceration of the bladder; and a case of Eve's, in which, in a child aged three years and nine months, nephrotomy was first performed, and seventeen days later the kidney was removed through a prolonged incision. The child recovered and was in perfect health seven months later. In the light of these results, it would seem that when abscess is large nephrotomy and drainage should first be tried, and later nephrectomy; but when indications of an early state of disease are tolerably certain, the two kidneys should be examined by means of a ventral incision, and if one be found healthy and the other extensively diseased, the latter should be at once removed.—John H. Morgan, The Lettsomian Lectures on "Affections of the Urinary Apparatus in Children," *British Medical Journal*, February 12th.

On the Concurrence of Enuresis Nocturna and Adenoid Vegetations of the Nasopharynx.—Dr. A. C. Groenbeck (*Jahrbuch fur Kinderheilkunde*, 1897) in the year 1892 observed twenty-two cases of enuresis among one hundred and ninety-two cases of adenoid growth in the nasopharynx. He operated in thirty cases of adenoids associated with enuresis, with the following results: Twelve patients were completely cured; in two of these enuresis recurred simultaneously with a new growth of adenoid tissue; fifteen were improved, two only partially; three were unimproved.

Surgical Suggestions.

Alexander's Operation.—The ligament is drawn out as far as possible, and while it is kept on a stretch two sutures of fine catgut are passed through it and the pillar of the external ring on either side. Then sutures are passed on both sides through the aponeurosis, then through either half of the ligament parallel with its long axis, or out through the aponeurosis again near the point of entrance. When tied, these unite the ligament firmly to the aponeurosis without constricting the former. The operation is completed in the usual way.—Calmann.

To Extract the Intubation Tube.—With the child in position, thrust the left index finger past the epiglottis, hook this up, rest the tip of the finger upon the two arytenoid cartilages, and carry the extractor point to the end of the left index finger at the pulpy portion generally regarded the most delicately tactile. The finger tips upon the arytenoids mark the posterior boundary of the glottis in the median line. Now, if the extractor point be carried along the median line to the end of the finger and the handle be elevated, the point will naturally be pried forward, from the end of the left index finger on the arytenoids into the aperture of the tube.—Northrup.

Stricture of the Urethra.—A tapering metallic instrument presents many advantages in the treatment by dilatation: (1) It enables the surgeon rapidly to pass several sizes of dilators at one sitting; (2) the flexible beak is serviceable in changing the direction of the point, which is a little manœuvre often of great advantage in penetrating a tortuous stricture; (3) the bulbous extremity assists the operator in determining that penetration has been successfully accomplished. —John Ward Cousins, *British Medical Journal*, January 8th.

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SUNSTROKE AND ITS VARIED CAUSES.

SUNSTROKE, though known since early times, is even yet not well understood. The belief that to produce it the body, and particularly the head, must be exposed to the direct rays of the sun, has long since passed away, and it is now a matter of common knowledge that, although heat is the principal exciting cause, there are several other predisposing causes besides heat. Probably the foremost authorities on sunstroke are those surgeons in the British army who live or have lived in India, for the simple reason that they have there the best opportunities for observing the disease on a large scale. Sir Joseph Fayrer, one of the most eminent of these, in his monograph on the subject, says: "Under the designation of sunstroke, heat stroke, insolation, thermic fever, calentura, heat apoplexy, heat asphyxia, ictus solis, etc., a variety of morbid conditions from the simplest to the gravest are included. However these conditions may be modified by personal susceptibility, local surroundings, and climatic influences, they are all essentially due to heat, and are the result of a direct exposure to the rays of the sun or to a high atmospheric temperature in the shade." It may be said that the foregoing words express the universal opinion on the matter, but Dr. L. Sambon has quite recently promulgated a new theory as to the cause of thermic fever, in which the ever-active microbe plays the chief part. According to the distinguished Italian physician, thermic fever, or siriasis as he prefers to term it, is not heat fever at all, but a distinct infectious disease. He says: "I believe heat exhaustion to be nothing more than syncope and siriasis, a specific infectious disease." Again: "The idea that siriasis is due to excessive heat is greatly derived from the fact that it occurs during the hottest season of the year, but such an argument is manifestly illogical. Although siriasis be intimately connected with the hot season, it exhibits remarkable endemic characters. In one locality it is extremely prevalent, in another it is totally absent, though the region may be quite adjacent and under precisely similar climatic influences."

On the whole, Dr. Sambon makes out a strong if unconvincing case for the germ theory, and at any rate, be he right or wrong, his opinion must necessarily carry great weight. In the present state of things, however, interesting as the etiology of heatstroke naturally is, we are not so much concerned with the theoretical as with the practical side of the question. A large number of our troops will shortly be in the islands of Cuba and of the Philippines, countries in which the conditions are peculiarly favorable to the accident of heatstroke in one or other of its forms, and therefore it may not be out of place to cull from the writings of experienced men some precautions that should be taken to prevent its occurrence, as well as its treatment. Fayrer wisely remarks that "the principal object should be prevention. The clothing should be light and loose, and woollen material should be worn next the skin, as cotton or linen is decidedly harmful. The head and spine should be protected from the direct rays of the sun out of doors by a pith hat and a cotton pad let into the coat over the back of the neck and spine. The accoutrements should be as light as possible. Moderation in diet is especially to be enjoined; very little animal food should be taken, and the food, while sufficiently nutritious, should be light and unstimulating. Iced water, when procurable, should be drunk freely and frequently, and the greatest moderation in the use of stimulants should be observed; and finally strict attention should be paid to the bowels."

The treatment recommended in ordinary heat exhaustion is cold water dashed on the head and rest. For thermic fever, cold bath, cold affusions; quinine to be given internally, and, if quinine is not effective, phenacetin or some drug of a like nature. When insomnia is distressing hypnotics may be useful, but must be given with great caution, and opium avoided, if possible. But, although our soldiers in Cuba and the Philippines have our sympathy and have good reason to dread the heat, we must not forget that those on board a ship of war—and especially the engineers and firemen—are in this respect in a still worse plight. Of the fifty-nine cases of heatstroke that occurred in the United States navy in 1896, no less than forty of these were caused by heat in fire and engine rooms. Probably little can be done to ameliorate their condition to any extent or in the way of prevention, but a suggestion made by Dr. John D. Thomson might, if carried into effect in times of peace, be of benefit in treating cases of sunstroke. His idea is to have a room connected with the refrigerator, where the temperature could be gradually lowered and the atmosphere kept fresh and cool. We may, however, rest assured that, so far as the present war is concerned, the care of both our soldiers and sailors is in good hands, and that every necessary step will be taken to keep them in good health and to treat them efficiently when attacked by disease.

THE EARLIEST RECORDED DISCOVERY OF THERMAL SPRINGS.

THE science, or pseudo-science, as some hard-headed sceptics allege, of balneology is of comparatively modern development, although the empirical use of natural waters in the treatment of disease is of great antiquity. In former times, and even yet in certain places, the therapeutic efficacy of the waters was attributed to divine intervention. The curative action could not be explained logically by the temperature, the more or less nauseous taste, or the extraordinary

purity of the water; and so the cures obtained were regarded as miraculous, that being always an easy and perfectly satisfactory explanation of anything otherwise inexplicable. It is natural, therefore, that the first mention of thermal springs should be found in the religious records of the human race, and indeed this mention is made in the first book of the Bible, as we learn from a scholarly article by Dr. Prosser James, of London, which appeared some months back in the *Journal of Balneology and Climatology*.

Dr. Prosser James shows that the discovery was hidden from English biblical students through an amusing mistranslation in the King James version of the Old Testament. In the revised version (Gen. xxxvi. 24) we read: "This is Anah who found the hot springs in the wilderness as he fed the asses of Zibeon, his father." The Douai Bible has it, "hot waters," but the authorized version of the English Bible says that this was the Anah that found the "mules" in the wilderness, though why such a find of livestock should be regarded as so extraordinary as to entitle Anah to special mention among his fellows has never been apparent. We can readily understand, however, that the discovery of healing waters in a desert place should have been looked upon as an event of sufficient importance to serve as a distinguishing mark between this particular Anah and his uncle of the same name. There is some question as to the sex of this first of balneologists, but Dr. Prosser James proves quite satisfactorily that Anah was a man and one of the fathers-in-law of Esau. That the glory of having discovered a thermal spring, and not a few mules, properly belongs to Anah, is rendered still more probable by the fact that his second name and the one by which he was subsequently known was Beeri, derived from a word meaning well of water.

Having thus secured for Anah-Beeri the recognition of priority in this discovery, the author discusses the probable location of these springs, and comes to the conclusion that they were within the border of Edom, among the mountains of Seir. This range extends from near the head of the Gulf of Akaba to within about eight miles of the Dead Sea. In the chain of Seir there are many fertile valleys as well as uncultivated and uninhabited tracts, to one of which the word translated "wilderness" might well refer. Now "in this rugged mountain range," he says, "which has evidently been convulsed by the vast forces of nature, 'hot springs' would be likely to issue; and perhaps it was in one of these mountain valleys that Anah-Beeri first discovered the thermal spring,' as he fed the asses of Zibeon his father.'"

It seems more than probable that these waters were utilized medicinally, since in all ages springs of unusual character have been resorted to for the treatment of disease. The mere fact that these particular springs were warm would soon have lost its novelty, and the impression of surprise or awe created by their discovery would have faded, had not their reputation been sustained by the miraculous cures wrought through their saving power. We are entitled to conclude therefore, Dr. Prosser James thinks, that these thermal waters enjoyed a reputation for efficacy in the alleviation of suffering at the time the book of Genesis was written; "and that therefore the name of Anah-Beeri had been handed down with honor, and his great discovery distinguished him from his uncle Anah mentioned in this record, as well as from any one else of the same name."

The writer of this most interesting paper has proved himself to be a biblical student of rare acumen as well as a critical Hebrew scholar, and his article bears evidence also of the historian's talent for deducing broad facts from very slender clews. Such talents, so profitably cultivated, are rare to find in the members of our busy and practical profession—too rare, indeed, for a physician is none the worse for occasional excursions in fields other than medical.

INHUMAN WEAPONS OF WAR.

The above was the title of a paper read by Professor von Bruns at the German Surgical Congress recently held in Wiesbaden. The author refers to the dum-dum bullets, and asserts that he made a number of experiments upon dead bodies or portions of them, with these bullets supplied to the British troops during the recent campaign on the Indian frontier, and states that the results of their contact are fearful and cannot be exaggerated. The *British Medical Journal*, in answer to this charge, says: "The question of the special effects produced by the dum-dum, it will be remembered, was raised a short time ago in the House of Commons, and the reply of the government was to the effect that the reports as to the mutilating properties were erroneous, and that its effects were not those of an explosive bullet." Since the publication of the *British Medical Journal* containing the above report, two prominent surgeons in the British Indian army have given their views on the subject. Both agree that the dum-dum bullet is not explosive, but that its effects are much more harmful than those of an ordinary small-bore bullet; but they at the same time assert that a bullet wound from the old time Snider was much more destructive, and that under the regulations of the Geneva convention the dum-dum bullet can hardly be objected to as an inhuman weapon of war. However, an unofficial reply was made by the British government, that the dum-dum or expanding bullet would not be used against civilized troops. The fear has been expressed that the Spanish Mauser bullet may be transformed into a dum-dum; indeed, it is thought that such transformed bullets were employed by the Spaniards who harried our marines at Guantanamo Bay, for the mutilation of the dead was frightful, and according to the surgeon's report this was the result of the bullets and not of machete wounds inflicted on the dead by Spanish savages, as was at first believed.

"Annals of Gynæcology and Pediatry."—Dr. B. Sherwood Dunn, formerly of Paris, has become associated with Dr. E. W. Cushing in the editorial management and publication of the *Annals of Gynæcology and Pediatry*. Dr. Dunn is a graduate of Bellevue Hospital Medical College in 1884, and of the medical department of the University of Paris in 1888.

THE SPANISH MILITARY AND NAVAL MEDICAL ORGANIZATION IN CUBA.

According to the report of Dr. Angel de Larro Cerezo, surgeon-general of the Spanish troops in Cuba, the Spanish army and navy would appear to be remarkably well equipped and organized, from a medical standpoint. It is most probable, however, that the medical, like the military, equipment is chiefly on paper. In 1895, the surgeon-general says, hospitals were built in every province of the island. This work was carried on during 1896–97, until at the latter date the beds for the reception of patients numbered more than 45,000. It is stated that there are 11 hospitals containing more than 1,000 beds, while there are 8 with 1,000 beds each. The larger ones are the Royal, 5,000 beds; Alfonso XIII., 3,000; Manzanillo, 3,000; Beneficienza, 2,100; Santiago, 2,000; Sancti Spiritus, 2,000; Ciego, 1,700: Cienfuegos, 1,450; Remedios, 1,400; Holguin, 1,300; Mudera, 1,100; all these are well supplied with instruments and necessaries of every description, and each has also a perfectly equipped laboratory. In addition to the ordinary sanitary ambulance corps, a service of carriages is provided for the rapid conveyance of the wounded to the base hospitals in Havana, Santiago, Matanzas, Santa Clara, Manzanillo, Sagua la Grande, Trinidad, and Cienfuegos.

The Spanish navy is also amply provided with hospital ships; in fact, in this respect it would seem to be in advance of our navy, always assuming, of course, that the surgeon-general is not drawing on his imagination, after the example of his superior officers. Three of the best steamers of the Compañia Transatlantica Española, the *Alicante*, the *Montserrat*, and the *Sant' Ignacio Loyola*, were especially fitted up as hospital ships, and contain four large wards of ninety-six beds each, four smaller wards with seventy-six beds, four small isolation wards, and surgical wards for operations. The ships are lighted all over with electricity. To insure a supply of fresh air the portholes are kept open when weather permits, and there are as well a number of large air pumps. Each vessel carries a large quantity of drugs; baths are also provided, while for the convalescent there is a large and comfortably furnished saloon. On the three ships accommodation is found for fifteen hundred patients. During the first two years after the erection of the hospital of Alfonso XIII., eighty thousand patients were admitted into its wards, and more than a thousand operations were performed. In 1897, the third year of its existence, fewer patients were treated, and at the same time the rate of mortality decreased. The cause of this diminished death rate is ascribed to increased hospital space for each patient, which is secured by the early removal of convalescents to the annex and hospital ships.

The report states that the medical staff in Cuba has suffered severely within the past three years. The total number of deaths among physicians in the service of the army and navy since the beginning of the rebellion has been fifty, of which number more than two-thirds have been the victims of yellow fever.

News of the Week.

The Otto Vahlbruch Prize Awarded to Roentgen.—The University of Gottingen has awarded the Otto Vahlbruch prize for the greatest advance in science during the past two years to Professor Roentgen, of Würzburg. The prize is of the value of 9,200 marks ($2,250).

The American Academy of Medicine.—At the annual meeting of this society, held in Denver on June 6th, under the presidency of Dr. L. Duncan Bulkley, of New York, the following officers were elected for the coming year: *President*, Dr. Edward Jackson, Denver; *First Vice-President*, Dr. W. L. Estes, South Bethlehem, Pa.; *Second Vice-President*, Dr. J. T. Searcey, Tuscaloosa, Ala.; *Third Vice-President*, Dr. William Elmer, Trenton, N. J.; *Fourth Vice-President*, Dr. Robert H. Babcock, Chicago; *Secretary* and *Treasurer*, Dr. Charles McIntyre, Easton, Pa.; *Assistant Secretary*, Dr. W. L. Pyle, Philadelphia.

The Hospitality of Idaho Springs.—The American Medical Association may well feel proud of the welcome accorded it in the West, and of the unstinted hospitality displayed by the people of the various localities visited by its members. It was generally agreed that one of the most remarkable of the striking features of the memorable excursion around "The Loop" was the manner in which the people of Idaho Springs received and entertained upward of two thousand visitors. The whole town turned out—ladies, children, and all—and made the occasion one huge lawn party, in which all were individually welcomed and made happy; yet it was done with such an absence of apparent effort that the guests became possessed with the notion that such wholesale entertainment must be a part of the every-day life of that town. It was one link in a chain of many pleasant recollections which the visiting members carried home with them.

The Hospital Ship "Relief" was inspected on last Sunday by Surgeon-General Sternberg, who found everything in good order and ready for service. A large quantity of medical stores has been put aboard, and it is expected that the ship will have sailed by the time this appears. It is intended to station the *Relief* off Santiago for the present.

A Red Cross Supply Boat.—The relief committee of the American National Red Cross has purchased the steam yacht *Admiral* for use as a medical supply boat. The vessel is 134 feet 6 inches over all, 117 feet on the water line, and 20 feet beam. She draws eight feet and has a very high freeboard. The bottom is copper-sheathed, adapting the boat for cruising in Southern waters. The *Admiral* has stateroom accommodations for twenty-five persons, and is equipped with an electric-light plant, including a very powerful searchlight. Besides the usual complement of boats, she carries a naphtha launch. As soon as the supplies are on board the boat will be sent to Jacksonville, where she will take in tow the relief launch *Moynier*.

The launch will be taken to Key West, where both boats will await instructions from Miss Clara Barton, who is on the way to Cuba, having followed the transports on the relief ship *State of Texas*.

A Hospital on Jekyl Island.—Mr. David H. King, Jr., of this city has offered the use of his summer home on Jekyl Island as a hospital for sick and wounded sailors, and has offered to defray all expenses incurred in fitting the place up and maintaining it as a hospital. Jekyl Island is off the southern coast of Georgia and a short distance from Brunswick. There is some doubt, however, concerning the establishment of the hospital, as objections have been raised by other and less patriotic members of the club owning Jekyl Island.

A Massachusetts State Hospital Ship.—The Massachusetts Volunteer Aid Association has obtained on appropriation of $50,000 from the State legislature toward the equipment and maintenance of a hospital ship. A vessel has already been purchased and is now being fitted out. The name of the boat will be the *Bay State*, and she will sail under the Red Cross flag. She will be well stored with medical supplies, and will have on board surgeons and trained nurses ready for any emergency of battle or disease. She will also serve as a transport to bring back sick or wounded soldiers, either from Cuban battlefields or from Southern camps, to hospitals or places of refuge nearer their homes in the invigorating climate of Massachusetts.

The Sanitary Service at Camp Alger.—Some green newspaper correspondents having reported that the sanitary condition at Camp Alger was bad, an inquiry was instituted, with the result of disproving the assertion. General Graham reported that the chief surgeon of the second army corps, Lieut.-Col. A. C. Girard, "is a most competent and efficient officer professionally. His administration is entirely satisfactory. The friends of the soldiers may rely upon his ability to administer the affairs of the medical department with sound judgment and conscientious attention to their wants."

The Post-Graduate Hospital.—A special committee of the State board of charities appointed to investigate the affairs of the New York Post-Graduate Hospital held a session at the rooms of the board, in this city, on Monday afternoon of this week. The committee consists of Messrs. T. G. Bergen and J. V. Dahlgren, and Dr. Stephen Smith. The investigation grows out of the charges made last winter, by a former director of the hospital and professor of surgery in the medical school, that $85,000 of endowment funds had been used to pay the current expenses of the hospital and also that the directors were overcharging the city in the matter of free patients.

The Health of the Pope is again reported to be precarious. Dr. Lapponi asserts, however, that his illustrious patient is suffering merely from slight muscular rheumatism in the shoulder and that he has resumed his usual audiences.

Obituary Notes.—Dr. Richard C. M. Page, of this city, died in Philadelphia on Sunday last, after a brief illness. Dr. Page was born in Virginia in 1840, and was graduated in arts from the University of Virginia. He served during the civil war in the Confederate army, and upon the conclusion of peace came to New York to study medicine, being graduated from the University Medical College in the class of 1868. He was specially interested in diseases of the thoracic organs and filled a chair on these subjects in the New York Polyclinic, besides having published a number of monographs on cardiac and pulmonary affections. He was a member of many medical, historical, and social organizations.—Dr. Eben Jackson, of Somerville, Mass., died at his home in that place on June 22d, at the age of seventy-three years. He was born in Boston, and received his medical degree from the Castleton Medical College, Vermont, in 1856. He served as a surgeon in the Union army under Grant, and had charge at different times of many hospitals at Memphis, Vicksburg, and elsewhere. Owing to a belligerent impulse, which he had inherited from a line of fighting ancestors, he took an active part in several battles, filling the place of some fallen combatant, and earned thereby the sobriquet of the "fighting doctor." After the close of the war he retired to civil life, and had practised for many years in Somerville.

The Late Dr. John Blair Gibbs.—At a meeting of the Society of the Alumni of Lebanon Hospital held on Tuesday, June 14th, the following resolutions were passed:

"*Whereas*, We have learned with profound sorrow and regret of the death of Dr. John Blair Gibbs at Guantanamo, Cuba, we feel that we should express ourselves in a manner whereby his memory may be honored. Not only has a vacancy been made among ourselves which can never be filled, but the medical profession has lost a true brother and the nation a son whose manliness, noble character, and zeal can never be questioned; and

"*Whereas*, We have constantly been indebted to him, while acting in the capacity of assistant attending surgeon at Lebanon Hospital, for valuable council and unfailing courtesy: we therefore

"*Resolve*, In order to perpetuate his name for his heroic conduct and as a token of our esteem and love, to erect a tablet in the operating-room of Lebanon Hospital, and to enter these resolutions in full in the minutes of the meeting."

[Signed] M. L. Maduro, M.D., *Secretary*.

In Memory of Dr. Gibbs.—Services in memory of Dr. John Blair Gibbs, who was killed at Camp McCalla, Cuba, on June 12th, were held in Trinity Church on Thursday afternoon of this week. Very many of Dr. Gibbs' social and professional friends, members of the Delta Kappa Epsilon Fraternity, and others were present to do honor to the memory of the first American surgeon killed in this righteous war.

A Civil Service Examination for a Bacteriologist will be held in the new criminal court building, corner of White and Centre streets, on Wednesday,

June 29th. The examination will be conducted to determine both technical knowledge and experience. Candidates desiring further information should address Lee Phillips, Esq., secretary of the municipal civil service commission.

Laryngological Section of the American Medical Association.—At the meeting of the section on laryngology and otology of the American Medical Association, held at Denver, June 7th to 10th, the following were elected as officers for the ensuing year: *Chairman*, Dr. Emil Mayer, of New York City; *Secretary*, Dr. C. R. Holmes, of Cincinnati, Ohio.

The First Nathan Lewis Hatfield Prize.—The College of Physicians of Philadelphia announces through its committee that the sum of $500 will be awarded to the author of the best essay in competition for the above prize, on "A Pathological and Clinical Study of the Thymus Gland and its Relations." The essays must be submitted on or before January 1, 1900. The treatment of the subject must, in accordance with the conditions of the trust, embody original observations or researches or original deductions. The competition shall be open to members of the medical profession and men of science in the United States. Further information may be obtained by addressing Dr. J. C. Wilson, M.D., 219 South Thirteenth Street, Philadelphia, Pa.

The Texas State Medical Association.—The war spirit has apparently taken possession of some of our scientific bodies. We referred recently to the disgraceful scene enacted at the meeting of the California State Medical Society, and now we learn from the *Texas Medical Journal* that "the thirtieth annual session of the Texas State Medical Association at Houston, April 28th, 29th, and 30th, was enlivened by a fist fight on the rostrum. A big burly fellow from Galveston sought to whip the secretary (as we are informed), for calling him a liar out loud in meeting, when he had risen to a point of personal privilege and complained, as we learn, of having been dropped from the roll of membership for non-payment of dues (in accordance with the bylaws)."

Harlem Medical Association.—The following officers were elected at the ninth regular meeting of this society, June 13th: *President*, Dr. Philip Arthur Malleson; *Vice-President*, Dr. Henry W. Mooney; *Secretary*, Dr. Joseph E. Lumbard; *Treasurer*, Dr. Charles A. Clinton; *Trustees*, Dr. David Franklin, Dr. Samuel E. Gibbs, Dr. Henry J. Wolf.

The Chicago Society of Internal Medicine is the name of a society recently organized by a number of physicians in Chicago. In the circular of invitation for charter members it is stated that charter membership will be limited to gentlemen of reputation in internal medicine, and future admissions will be by approved thesis, the object being to lay the foundation for a society of the highest grade. It is thought that eventually the society will become the section of internal medicine of the Chicago Medical Society, but with autonomy in the management of its internal affairs. The officers for the first year are the following: *President*, Dr. John A. Robison, *Vice-President*, Dr. John H. Hollister; *Secretary*, Dr. Edward F. Wells; *Treasurer*, Dr. Lester Curtis; *Censors*, Drs. Henry M. Lyman, Henry B. Favill, and Arthur R. Edwards.

"Illustrirte Rundschau der medicinisch-chirurgischen Technik."—This is the title of a new quarterly publication devoted to descriptions of new instruments and apparatus of all kinds for use in medicine or surgery. It is published in Berne by K. J. Wyss, under the editorial management of Dr. Gustav Beck, assisted by a number of Swiss, French, and German practitioners.

Hospital Improvements.—Plans have been filed at the department of buildings for new buildings of the New York and the Roosevelt Hospitals. At the latter there will be erected a two-story structure, to be known as the accident building. At the New York Hospital there are to be three new buildings. Two of these, a large annex to the main hospital building and a two-story structure for the use of the governors of the hospital, will be on Sixteenth Street, and the other, for the accident service and the laundry, will be on Fifteenth Street. The estimated expenditure for the three buildings will be $500,000.

The Caleb Fiske Prize of the Rhode Island Medical Society, of the value of $350, has been awarded to Dr. David A. Wolfstein, of Cincinnati, Ohio, for the best essay on the subject, "The Neuron Theory as Related to Nerve and Brain Disease in the Light of the Most Recent Investigations." The subject for the next essay is "The Etiology of Gout."

Training-School of the Manhattan Hospital.—The first annual graduation exercises of the training-school for nurses of the Manhattan State Hospital for the Insane were held on Ward's Island on the afternoon of Monday, June 20th. An address was made by Bishop Potter, of New York.

Contract Medical Practice.—The following is the text of the resolutions adopted by the Connecticut State Medical Society at its one hundred and sixth annual meeting, in New Haven, on May 26th:

"*Resolved*, That the Connecticut Medical Society declares it to be derogatory to the dignity of its members to render professional services at a stipulated fee per capita per annum, to the members of any lodge, society, association, or organization, or to enter into any contract for such services with any lodge, society, association, or organization, provided that professional services rendered any hospital, dispensary, orphan asylum, town poor, or other public charity, shall not be prohibited by this act.

"*Resolved*, That any member of this society violating the above resolution is guilty of a breach of professional etiquette, and is subject to the rules and regulations governing the same."

At this meeting the following officers were elected for the ensuing year: *President*, Dr. H. P. Stearns, of Hartford; *Vice-President*, Dr. C. S. Rodman, of Waterbury; *Secretary*, Dr. N. F. Wordin, of Bridgeport; *Treasurer*, Dr. W. W. Knight, of Hartford.

Dr. Edward G. Janeway, of this city, president of the Academy of Medicine, received the degree of LL.D. from Rutgers College on June 21st.

An Accident to the Surgeon-General.—According to a report in *The Sun*, while Surgeon-General Sternberg was riding along the beach at Hillsborough Bay, one evening recently, his horse stumbled and fell into the water, carrying the rider with him. The surgeon-general could not withdraw his feet from the stirrups, and might have been drowned or trampled to death had it not been for the prompt assistance of Private Bronk, of the New York volunteers, who jumped into the water and disentangled the officer.

The Johns Hopkins Medical School.—Twenty-two medical students were graduated from the Johns Hopkins Medical School this year. Four of these were women. Dr. Osler will be dean of the school in place of Dr. Welch. Drs. T. C. Gilchrist and J. W. Lord have been made clinical professors of dermatology, and Dr. Louis E. Livingood has been made associate in pathology.

Association of American Medical Colleges.—At the annual meeting of this association held in Denver, June 6th, the following officers were elected: *President*, H. O. Walker, of Detroit: *Senior Vice-President*, Dr. H. Bert Ellis, Los Angeles; *Junior Vice-President*, Dr. G. E. Woody, Louisville; *Secretary* and *Treasurer*, Bayard Holmes, Chicago.

Canadian Medical Association.—The thirty-first annual meeting of this society will be held at Laval University, Quebec, on August 17, 18, and 19, 1898. Those members who purpose reading papers are requested to send the title of the same to the secretary on or before July 20th. The president of the association is Dr. J. M. Beausoleil, and the secretary, Dr. F. N. G. Starr, 471 College Street, Toronto. The society has a membership of between six hundred and seven hundred.

A Chinese Plague Hospital.—The sanitary board of Hong Kong has given permission to the Tung Wah Hospital to establish a branch for the reception of plague sufferers, in which the patient will have the option of being treated according to Western medical methods or those of the Chinese physicians. This action was taken, despite the protests of the medical members of the board, in the desire to humor the prejudices of the native population. The results may be of educational value to the Chinese, since the mortality of plague under native methods of treatment is nearly double that of the disease under European management.

A "Non-Combatant."—Surgeon-Captain Hopton Scott, of the British army, is happily recovering, at St. Thomas' Home, from the effects of severe wounds received during the recent expedition in West Africa. We read concerning him in the *British Medical Journal* that, like his distinguished brother officer at Majuba Hill, although his left femur was smashed by a heavy slug, and another missile of a like formidable kind had torn his chest without actual penetration, he stuck to his duty, and, while prostrate on a stretcher and severely tortured by his wounds, he continued to give surgical aid to his wounded comrades.

The Pasteur Monument.—The *British Medical Journal* says that the monument to Pasteur, which is to be erected in Paris in the space in front of the Pantheon, is now almost completed. M. Falguière, the sculptor, has introduced certain modifications into his original design, in which Pasteur was simply represented as overcoming death, which was in the act of flight. Now a group of a mother with her child, thanking Pasteur, has been added on the right, while behind the central figure Fame is shown crowning him with laurels. The international subscription to the memorial now amounts to nearly $65,000.

Dr. Senn Ordered to Cuba.—Col. Nicholas Senn, M.D., of Chicago, chief surgeon of the volunteer forces at Chickamauga, has been ordered to Newport News to embark for Santiago. He will be chief surgeon of the reinforcements to be sent to General Shafter from Camp Alger.

The Yellow Fever Quarantine against most of the Gulf towns has been raised by the Mobile board of health. The disease has shown no tendency to spread from McHenry.

Infantile Syphilis.—Dr. John T. Nagle, chief of the bureau of municipal statistics of New York, writes that at the forthcoming meeting of the Royal Society of Public Medicine of the Kingdom of Belgium, in July next, in Brussels, there will be a discussion on infantile syphilis, and strenuous efforts are being made to obtain as accurate and complete information on this subject as possible. The results of this investigation that the society is making, Dr. Nagle thinks, will be of interest to the medical profession in general, and he would be thankful if those who have devoted much time to this subject would furnish him immediately with any facts that they possess which bear on the inquiries that are made by the society. The questions are as follows: 1. Do you meet with cases of infantile syphilis in your practice: if so, how frequently? 2. In what year did your observations begin? 3. In the cases which you have been able to follow, was the disease slight in degree or was it so severe as to produce pronounced cachexia? Please state, if you remember them, the lesions present. 4. What age, approximately, were the children? 5. What was the result of the disease? 6. Were you ever able to trace it to its source, heredity or contagion, from parents, nurses, etc.? 7. Is syphilis rare or frequent in the locality where these infantile cases have been observed? 8. Do you often see children, born of syphilitic women, who present no characteristic lesions of the disease during their early years? 9. If you have collected any special observations on the placenta in syphilitic women or those who have been cured of the disease, kindly mention them. The answers to these questions may be sent to Dr. Nagle, 346 Broadway, New York City, who is a corresponding foreign member of the society.

Reviews and Notices.

Air, Food, and Exercises. An Essay on the Predisposing Causes of Disease. By A. Rabagliati, M.A., M.D., F.R.C.S. *Ed.*; Honorary Gynæcologist and late Senior Honorary Surgeon, Bradford Royal Infirmary; Consulting Medical Officer, Bradford Children's Hospital. Second Edition. New York: William Wood and Company. 1898.

This is a thoughtful essay on the question of improper feeding as a cause of disease. The author regards the excessive consumption of carbohydrates as the cause of most of the minor, and some of the major, ills of humanity. Since a generic name is necessary for the condition resulting from the retention of waste products in the economy, Dr. Rabagliati gives us "triphthæmia," the commonest species of which, he thinks, is "triphthæmia carbonifera" due to overeating of starchy foods, especially bread. His theory of the cause of all our woes appears to be just the opposite of Haig's, and his arguments in support of his theory are just as little convincing. But though one may not accept the author's views in their entirety, the reading of the book is interesting and gives food for reflection. And this is praise enough for any book.

Therapeutics of Infancy and Childhood. By A. Jacobi, M.D. Philadelphia: J. B. Lippincott Company. 1898.

The second edition has just been received; it is modelled on the lines laid out in the first one. While this last edition contains fifteen chapters, the first one contained fifteen chapters plus an appendix. The arrangement has been slightly altered, the wording is exactly the same. The author states in the preface to this new edition that "the criticisms of reviewers and correspondents have been carefully considered." We had hoped that this would at least apply to the review in the Medical Record, March 21, 1896, which the author has possibly overlooked.

While the author constantly thunders against the propriety of using patent foods, we find this distinguished gentleman recommending a patent food on page 43, the same food on page 57, and finally he regards it as so valuable that on pages 57 and 58 he believes it useful per rectum. *Deus!*

The value of the book would certainly be enhanced if the author would eliminate personalities. This book is certainly a personal one, for Jacobi insists on all his former hobbies. So, for example, he dwells in great detail on the excellent value of mercury in diphtheria, stating that some physicians refused antitoxin when offered the same, owing to "success with mercury and intubation." The work may truly be called up to date and contains many valuable points, all of which are not to be found in the first edition. The author gives many therapeutic suggestions of value. In the section dealing with the treatment (surgical) of empyema, all details from a modern aseptic standpoint are carefully considered.

We note with extreme regret that but a few lines are devoted to intubation of the larynx, and that the author has omitted to give the careful details of this most valuable method of relieving laryngeal stenosis. It certainly deserves a place in the therapeutics of infancy and childhood.

Mammalian Anatomy. A Preparation for Human and Comparative Anatomy. By Horace Jayne, M.D., Ph.D., Director of the Wistar Institute of Anatomy and Biology, Professor of Zoology in the University of Pennsylvania, etc. Part I. The Skeleton of the Cat: Its Muscular Attachments, Growth, and Variations compared with the Skeleton of Man. With over 500 original illustrations. Philadelphia: J. B. Lippincott Company. 1898.

In taking up this ponderous tome of over eight hundred pages one might ask, as in primer days, "What is this?" to receive the laconic reply, "This is a cat." But in truth it is not the whole cat; it is upon his bones alone that the author has published this immense volume, the value of which any one interested in comparative osteology cannot fail to appreciate.

It is a very thorough, careful, and exhaustive study, ranking with Ecker's "Frog," Mivart's "Dog," and other classics in comparative zoology. The illustrations are numerous and excellent, and the typography and bookwork all that could be desired.

It is by such studies that advanced work in anatomy may be accomplished, and it is a pleasure to know that work of such high grade is coming from one of our universities.

The Nervous System and its Diseases. A Practical Treatise on Neurology for the Use of Physicians and Students. By Charles K. Mills, M.D., Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania, Clinical Professor of Neurology in the Woman's College of Philadelphia, etc. Diseases of the Brain and Cranial Nerves, with a General Introduction on the Study and Treatment of Nervous Diseases. Philadelphia: J. B. Lippincott Company. 1898.

This volume, constituting but a partial accomplishment of the author's ambition in the way of a treatise on the diseases of the nervous system, is one of the most promising works along this line that have been published in this country or abroad. In fact, when compared with the only works along similar lines, Gowers' or von Monakow's, the advantages are, we believe, with Dr. Mills. In one thousand and fifty well-used pages there is to be found an ample, clear, and thoroughly scientific treatment of the anatomy of the nervous system; the general pathology, symptomatology, and methods of examination; diseases of the membranes, veins, and sinuses; histology of the cortex and physiology of the cerebrum with reference to focal diseases of the brain; vascular lesions and disturbances in the brain, and their following degenerations; lesions of the special nerves of sense and their affections; disturbances of the ocular apparatus due to nuclear or peripheral lesions; diseases of the facial and the fifth; lesions of the pons and preoblongata; diseases of the glosso-pharyngeal, pneumogastric, spinal accessory, and hypoglossal nerves; and lesions of the postoblongata and bulbar regions.

The book throughout bears the impress of ripe and careful scholarship, and moreover it represents modern neurology in its present garb. It would be impossible in the space at our disposal to mention all of the commendable features of the book, but a few have impressed themselves upon the reviewer's notice as of especial service to the general practitioner. The chapter upon the general means that the physician has at hand for the treatment of diseases of the nervous system is one of great value; the discussion on the actions of the chief drugs used in neurological work, what they can do in ordinary use and what results from overdoses, are facts worth having in the shape in which they are presented. The chapter upon the minute anatomy of the cortex and the discussion on cerebral localization is very valuable—the latter part perhaps more than the former, where the author makes little use of the newer cytological work bearing upon the structure of the nerve cells. The discussion of the affections of the ocular and auditory apparatus is masterly, from the neurological standpoint at least, and cannot fail to be of value to the specialist in these fields. We are not in thorough sympathy with nomenclatural cataclysms, and feel that frequently the old and familiar is clothed in new terms for the sake of lending an air of novelty and an apparent gloss of "science." Still in the biological sciences nomenclature forms one of the most important landmarks of progress, especially when by it newer and wider conceptions are gained. We believe, however, that in the adoption of the "Wilder" terminology the author has departed from a healthy historical conservatism, but this is perhaps but an academic matter after all.

All in all, the work is to be most heartily commended and deserves a generous recognition of its many estimable qualities.

Celluloid Bandages.—Celluloid has been suggested as a substitute for plaster of Paris, its weight being less than one-fourth that of the former. It is readily cleaned, has a smooth surface, and is impervious to urine and discharges. Cut into small pieces, celluloid is dissolved in acetone. This solution is rubbed into each layer of gauze bandage or jacket, a kid glove being worn to avoid the celluloid drying on the skin. Ten layers are necessary. Three or four hours are required in drying. Small holes may be punctured for ventilation.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL COUNCIL—CYSTS OF THE URACHUS—CANCER OF THE UTERUS—INJURY TO THE URETERS IN OPERATIONS—DEATHS OF THREE VETERANS.

LONDON, June 3, 1898.

THE session of the Medical Council closed on Tuesday. A good deal of routine business was got through, in which your readers would take no interest. The register was purged by the exclusion of some found guilty of infamous conduct. One of these had associated himself with a "Professor Munyon," a notorious advertiser of quack medicines, whose advertisements have disfigured the newspapers which disgrace the press by accepting his pay.

Mr. Horsley is by no means satisfied with the manner in which it was determined to obstruct members in their investigations into the history of the council, and we shall doubtless hear more on the subject.

The promoters of the midwives registration bill were allowed to state their case, but the council cannot depart from the position it has taken.

A second interim report of the medical-aid-associations committee was presented, but does not advance the settlement of this burning question. Conciliation is recommended and consideration of local circumstances. The great friendly societies express a wish to meet the views of the council, and are certain to receive every consideration from the profession, but the tooting of societies got up to trade on practitioners will have to be put down.

The council appointed a deputation to urge on the government to insert in the companies act now before Parliament a clause to prevent medical, surgical, and dental practice being carried on by companies.

The case of unqualified assistants was brought forward, but, though hardship to certain individuals is unavoidable, the council was unable to alter the decision, of which notice has been given, that it cannot sanction unqualified practice.

The dental curriculum and examinations received a large share of attention.

The president was requested to communicate with the privy council as to the practicability of amending the laws, so as more effectually to prevent the holder of a medical diploma from using it after his name has been removed from the register.

At the Medico-Chirurgical Society Mr. Doran read a paper on a case of cyst of the urachus, with notes on urachal and so-called allantoic cysts. He remarked that a good deal had been written on these cysts, both in America and in Germany, but the term had been applied too freely to various tumors and collections of fluid closely related to the abdominal walls below the umbilicus. He mentioned some of the explanations which have been put forward and the difficulties attending them. Many of the older cases reported as "urachal" are more than doubtful. They really read like cases of encysted dropsy. It may even be doubted whether Tait's cases are certainly of allantoic origin. Other cysts may very closely resemble urachal cysts, as may collections of fluid in tuberculous peritonitis.

As to the surgery of true urachal cysts, Mr. Doran thinks that when they can be dissected out the peritoneum detached from behind should be trimmed away, as it is apt to slough. When they cannot be enucleated, they should be incised and drained. The relations to the peritoneum, bladder, and viscera must be most carefully determined. If the cyst communicates with the bladder, the principles of plastic surgery must be applied. Every case must be carefully watched, as after operation the bladder may give way through the forcing open of the vesical orifice of the urachus or through yielding of its walls from damage during operation or the presence of a drainage tube.

The president, Mr. Bryant, mentioned two cases which puzzled him when he operated some years ago, but which Mr. Doran's paper convinced him had really been urachal.

The unreliability of microscopical examination for determining malignancy was well shown at the Harveian Society's meeting on the 12th ult., when Dr. Handfield-Jones read a paper on cancer of the body of the uterus, and admitted that diagnosis at an early stage was so difficult that he asked whether benign growths, after remaining stationary for long periods, might ultimately take on malignancy and rapidly destroy the patient. Uterine scrapings obtained by curettage and carefully examined by the microscope could not be trusted to settle the diagnosis. Dr. Jones admitted that the microscope might sometimes confirm the diagnosis from clinical signs and symptoms, and so far afford some satisfaction; but the gravity of the case and the need for operation must be estimated from the clinical aspects. He laid stress on the early symptoms, and especially on rapid increase in the size of the uterus.

In the discussion that followed all the speakers agreed that the microscopical examination is very unreliable. The president, Dr. Goodhart, said that a growth at the menopause is more likely to be malignant than benign, and he was convinced that simple growths may eventually become cancerous. On the other hand, the growth of cancer sometimes is delayed for months or even years. In hepatic cancer it may even shrivel up and practically disappear. This makes it difficult to decide whether extirpation of the uterus should be performed as soon as malignancy is manifest. As to this, the mortality of vaginal hysterectomy is a point for consideration.

Dr. Gow said that if a soft, well-defined growth is found inside the uterus with hemorrhage after the menopause, it is safe to regard it as malignant and act accordingly.

Dr. Amand Routh advocated the removal of any uterus after the menopause when there is recurrence of metrorrhagia after curettage, with definite enlargement of the body of the uterus, although surface scrapings give a negative result. Ordinary senile or fungous endometritis does not cause progressive enlargement; it may occasionally recur, but it can be cured by a second curetting.

Mr. Parker Young said he had found, in undoubted malignant disease of both the uterus and the breast, that the microscope failed to detect it. As to the time the patients might live, he said that in one case pronounced to be malignant by leading gynæcologists the patient has survived over ten years without operation.

One of the dangers of hysterectomy is the risk of injuring the ureters. This was discussed by the Gynæcological Society apropos of a case related by Mr. Purcell. The operation was followed by anuria. Falling temperature and vomiting denoted the approach of uræmia, and the abdominal wound was reopened and the ureters were examined. They were ballooned. The ligatures of the uterine arteries were removed; no blood followed, but the ureters diminished and catheterism obtained urine from the bladder. It was proved that both ureters were pervious; neither had been tied, but both were kinked by the gathering up of the tissues in the ligatures. Dr. Purcell was congratulated on the case, especially on having avoided tying the ureters, and on the decision to

reopen the wound and determine the cause of the anuria.

The president (Dr. Macnaughton-Jones) remarked that the two chief risks of hysterectomy were injury to ureters and hemorrhage. The parts were often so altered that anatomy alone did not afford sufficient assistance. He had written to several operators and obtained statistics as to damage to the ureters, and laid the letters before the society. They comprise interesting experiences from Martin, Landau (Berlin), Doyen (Paris), and Kufforath (Brussels).

The death is announced of Dr. Melson, aged eighty-seven. He was a Cambridge man of great culture, who practised for many years in Birmingham, was one of the original physicians to the Queen's Hospital, and professor at the college. When in full practice he also preached for the Wesleyan Church in many parts of the country, and his able sermons never failed to attract large congregations.

Dr. Thomas G. Wright—a nonagenerian, born in February, 1808—died on the 27th ult. He was for sixty-seven years consulting physician to the Wakefield Asylum. He was also physician to the Clayton Hospital and other institutions. He wrote on the blood and on cholera, and took great interest in the progress of various sciences.

Another veteran, Dr. Heckscher, died on the 29th ult., aged seventy-four. He practised for many years in Manchester, where he was greatly esteemed by his German compatriots. He was M.D. of Berlin, 1847; of St. Andrews, 1858; and M.R.C.P. Lond., 1860; and retired about two years ago.

OUR PARIS LETTER.

(From our Special Correspondent.)

BICYCLING AND FEMALE EDUCATION—THEIR INFLUENCE FROM A SOCIAL AND MATRIMONIAL STANDPOINT—INJURIOUS EFFECTS OF BICYCLING ON THE PELVIC ORGANS IN YOUNG WOMEN—DISORDERS AT THE ÉCOLE DE MÉDECINE—PROFESSOR BROUARDEL—BICARBONATE OF SODIUM IN HYPERCHLORHYDRIA—ANTIPYRIN AND THE ALKALIES IN DIABETES, ETC.

PARIS, June 5, 1898.

THE danger of bicycling to health, especially in young women attaining the age of puberty, and young married women as well, is so great that leading members of the profession in Paris are quite outspoken against its use, and many go so far as to interdict it altogether. I refer to danger only in the medical and pathological signification of the term, leaving to one side the danger from accident, which is obvious, the production of vulvo-vaginal and uterine disease, external bruises, abrasions, and contusions, menorrhagia, metrorrhagia, vulvitis, displacements, cellulitis, and a variey of pelvic and abdominal troubles, cases of which have been reported as directly due to bicycling; to say nothing of aggravation of morbid conditions already existing, whether it be the heart, kidneys, or other organs that are affected. There is an evil, social and matrimonial in its bearing, that is springing up in France, and which is beginning to tell upon the decrease in its male population, affecting thereby the numerical strength of the large army that European armed peace obliges her to maintain. The education of young girls to-day comprises not only studies hitherto regarded as more suitable to the male sex, but athletics and out-of-door exercises as well, and sports generally, of which the bicycle forms a prominent part. Becoming wedded to these, especially the latter, they have little desire for matrimony, which they come to regard as a chain or kind of bondage—certainly a restriction and check upon liberty. Consequently they prefer to remain spinsters, and a quasi third sex is formed—young horsewomen, wheelwomen, tennis and golf champions, fisherwomen, hunting-women, yacht-women, and "all-around sport" women. The sex masculinizes itself. Womanhood in its physiological and motherly sense is sacrificed to narrow hips, atrophied breasts with retracted nipples, and a development of brachial, leg, and abdominal muscles that would do credit to a "light weight."

This production of a third sex is a bit of practical philosophy, evolved from the manners and customs of the century that is just ending.

Another of those boisterous, and it may be said, scandalous demonstrations to which professional Paris is accustomed, has just occurred at the Faculty of Medicine. It was at the recent competition of "*agrégation*" in anatomy. The medical students, blaming energetically the conduct of Prof. Raphael Blanchard with reference to Dr. Heim, who is professeur agrégé, went *en masse* to the hall where the competition was taking place under the presidency of Professor Blanchard, and became so uproarious by their stamps, shouts, groans, and hisses, intermingled with cries of "*Démission!*" (resignation), that the jury had to adjourn the sitting to a room in another part of the building, where the competition was continued with closed doors, which I am informed were in danger of being forced by the pressure of the *manifestants*, against whom they were shut. It is stated that Professor Brouardel, dean of the faculty, does not possess the moral authority necessary to maintain order among the students and insure harmony among his colleagues, and so another dean in his place is being spoken of.

It would seem that alkalies of which bicarbonate of sodium is the type are not innocent, especially when used in the large doses that are indicated in the treatment of some dyspeptic states. Bicarbonate of sodium in excessive doses may neutralize to a certain extent the muriatic acid contained in the stomach in hyperchlorhydria, but does not possess sufficient power over the glandular system to diminish notably the secretion. Moreover, its long-continued use in massive doses may produce the very hyperchlorhydria it is intended to cure. This is the opinion of Professor Hayem, an opinion which is strongly contested by perhaps the majority of practitioners. Personally, I have never found the least inconvenience from giving bicarbonate of sodium in such cases for a long-continued period, either in small or large doses. A very good way of administering it is to mix it with magnesia. This should be given at the time of or just before the usual attack of gastric pain or burning caused by HCl, irritating the mucous membrane of the stomach.

While on the subject of the alkalies, let me draw attention to their utility in the treatment of diabetes—fat diabetes as distinguished from thin or pancreatic diabetes. Of all the alkalies, Dr. Lemoine, professor of clinical medicine at the Faculty of Lille, makes choice of lithia, which he combines with antipyrin in equal doses of ten grains each three times a day—morning, noon, and evening—in a glass of alkaline water. This he prescribes when the case presents symptoms of intoxication and hepatic insufficiency, with diminished urinary secretion and scanty elimination of urea; in other words, when there is warning that diabetic coma may supervene. Whatever the case, the use of antipyrin is continued for two weeks, either as above prescribed or separately, and going as high as two and one-half or three grams a day divided into three doses, the patient drinking at the same time one gram of the carbonate or benzoate of lithia in a glass of some alkaline water at eleven in the morning and another gram in a like quantity of water in the evening at five o'clock. At the end of a week the quantity of antipyrin is diminished in accordance

with the amelioration obtained to one and one-half grams a day. If at the end of two weeks the glycosuria and concomitant symptoms, such as neuralgia, migraine, polyuria, and polydipsia, are alleviated or disappear, the antipyrin is stopped for one week, when a fresh period of two weeks is begun, at the end of which time the glycosuria usually disappears completely.

When there is no sugar in the urine, Dr. Lemoine gives the alkalies, pure and simple, as, for instance, benzoate of lithium and carbonate of lithium, each 50 cgm. (gr. viiss.), for one wafer. One wafer is given in the morning half an hour before breakfast and a second about five or six o'clock in the evening, each with a glass of alkaline water; for, he adds, diabetics are usually arthritics. This treatment, which is to be repeated as necessary two weeks at a time, during several consecutive months, usually causes the final disappearance of glycosuria.

If the nervous element predominates in the case, with disturbed rest at night, he supplements the treatment with bromide of potassium in a mixture with the phosphate of sodium as a tonic for the nervous system, as follows:

℞ Bromide of potassium..... 40 gm.
Phosphate of sodium ..... 10 "
Water ..... 300 "
M. Sig. Take one tablespoonful in a cup of milk or any infusion without sugar one hour before bedtime.

The use of the bromide should be continued about a month after the nights become calmer. The alkaline treatment of diabetes has been a favorite one in France for some years, and is based on its well-known favorable action upon the nutrition.

ELECTRICITY IN EXTRA-UTERINE PREGNANCY.

To the Editor of the Medical Record.

Sir: Dr. Boldt will pardon me if in this way I endeavor to correct a misapprehension in regard to the electrical treatment of ectopic gestation. In his paper entitled "A Clinical Contribution to Tubal Pregnancy," an abstract of which appears in the Medical Record of June 11th, he reports an interesting case of extra-uterine pregnancy in which a successful operation was performed during profound shock, and speaks of it as "serving to emphasize once more the utter unreliability of the electric current in the treatment of this condition."

I do not purpose to offer here any arguments in support of this method of treatment. We all know that it has been successfully attempted in many cases, and there are not a few who, if the conditions warranted, would much prefer this simple and easy process to the knife, if the patient was one of their own.

But the surgeons have decided against it, and it looks very much as if it had to go. If, unfortunately—as it seems to me—this must be, it is only fair that it should not be aided or hastened by a misunderstanding of the *modus operandi*. In this case of Dr. Boldt, previous to the final diagnosis there was supposed to be some endometritis, and to relieve this an intra-uterine application of fifty milliamperes was given; and, according to the report, the "embryo was not killed or the rupture would not have taken place."

Now fifty milliamperes is perhaps quite sufficient to destroy the embryo, if employed properly and with a definite purpose to that end; but used as in Dr. Boldt's case—an intra-uterine application without interruption for the relief of an endometritis—it was quite powerless. If the galvanic current is used, it is the shock produced by the interruptions that renders it effective, and it is altogether probable that if these fifty milliamperes had been thus used and the internal electrode properly placed for this result, the embryo would have been killed. If so, then, as Dr. Boldt acknowledges, the rupture would not have taken place. At all events it must be admitted that the case, as reported, does not by any means prove the unreliability of the electric current in tubal pregnancy.

A. D. Rockwell, M.D.

New York, June 11, 1898.

MAMMARY-GLAND THERAPEUTICS FOR FIBROIDS OF THE UTERUS.

To the Editor of the Medical Record.

Sir: In the report of the American Gynæcological Association in the Medical Record of June 4th, my remarks upon the extract of mammary gland in the treatment of fibroid tumors of the uterus were misquoted. I was speaking of the thyroid gland and not the mammary gland when I said that it acted as a powerful heart depressant, and that it should not be given in doses much exceeding three to six grains daily of the desiccated powder. The mammary gland, on the other hand, has, in my limited experience with it, given rise to no untoward systemic effects. I give of the desiccated powder or extract the equivalent of from thirty-six to seventy-two grains of the fresh gland daily (*i.e.*, six to twelve grains of the desiccated powder of Armour & Co.), and find that it causes the menstrual periods to become regular and normal, reducing the menorrhagia and metrorrhagia in a marked degree, and that the tumors slowly diminish in size. When the dose is pushed to seventy-two grains or over, marked cramps and contracting pains occur in the tumor. Without the aid of other forms of treatment the general health of the patients improves.

John B. Shober, M.D.

Philadelphia, Pa.

FOREIGN BODIES IN THE NOSE.

To the Editor of the Medical Record.

Sir: To the very practical directions of Dr. Barret's paper in the Medical Record of June 11, 1898, I would add that in many cases a foreign body in the nostril may be expelled by closing the other nostril and blowing suddenly and strongly into the child's mouth. It is the work of an instant, requires no restraint, and does not scare the child. John Winslow, M.D.

Ithaca, N. Y.

Cycling and Traumatic Urethritis. — Dr. De Keersmäcker, in *Le Scapel*, October 3, 1897, reports an absolutely characteristic case of purulent traumatic urethritis caused by the friction of a hard saddle on the perineum. The victim was a young man who, four days after a ride of about one hundred kilometres on a saddle without elasticity and of the ordinary shape, which exercised a constant friction, was attacked with a discharge not containing gonococci. This disappeared at the end of fourteen or fifteen days, during which the patient used astringent injections of sulphate of zinc. Dr. De Keersmäcker insists on the advisability of a saddle so constructed as not to come in contact with the perineum. This contact can be avoided by a saddle so planned that a metal frame will support two cushions, which will come in contact with the ischiatic tuberosities, a wide deep groove being left between them. The writer thinks that in all cases of diseases of the urethra, testicles, prostate, or bladder, however mild they may be, it is prudent to advise abstinence from the bicycle. Sudden relapses, inexplicable in any other way, during treatment for chronic urethritis, he has attributed to this form of exercise.

Medical Items.

Contagious Diseases Weekly Statement.—Report of cases and deaths from contagious diseases reported to the department of health, borough of Manhattan, for the week ending June 18, 1898:

	Cases.	Deaths.
Tuberculosis	217	158
Typhoid fever	25	2
Scarlet fever	142	17
Measles	334	22
Diphtheria	162	22
Laryngeal diphtheria (croup)	13	9
Chicken-pox	19	0
Cerebro-spinal meningitis	0	7

Immunity of Arabs to Typhoid Fever.—M. Vincent (Val-de-Grace) stated, at a meeting of the Academy of Medicine held in Paris on May 10th, that he has found that French soldiers are on the average a hundred times more subject to typhoid fever than native soldiers; a singular observation, because this disease is in general serious when it attacks Arabs. The comparative exemption of the Arabs depends, in his opinion, neither on a previous attack nor on a slow acclimatization consequent on residence in towns, but on a natural immunity comparable to the immunity of negroes against yellow fever or of Algerian sheep against anthrax. M. Vincent endeavored to discover if the blood obtained from Arabs caused agglutination of typhoid bacilli. The blood of twenty-three natives was used for that purpose, but it presented no distinct serum reaction, the phenomena being exactly the same as those yielded by the blood of persons susceptible to typhoid fever. This constitutes a new proof that the agglutinating power of blood is not necessarily connected with immunity, whether natural or acquired, and that the serum reaction is a reaction of infection and perhaps of defence, but not a reaction of immunity. —*The Lancet.*

Typhus Bacillus to Replace the Cat Corps in the German Army.—"We always study with pleasure any new points in the present *régime* of the German empire," says *The Bookman*, "for there is always sure to be found on every side a delightful blend of scientific thoroughness with a most fascinating lack of humor. One item of news recently wafted across the ocean has greatly tickled our fancy. It appears that the Kaiser's military establishment has for some time included a regularly organized corps of cats, whose function it is to protect the military stores from mice. These cats are trained in their duties by the inevitable drill-sergeant, they wear badges, receive rations and medical attendance, and draw annual pay, amounting to the sum of eighteen marks per cat. Now the announcement is officially made that this corps is to be disbanded, inasmuch as Professor Loeffler has discovered a species of typhus bacillus which is fatal to mice and whose services will in consequence be substituted for those of the cats. Probably no German sees anything comical in this bulletin, but to the American mind the whole thing is simply delicious. One involuntarily finds himself dwelling upon the little incidents that are implied in it. We love to picture the military cat, after passing the physical examination and being mustered in, donning his badge and reporting for duty. We joyfully imagine the same cat drawing his daily rations of milk and cat's meat; of the cat gravely saluting the 'schneidig' officer in the barrack yard; of the cat lining up at the paymaster's for his quarterly wages; of the cat applying for a few hours' leave of absence and riotously squandering his pay on unlimited catsup, and then failing to return to the caserne at roll call; of the cat inebriated and uttering seditious yowls opposite the officers' club; and of the cat, bedraggled, headachy, and repentant, being haled at last before a court martial for constructive desertion and 'Majestäts Beleidigung.' It is all fine, wonderfully fine. But what we really want is some official information as to how much pay the typhus bacillus is going to draw and also whether it will wear a badge."

Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague have been received in the office of the supervising surgeon-general of the Marine Hospital service during the week ending June 18, 1898:

		Cases.	Deaths.
Small-Pox—United States.			
Texas, El Paso	June 11th	3	
West Virginia, Benwood	June 4th	1	
Wisconsin, Wausau	May 19th	1	
North Carolina, Statesville	June 11th	11	
Small-Pox—Foreign.			
Brazil, Pernambuco	April 15th to 23d	1	
China, Hoog Kong	April 23d to 30th	4	1
Germany, Hamburg	May 21st to 28th	1	
India, Bombay	May 10th to 17th	..	2
Calcutta	April 30th to May 7th	..	7
India, Madras	May 7th to 13th	..	5
Japan, Akita	April 29th to May 19th	2	
Awomori	April 29th to May 19th	27	8
Fukuoka	April 29th to May 19th	1	
Fukushima	April 29th to May 19th	22	8
Hiogo	April 29th to May 19th	1	
Ishikawa	April 29th to May 19th	2	
Iwate	April 29th to May 19th	5	
Miyazaki	April 29th to May 19th	24	7
Nagano	April 29th to May 19th	1	
Nagasaki	April 29th to May 19th	1	
Nara	April 29th to May 19th	1	
Shidzuoka	April 29th to May 19th	2	
Tokushima	April 29th to May 19th	2	
Yamagata	April 29th to May 19th	2	1
Yehime	April 29th to May 19th	3	
The Hokkaido	April 29th to May 19th	11	3
Russia, Moscow	May 7th to 14th	2	3
Odessa	May 21st to 28th	7	
St. Petersburg	May 21st to 28th	14	3
Yellow Fever—United States.			
Mississipi, McHenry	May 20th to June 13th	15	
Yellow Fever—Foreign.			
Brazil, Rio de Janeiro	April 30th to May 6th	78	54
Cholera.			
India, Bombay	May 10th to 17th	..	4
Calcutta	April 30th to May 7th	..	16
Japan, Kanagawa	April 29th to May 19th	6	5
Okayama	April 29th to May 19th	1	
Tokyo	April 29th to May 19th	1	
Plague.			
India, Bombay	May 10th to 17th	.	107
Calcutta	April 30th to May 7th	..	16
Japan, Taiwan (Formosa)	April 29th to May 19th	2,223	1,421

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DISEASES OF THE STOMACH. Second Revised Edition. By Dr. Max Einhorn. 8vo, 480 pages. Illustrated. William Wood and Company, New York.

METHODIST EPISCOPAL HOSPITAL REPORTS. Vol. I. Edited by Dr. L. S. Pilcher and Dr. G. R. Butler. 8vo, 563 pages. Illustrated.

APHASIA AND OTHER SPEECH DEFECTS. By Dr. H. C. Bastian. 8vo, 366 pages. Illustrated. D. Appleton and Company, New York.

DISEASES OF THE LARYNX. By Dr. L. Grünwald. Edited by Dr. C. P. Grayson. 8vo. Illustrated. W. B. Saunders, Philadelphia. Price, $3.50 net.

RHEUMATOID ARTHRITIS. By Dr. G. A. Bannatyne. Second Edition. 8vo, 182 pages. Illustrated. J. Wright & Co., Bristol. Price, 7s. 6d. net.

YELLOW FEVER. By Dr. Just Touatre. Translated by Dr. C. Chassaignac 8vo, 206 pages. New Orleans Medical and Surgical Journal, New Orleans.

ATLAS OF LEGAL MEDICINE. By Dr. E. Von Hofmann. Edited by Dr. F. Peterson, assisted by Dr. A. O. J. Kelly. 8vo. Illustrated. W. B. Saunders, Philadelphia.

PROCEEDINGS OF THE DEDICATION OF THE HUNT MEMORIAL BUILDING. 8vo, 48 pages. Illustrated.

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